Occupational Information Development Advisory Panel

Content Model and Classification Recommendations for the Social Security Administration Occupational Information System

Report to the Commissioner of Social Security

September 2009

Occupational Information Development Advisory Panel

OCCUPATIONAL INFORMATION DEVELOPMENT ADVISORY PANEL

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September 30, 2009

The Honorable Michael J. Astrue
Commissioner
Social Security Administration
Suite 100 Altmeyer
6401 Security Boulevard
Baltimore, MD   21235

Dear Commissioner Astrue:

On behalf of the Occupational Information Development Advisory Panel (OIDAP), it is my honor to deliver to the Social Security Administration (SSA) the recommendations outlined in this report for the content model and classification of a new occupational information system (OIS) designed for SSA's disability adjudication process. Seven months ago, we enthusiastically took on our charge to provide independent advice and recommendations for the creation of the OIS by the end of this fiscal year. Our work was extensive. The breadth and depth of our research and deliberations resulted in seven general recommendations that are further detailed and supported in this report. We applaud SSA for taking on this momentous task.

The OIDAP looks forward to SSA's response to the advice offered in this initial set of recommendations that constitute the start of our efforts, not the finish line. Furthermore, we look forward to our continued effort to assist SSA with additional advice and recommendations as future phases of the OIS development unfold.

Sincerely,

Mary Barros-Bailey

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Executive Summary

In December 2008, Commissioner Michael J. Astrue established the Occupational Information Development Advisory Panel (Panel or OIDAP). The Charter of the Panel states that we are to:

> … provide advice and recommendations related to SSA's disability programs in the following areas: medical and vocational analysis of disability claims; occupational analysis, including definitions, rating, and capture of physical and mental/cognitive demands of work, and other occupational information critical to SSA disability programs; data collection; use of occupational information in SSA's disability programs; and any other area(s) that would enable SSA to develop an occupational information system [OIS] suited to its disability programs and improve the medical-vocational adjudication policies and processes.[1]

The recommendations set forth in this report constitute our initial efforts to meet the dictates set forth in our Charter. The scope of this first set of recommendations are specific to the content model and classification needs of the OIS. They are displayed in the person- and job-side, linking, and other categories that are detailed in this report. From an operational perspective, and within the scope of this first report, the advice is best summarized with seven general recommendations.

GENERAL RECOMMENDATIONS SUPPORTING THE NEED FOR A NEW OIS AND ON THE TECHNICAL, LEGAL, AND DATA REQUIREMENTS OF SUCH AN OIS

The creation of a new occupational information system is needed to replace the Dictionary of Occupational Titles for Social Security Administration's (SSA's) disability adjudication system. The OIS must include: a) occupations aggregated at a level to support individualized disability assessment; b) a cross-walk to the Standard Occupational Classification; c) precise occupationally-specific data; d) core work activities; e) minimum levels of requirements needed to perform work; f) observable and deconstructed measures; g) a manageable number of data elements; h) sampling methodology capturing the full range of work; i) inter-rater agreement justifying data inference; j) data collection of high quality data; k) valid, accurate, and reproducible data; l) whether core work activities could be performed in alternative ways; and, m) terminology that is consistent with medical practice and human function.

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[1] Occupational Information Development Advisory Panel Charter, December 9, 2008.

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In order to create such a new OIS with these requirements, the basic data elements that constitute the starting point for researching its framework, or the content model and classification systems, are outlined in depth by the Panel. These data elements are the center of the scope of this first set of recommendations from the Panel to SSA.

GENERAL RECOMMENDATIONS REGARDING DATA ELEMENTS FOR THE NEW OIS

An initial empirically derived work taxonomy should serve as a stimulus to develop instruments to measure each dimension. Specific data elements for the development of the OIS include physical and psychological abilities required to do work; they also include work activities, context, and extra data elements for the content model.

The scope of the recommendations from the Panel include that of the occupational classification for the OIS. Beyond the technical, legal, and data requirements of the OIS as identified in the first general recommendation, the Panel further sets out another recommendation for the classification of the system.

GENERAL RECOMMENDATION FOR THE CLASSIFICATION OF THE OIS

Once a large database representative of all work in the national economy is available, SSA should examine various job classification methods based on the common metric.

The data element and classification recommendations represent the main scope of our advice for the content model and classification framework for the OIS.

We would be remiss to not consider the context upon which these recommendations lie or the need of a mechanism to create and maintain the structure of our recommendations such as depicted in Table 1. An OIS specific to SSA's needs should have a strong network of technical and professional expertise within and outside of SSA to support its creation and maintenance. Consequently, the Panel identifies recommendations that together comprise the fourth set of general recommendations.

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GENERAL RECOMMENDATIONS FOR THE CREATION OF INTERNAL AND EXTERNAL EXPERTISE FOR THE CREATION AND MAINTENANCE OF THE OIS

Development of an independent internal unit at SSA staffed with experts addressing the work analysis and person-side development and research needs for the creation and maintenance of the OIS. Concurrent development and maintenance of online communities of researchers and other professionals to inform the unit's emerging and ongoing ideas, research, and methods.

With a strong independent internal unit of experts specific to the OIS, and input from research and professional communities external to SSA, the research needs of the OIS can better be examined. Although the primary scope of our recommendations in this report were for the data elements needed for the content model and classification, within the context of our review and deliberation, the Panel identified areas of basic and applied research that SSA may want to consider in the development the OIS and its application within disability adjudication. The constellation of the potential research results in the fifth set of recommendations by the Panel.

GENERAL RECOMMENDATIONS FOR BASIC AND APPLIED RESEARCH

Research to develop and pilot work-side instruments and prototypes, perform a usability analysis, and create a sampling plan. Exploratory, validation, and reliability research on the quantitative link between person- and job-side mental/cognitive, physical, or environmental attributes and demands of jobs. Studies that focus on the consideration of the data collected vis-à-vis a work experience analysis. Research on best methods and standards for measurement and scaling of person-side variables. Applied research should focus on the user needs and comparative effects of new instruments on SSA's disability process and programs. Research should consider the inclusion of additional person- and job-side data elements that could foment independent research.

Related to the data element and research recommendations outlined above, the Panel found areas of measurement within the development or maintenance of the OIS that SSA may want to consider. These measurement suggestions are summarized in the sixth set of general recommendations by the Panel.

GENERAL RECOMMENDATIONS FOR MEASUREMENT CONSIDERATIONS

Identify, refine, or create scales for person- and job-side dimensions, categories, and ratings that are discrete and consider frequency, duration, or other needs. Person-side measurements should be based on functional levels. These scales should have sufficient specificity to measure person-side constructs. Use decomposed ratings of work to prevent holistic ratings of abstract characteristics.

The Panel recognizes the importance of communication with and among users, the public, and the research and scientific communities. Therefore, the seventh set of general recommendations is directed at this interaction.

GENERAL RECOMMENDATIONS FOR COMMUNICATION WITH USERS, THE PUBLIC, AND THE SCIENTIFIC COMMUNITY

Explore, develop, host, and monitor the creation and use of various forms of traditional and emerging government and private media to inform or solicit input from various audiences about SSA and Panel activities regarding the development of the OIS.

These seven general recommendations constitute the Panel's first set of advice for the content model and classification phases of the creation of a new OIS to replace the DOT within SSA's disability adjudication process.

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Content Model and Classification Recommendations

Introduction

The Commissioner for Social Security established the Occupational Information Development Advisory Panel ("OIDAP" or "Panel") on December 9, 2008, as a discretionary panel under the Federal Advisory Committee Act, to provide advice "on creating an occupational system tailored specifically for SSA's disability programs."[2] At the Panel's inaugural meeting in February 2009, the Commissioner directed the Panel to submit recommendations to the Social Security Administration (SSA) by September 30, 2009, regarding the type of occupational information that SSA should collect and the manner in which occupations should be grouped that best serves disability evaluation.

The following report articulates the Panel's recommendations to SSA on the type of data it should collect (content model) and on the way it can best organize occupations for disability adjudication process (classification). In developing the recommendations we address not only the data that SSA needs, but also the context in which SSA must operate to produce accurate and fair disability decisions as timely as possible.

We believe it is vital to investigate ways in which recent and emerging technology and research may serve SSA's efforts to create a new occupational system. Furthermore, we consider SSA's current disability policy as the groundwork on which SSA can build an OIS that can serve the agency today and in the future as SSA's policies and process evolve in light of the new occupational information collected and in light of what can be learned and applied from a variety of research methods and new technologies.

Our mission encompasses the research and development phase of the agency's OIS project. Toward that end, we provide independent advice and guidance regarding the development of the OIS in terms of occupational data and what these data reflect and are intended to measure. In addition, we will research how quantitative and qualitative research methods may enable us to provide SSA with guidance regarding the use of OIS data. We understand that, ultimately, our advice combined with the results of SSA's OIS data collection and SSA's related

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[2] Occupational Information Development Advisory Panel Charter, December 9, 2008.

basic and applied research will inform the agency's own future deliberations regarding the need for any policy development and revision that SSA may deem appropriate. Therefore, while we offer recommendations for data elements for the OIS (such as whether the occupation requires the worker to be literate[3]) that may be useful for SSA adjudicators as they apply SSA's medical-vocational policy, we do not make recommendations regarding SSA's policy.

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[3] See Other OIS-Related Panel Recommendations, Extra Data Element Recommendations for the Content Model

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Background

To appreciate fully the importance of occupational information in SSA's disability process and why SSA needs an occupational information system designed to meet its adjudicative needs, we provide a brief summary of how SSA came to use occupational information. Specifically, we describe the use of the *Dictionary of Occupational Titles* (DOT; US Department of Labor, 1991), and why SSA continues to reference it.

The SSA requires occupational information about the requirements of work to assess whether an individual's[4] impairment prevents the individual from doing not only his or her past work, but also any work in the national economy. Following a series of judicial and Congressional challenges in the early 1960s[5], SSA began to rely on the DOT to evaluate adult disability claims, and has done so ever since. Changes to the statutory definition of disability in 1967 that remain in effect today compel SSA to continue to look to the world of work to determine disability and to support its decisions. This definition states:

> Inability to engage in any substantial gainful activity by reason of a medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than 12 months ... [A]n individual shall be determined to be under a disability only if his physical or mental impairment or impairments are of such severity that he is not only unable to do his previous work but cannot, considering his age, education, and work experience, engage in any other kind of substantial gainful work which exists in the national economy, regardless of whether such work exists in the immediate area in which he lives, or whether a specific job vacancy exists for him, or whether he would be hired if he applied for work. For purposes of the preceding sentence (with respect to any individual), "work which exists in the national economy" means work which

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[4] As the definition of disability in § 223(d)(1) and (2) and §1614 (a)(3)(A) and (B) of the Social Security Act refers to "an individual," we use the term "individual" throughout the report to reflect a title II, title XVI, or concurrent title II and title XVI disability claimant or beneficiary when it is not necessary to distinguish between a claimant and a beneficiary or between titles.

[5] See, for example, Kerner v. Fleming (2nd Circuit, 1960) and Rinalidi v. Ribicoff (2nd Circuit, 1962) and Harrison Subcommittee Report, Preliminary Report to the Committee on Ways and Means (U.S. House of Representatives, 1960), p. 17-20.

exists in significant numbers, either in the region where such individual lives or in several regions of the country. [6]

It is important to note that SSA's definition of disability embodies a medical-vocational concept. It requires a medical cause (i.e., a "medically determinable physical or mental impairment") and a directly related vocational consequence (i.e., the "inability to engage in any substantial gainful activity"). So, SSA's disability sequential evaluation process at Steps 4 and 5 relies, fundamentally, on a comparison between what a person can do despite the effects of an impairment[7] and what work requires.[8]

To make this comparison, SSA found the DOT's data to be uniquely suited to its purposes. In fact, the agency determined that the DOT was so vital to evaluating disability that SSA based the medical-vocational guidelines[9] it published in 1978 on the DOT. Simply put, this means that SSA's medical-vocational process and policy for assessing an individual's residual functional capacity (RFC)[10] and ability to work are tied to DOT constructs, definitions, and measures.

SSA administers the nation's two largest disability programs. The context in which SSA must operate to develop an OIS is significant both fiscally and programmatically. In calendar year 2008, SSA paid approximately $128 billion in benefits to disabled title II workers and title XVI disabled individuals age 18 and over.[11] Also, in fiscal year (FY) 2008, SSA received nearly 2.6 million initial claims for disability benefits under titles II and XVI.[12] Approximately 1.5 million of these claims cannot be decided on medical facts alone at Step 3 of the sequential evaluation process and require SSA to assess the individual's RFC and ability to work at Steps 4 and 5.[13] As the claims that reach Steps 4 or 5 of the sequential evaluation process involve considering the medical and vocational aspects of an individual's claim, these claims are more complex, and therefore, are more difficult to adjudicate. Clearly, development of an OIS represents an effort that is critical to SSA and to thousands of users, including the public that SSA serves.

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§223(d)(1)(A) and 223(d)(2)(A) of the Social Security Act. The Statute provides a different definition of disability for children under the age of 18 applying for benefits under Title XVI.

[7] 20 CFR 404.1508, 404.1511 and 416.908, 416.911(a)(1).

[8] 20 CFR 404.1520 and 416.920 regarding the Five-Step sequential evaluation process.

[9] 20 CFR, Part 404, Subpart P, Appendix 2; 404.1560-1569 and 416.960-969.

[10] 20 CFR 404.1546 and 416.

[11] See http://www.ssa.gov/OACT/STATS/table4a6.html for disabled workers and http://www.ssa.gov/OACT/ssir/SSI09/Payments.html#426908 for title XVI benefits for individuals age 18 and over. Neither of the amounts cited include amounts for Medicare or Medicaid benefits.

[12] SSA Administrative data files in the Office of Retirement and Disability Policy.

[13] SSA administrative data files in the Office of Retirement and Disability Policy.

Finally, the Department of Labor last updated the DOT in 1991 and has since replaced the DOT with the Occupational Information Network (O*NET)[14]. SSA evaluated O*NET and found that, as it was developed for career development and exploration purposes, it is not suited to disability evaluation.

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[14] http://online.onetcenter.org/

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SSA's Occupational Information Needs

Given SSA's law and the nature of individualized assessments of disability claims, SSA has determined that it continues to require an occupational resource to evaluate disability and to meet its burden of proof when the agency finds that an individual can do other work despite the effects of a severe impairment. The agency has determined that any occupational resource it introduces into its disability process must meet certain legal, program, and technical criteria.[15] Namely, it must:

- Reflect National Existence and Incidence of Work

  A new occupational resource must show that the work exists and that the work exists in numbers sufficient to indicate that it is not obscure.

- Reflect Work Requirements

  A new resource must enable SSA to evaluate an individual's ability to perform work rather than to obtain work. As such, any new resource must reflect occupational information that is aggregated, defined, and measured in a way that allows SSA to compare work requirements to an individual's RFC to determine the ability to work despite a severe impairment.

- Be Legally Defensible

  SSA must meet a burden of proof that the individual is "actually— not theoretically—capable of doing some kind of work."[16] Any alternative occupational resource that SSA uses in its disability process must be based on sound empirical grounds and validated for disability evaluation to withstand legal scrutiny.[17]

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[15] SSA Working Paper, Social Security Administration's Legal, Program, and Technical/Data Occupational Information Requirements (February, 2009) at www.ssa.gov/oidap

[16] As implied by Section 223(d)(2)(A) of the Social Security Act, Committee on the Ways and Means, Staff Report on the Disability Insurance Program (U.S. House of Representatives, 1974), p. 45.

[17] While we acknowledge that SSA's appeals process is administrative and non-adversarial, Federal courts require expert testimony (and the data and methods cited and applied) to meet specified standards. See *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,

- Meet Specific Technical and Data Requirements

Any new occupational resource that SSA uses must reflect the following:

1) Classification system that is aggregated to support individualized disability assessment and that can be cross-walked to the United States' Standard Occupational Classification (SOC).[18]

2) Occupationally-specific data that are precise (i.e., they capture homogeneous ratings of work demands and worker traits), and they can be aggregated into clusters of similar work activities (i.e., occupational titles) such that SSA is able to develop and maintain the OIS for its needs.

3) Core tasks or work activities of the occupation.

4) Minimum levels of requirements needed to perform the work.

5) Observable and deconstructed measures.

6) Manageable number of data elements or constructs that are critical to disability adjudication.

7) Sampling methodology that captures the full range of work (i.e., all skill[19] levels).

8) Inter-rater agreement levels that justify data inference of high quality data.

9) Data collection methods that produce high quality data.

10) Occupational data that is empirically established as valid, accurate, and reproducible.

11) Whether or how occupations allow workers to perform core work activities in alternative ways (e.g., sit-stand option).

12) Terminology that is consistent with standard medical practice and human function.

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509 U.S. 579 (1993), and *Kumho Tire Co. v. Carmichael*, No. 97-1709, Slip op. At 11, 67 USLW 4179, 4183 (March 23, 1999).

[18] http://www.bls.gov/SOC/

[19] That is, the OIS must reflect work at the full range of complexity levels. SSA currently conceives of complexity level of work in terms of "unskilled," "semi-skilled," and "skilled" work. See 20 CFR 404.1568 and 416.968.

The Occupational Information System Project

After studying possible policy options and investigating alternative occupational resources, SSA embarked on a project in 2008 to develop an occupational information system (OIS) tailored for its disability programs (*Social Security Administration Strategic Plan*, 2008[20]). The overall OIS effort involves short- and long-term projects.

1.   *Short-Term Project*

In September 2008, SSA began a contracted evaluation to ascertain whether a private sector updated DOT-based data set exists that could meet SSA's criteria and could be integrated into its disability process seamlessly while the OIS is developed. On June 30, 2009, SSA received the final evaluation report from contractor, ICF International, regarding the existing, updated DOT-based data and methods of another contractor, Career Planning Software Systems, Incorporated. At the time of this writing, the SSA is reviewing the report.

2.   *Long-Term Project*

While the Panel is a key element of SSA's long-term research and development, to support the development of an OIS for SSA's disability programs, SSA has initiated a series of strategies for its long-term project involving several phases.[21] The first phase, research and development, includes claims studies, user needs analyses, OIS content model and instrument development, classification development, as well as sampling and data collection efforts. This phase informs subsequent project phases. The second phase involves policy development based on the results of the research and development phase studies and OIS data collection. Changes to disability current disability policies should be considered by SSA in light of the new occupational data collected and the implications of relevant research it has conducted. The third phase of the long-term project entails integration of the OIS data and any policy revisions into SSA's disability process and systems to assist adjudicators. There are also plans to make the OIS data available externally. Finally, the fourth phase of the long-term project involves ongoing research and maintenance to ensure that the OIS remains organic. The Panel envisions an ongoing exchange of ideas and research between and among external

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[20] http://www.ssa.gov/asp/
[21] SSA's Plans to Develop Occupational Information presented by Sylvia Karman at the OIDAP inaugural meeting, February 24, 2009, http://www.ssa.gov/oidap/agenda.htm

researchers, other professionals involved in the disability process, and SSA to inform OIS long-term development and maintenance.

To support the OIDAP's contributions to the long-term project, SSA established a project staff to direct and carry out the agency's work for OIS development recommended by the Panel. The long-term project also involves collaboration among stakeholder SSA offices that have been convened as the Occupational Information System Development Workgroup to provide guidance on policy and operational issues and end-user needs.[22]

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[22] User Needs & Relations Subcommittee report in Appendix F details information about members of the workgroup.

Occupational Information Systems in the United States

Three government-developed occupational information classifications are used in the United States today. The military classification of occupations (MCO) provides a taxonomy of the military occupational specialties found across the branches of the armed forces. Overall, the MCO crosswalks about 8,700 occupations to the Standard Occupational Classification (SOC).[23]

In the civilian sector, two occupational information classifications are used. As indicated above, the DOT was initially developed by the US Department of Labor in 1939 and was last updated in 1991 with nearly 13,000 occupations. In 1998, the O*NET was introduced by the Department of Labor to replace the career exploration and search functions of the DOT. As of June 2009, the O*NET 14 includes 1,102 occupations.[24] Like the military occupational information system, the O*NET is also linked to the SOC's classification structure.

Although all three of these systems represent occupational taxonomies, none of the three includes a world-of-work taxonomy that is adequate for applied uses requiring moderate-to-high specificity descriptions of work activity (including disability adjudication). That is, none fully describes a common-metric profile that lists what is actually done on the job, at the Level 2 degree of specificity needed to ensure verifiable, accurate ratings of job (see Figure 1). The SOC provides only the briefest description of what actually is done in the occupations because its purpose is only to categorize occupational clusters and name such clusters. An OIS must have both a taxonomy of titles and a data collection system that describes what is done. In other words, an OIS is 1) a way to describe the person and job side worlds of work and 2) a data collection component that includes generalized work activities, skills, etc. that provide common metric data.

For civilian employment, neither the DOT nor the O*NET were designed for forensic or disability adjudication purposes. The DOT constructs, however, have been applied in that function for nearly half a century for SSA and other private disability insurance programs (e.g., workers' compensation, long term disability, etc.). From the United States, to Canada, to Australia, some of the worker trait variables from the DOT continue to be the standard of practice for professionals performing analyses of an individual's capacity to work, as well as to be rehabilitated into other kinds of work.

For SSA purposes, the disability adjudication process considers an individual's residual ability to work, not his or her probable rehabilitation potential. Therefore,

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[23] http://www.bls.gov/SOC/

[24] http://online.onetcenter.org

an OIS specifically designed and developed for SSA's disability adjudication purposes is crucial to the decision-making process considering the individual's RFC. The variables included in the SSA process might differ from those needed to evaluate an individual under another disability system (e.g., workers' compensation) or for rehabilitation purposes (i.e., where interests may be important). As we noted earlier, according to SSA's legal, program, and technical/data requirements:

> … the occupational resource must provide the data SSA needs in order to evaluate the individual's capacity and qualifications to *perform* work as it currently exists in the economy, rather than to actually *obtain* work. As such, the resource must report occupational information that is both current, as well as aggregated, described, and rated in a manner that enables SSA to compare the work requirements of occupations to the individual's ability to perform work despite the individual's limitations resulting from a severe impairment(s).[25]

An OIS developed for SSA offers the opportunity to explore scientifically the essential elements inherent in the person-job match when disability may be a barrier to work, and to assist in the decision-making process important to the individual applying for disability benefits.

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[25] *Social Security Administration's Legal, Program, and Technical/Data Occupational Information Requirements.* (2009). Baltimore, MD: Social Security Administration, Office of Program Development and Research, p. 2. Note this coincides with the recommendation from the Work Taxonomy and Classification Subcommittee report in Appendix E.

Figure 1. Levels of data specificity within the "person side" and "work side" domains of the "world of work"

Person-Side

Abstract/
Hypothetical

| Physical | Mental/ Cognitive | Interpersonal/ Temperaments |

| Dynamic Strength | Color Discrimination | Mathematical Reasoning | Written Comprehension | Organizing, Planning, Prioritizing | Emotional Intelligence |

| Lift | Carry | Addition | Division | Perceiving Emotions | Managing Emotions |

Repeatedly | Occasionally | 3 digit by 2 digit w/ remainder | 2 digit by 1 digit, no remainder

| < 10 lbs | 10 lbs | 20 lbs | 50 lbs | 100 lbs | What is 923 / 27? | What is 103 / 12? | "Turn the other cheek" if provoked at work? | Justify taking revenge if you were strongly slighted? |

"Can you…"

Specific/
Observable/Verifiable

Job-Side

Level

| Things | Data | People | 5 |

| Physical and Mechanical Activities | Getting Information | Communicating With People Inside the Organization | 4 |

| Physical Demands | Hand-Held Tools | Use sight and visual information | Use Other Senses | Workers directly involved in machine operations | 3 |

| Sit for long periods | Carry heavy Objects (51-100lbs.) by hand for < 50 feet | See small details of close objects | Use displays, gauges, meters, measuring instruments | Delegate job activities to clerical workers | 2 |

| Carry bricks and mortar to masons on scaffolding using hod | Unload 70 pound bags of salt and empty into water treatment system | Visually inspect newly cut diamonds for flaws without magnification aids | Use Swiss-hole micrometer to adjust drill press | Use tape measure to measure lumber to be milled | 1 |

"Does the job require you to…"

We purposefully use language about the "individual" because it is important to understand that although there are millions of claims made each year for Social Security disability benefits, the disability decision is made on a case-SSA requires information to make ground-level decisions about whether an individual with limitations resulting from an impairment can do past or other work. Therefore, while SSA's disability adjudication process requires the review of millions of initial disability claims annually, it is not accurate to represent SSA's process as, for example, n=1.6 million. Rather, SSA's adjudicative process can be best represented as n=1, a million times over, annually. We find that n=1 is a critical concept to the development of an OIS for SSA's purposes from an operational perspective; that is, how an SSA adjudicator applies OIS and other quantitative and qualitative of the individual's RFC through adjudicative judgment to determine if the individual has the ability to perform past work or other work. The n=1 concept is a vital target for us to keep in mind as we consider ways to reduce data inference and increase the effectiveness of adjudicative judgment.

The disability population is heterogeneous. Individuals possess a wide range of physical, mental, and cognitive diagnoses resulting in a multiplicity of functional outcomes. Consequently, the OIS must reflect the most observable and verifiable elements of work that, given the person's residual function and other elements important to the disability adjudication process, could limit his or her capacity to perform work at the substantial gainful activity level.

To reduce the leap in judgment during the person-job match, an OIS must contain job-side data that are observable and that can be empirically linked to unobservable person-side characteristics that are deduced from an individual's behavior (or RFC). This level of data collection is what we call Level 2 data (see Figure 1 for the different levels of data). Likewise, data collected from the world of work must be at a sufficient level of granularity to provide information to make comparisons and distinctions between such data (e.g., to define the occupation). Again, referring to Figure 1, we anticipate data to be collected at about Level 2. The DOT, for example, has data collected between Levels 2 and 4 on the Job Side part of Figure 1, leading to difficulties in comparing such data and increasing the range of inferential leap, and, consequently adjudicative judgment.

Simply put, the different levels of data assumed in Figure 1 would be akin to obtaining sufficient granularity of that data to allow someone to understand if they are looking at: 1) a case of apples or pears (Rosaceae fruit family; Level 2 data) so it can be compared and distinguished from 2) a crate of mixed fruit (Level 3 data) and from 3) other food sources (vegetables, dairy, etc.; Level 4 data), and be recognized as 4) Things (Level 5 data) instead of people, data, or something altogether different. Level 1 data (e.g., if the apple is a Granny Smith, Fuji, or

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another varietal), is considered to be at a level of too much granularity where the cost for its collection would be too great compared to the benefit of having information at that level. Relating this example back to the OIS's data collection, it is sufficient to know that someone uses a word processing program on the job (Level 2 data) and their proficiency level to perform the core tasks of the work, not what the brand of the software might be (Level 1 data).[26]

The O*NET was the Department of Labor's first attempt to describe all work in the national economy by a common work taxonomy and database. The disability adjudication process requires work to be described as it is actually done by workers, rather than by more abstract occupational unit levels as is the case with the O*NET.[27] Thus, SSA requires an OIS that uses a work taxonomy that has observable and verifiable variables that are less abstract and that are aggregated at a more detailed level than the O*NET to guide the person-job match.

Undoubtedly, there are some aspects of the DOT and the O*NET occupational information systems that are helpful to the development of the OIS tailored to SSA's disability adjudication needs. The recommendations in this report thus include some features of both systems that meet SSA's legal, program, technical, and data needs. Our recommendations go further, however, in that they introduce features for the new OIS that will allow it to function within the context of its forensic intent and application. Much like the existing civilian and military occupational information systems, the OIS should be cross-walked to the SOC.[28] This connection is useful as a link to other sources of occupational data within the Federal government inherent in, or auxiliary to, the disability adjudication process (e.g., number of jobs in the economy).

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[26] For further discussion on this topic, please see the Work Taxonomy and Classification Subcommittee report in Appendix E.

[27] Work Taxonomy and Classification Subcommittee findings in Appendix E.

[28] Work Taxonomy and Classification Subcommittee recommendations in Appendix E.

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Update or Replace the DOT?

"If the DOT has been used for nearly a half century in disability adjudication for SSA and other disability systems, and continues to be used, why not just update it?" "Why is SSA thinking of *replacing* the DOT for its disability adjudication purposes instead of merely *revising* the DOT?" The Panel considered these valid and important questions. Although our mission clearly states that we are to provide SSA with independent advice and recommendation to *create* a new OIS to *replace* the DOT, comments from users and the public[29] imply that some people mistakenly believe our mission is to *update* and *revise* the DOT.

As noted in the User Needs & Relations Subcommittee report[30]:

> the fact that the last substantial revision of the DOT occurred in 1977 is not the extent of the limitations of the DOT … the DOT does not contain information regarding the mental/cognitive requirements of work, nor is it a straightforward matter to build these new work demands … into the DOT's taxonomic structure. While the DOT was a remarkable achievement for its time, advances in technology, psychometrics, job analysis, and taxonomic theory, as well as changes in the US labor market, render the DOT's foundation problematic …Merely updating the DOT will not serve SSA and its disability claimants for the long term.

Certainly, given some of the recommendations offered in this report, to some readers our efforts may be interpreted as a revision of the DOT. However, a revision or update of the DOT is not our recommendation.[31] Such an update assumes that the psychometric foundation of the DOT is sufficient upon which to build a new OIS for SSA's disability program purposes in light of the technological and scientific advancements available now and emerging. This is not the case. As early as 1980, the National Research Council expressed:

> [c]oncern about the validity of the DOT's ratings of worker functions and worker traits …the factors represented by this set of variables are vague and ambiguously defined. It is not readily apparent what the variables are intended to measure

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[29] User Needs & Relations Subcommittee report, Appendix F.
[30] User Needs & Relations Subcommittee report, Appendix F, p. 7.
[31] Work Taxonomy and Classification Report findings and recommendations in Appendix E.

> … Scales that … reflected the state of the art of vocational
> trait measurement at mid-century are … outdated.[32]

The creation of an OIS *specifically* for SSA disability adjudication purposes affords the opportunity to develop improved psychometric underpinnings for an OIS upon which worker trait variables targeted for SSA's disability process will rest, and to ensure that elements are considered under a common metric so that there is less room for data inference. Subjective judgment between the person and job side variables would also be reduced; that is, there would be less of a judgment leap. As the judgment leap challenges all users of occupational information who are directly or indirectly involved with SSA's disability process, an improved psychometric platform for an OIS will serve all users within and external to the agency, including disability claimants.

A common metric is a taxonomy of job descriptors that can be applied to all jobs and, therefore, allows work activities to be compared across and between all jobs. See our discussion above regarding Figure 1 for the importance of having common levels of data on the person and on the job sides to allow for reduced conjecture at the person-job match.

The use of a common metric will avoid inaccuracies associated with job classification based on job titles, which may or may not be representative of similar work activities.[33] For example, having common descriptors of work behavior for job classification allows for the comparison and distinction within and among occupations such as those with a job title of "driver." In one case, the title might refer to someone operating a golf cart in the parking lot of a university during special events. In another case, the job title could describe an individual who needs a special license to operate a semi truck hauling tons of hazardous waste across state lines. The common metric allows the job to be classified by work activities that may require different levels and breadth of work behaviors, not by job titles that do not necessarily reflect the variability among and within those work activities. Thus, users (claimants, claims examiners, vocational experts, claimant's representatives, administrative law judges, and the general public) can have access to better empirical data for use in their roles within the disability adjudication process.

In short, by offering recommendations to *create* an OIS that *replaces* the DOT in SSA's disability adjudication process, we acknowledge the shortcomings of the present DOT and encourage SSA to embrace today's advances in technology,

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[32] Miller, A. R., Treiman, D. J., Cain, P. S., & Roos, P. A. (Eds.) (1980). *Work, jobs, and occupations: A critical review of the* Dictionary of Occupational Titles, p. 164-168.
[33] Work Experience Analysis Subcommittee report in Appendix D and the Work Taxonomy and Classification Subcommittee recommendations in Appendix E.

work, medical, ergonomic, neuroscience, rehabilitation, economic, and other research that provides us with unprecedented opportunities to embark on the

> …enormous task that is going to take expertise, persistence, and creativity… [that is done] in a way that is more thoughtful [to] help [SSA] make more accurate decisions, faster decisions, and … be as user friendly for [SSA] employees and for the public to use as possible.[34]

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[34] SSA Commissioner Astrue, February 23, 2009.

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The Scope and Work of a FACA Panel

The OIDAP is a discretionary committee chartered by SSA's Commissioner Astrue and formed under the auspices of the Federal Advisory Committee Act (FACA). All Panel-level deliberations are recorded and are open to the public that attends the meeting in person or through telephone call in.[35]

Per FACA guidelines, a Designated Federal Officer is assigned to the Panel to:

> 1) Call, attend, and adjourn committee meetings; 2) Approve agendas; 3) Maintain required records on costs and membership; 4) Ensure efficient operations; 5) Maintain records for availability to the public; and, 6) Provide copies of committee reports to the Committee Management Officer for forwarding to the Library of Congress.[36]

The OIDAP was developed to constitute 12 Panel members possessing a variety of expertise important to the development of the OIS,[37] and to include the Director of SSA's Occupational Information Development Project. An Interim Chair was appointed to the Panel; this appointment was followed by a vote of the Panel as to a permanent Chair at the September 2009 meeting. Based upon the Panel's deliberations and needs, the Chair along with the Designated Federal Officer and the Project Director work together to coordinate the plans and administrative needs of the OIDAP.

At the Panel's inaugural meeting, subcommittees formed to address work taxonomy, physical demands of work, mental/cognitive demands of work, and general issues pertaining to users and the public. Later, a fifth subcommittee was established to address the OIS data elements needed for work history assessment and transferable skills analysis.[38] Per the Panel's approved Operating Procedures, the Chairs of the subcommittees form the Executive Subcommittee that is lead by the Panel Chair. Each subcommittee is assigned a SSA staff lead from the Occupational Information Development Project to support

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[35] Subcommittees and fact-finding Panel meetings could be closed under FACA; however, deliberations must be at the Panel level in open meetings.

[36] The Federal Advisory Committee Act (FACA) Brochure, www.gsa.gov

[37] Appendix A lists the biographies and subcommittee assignments for Panel members.

[38] Initially, this subcommittee was named the Transferable Skills Analysis subcommittee. However, to acknowledge that SSA conducts "transferable skills analysis" in very limited circumstances (20 CFR 404.1568(d) and 416.968(d)) and that the subcommittee focused on data elements needed for all types of work experience analyses in SSA's disability adjudication, the Panel renamed it the Work Experience Analysis subcommittee at the September 16, 2009 public Panel meeting.

its needs. The Project Director in the Office of Program Development and Research manages the staff leads.

A.   How the OIDAP Defines Terms

A challenge faced by any group of professionals brought together from different disciplines and practice settings is understanding common terms that may have different meanings for each group member. Early on in this process, we discovered that the way that practitioners on the Panel use terms such as "job analysis," "skill," "task," and "inference" may be very different from the way in which academicians, psychometricians, or researchers might use the same term. In an attempt to identify a common language, some subcommittees included definition of terms for readers to understand the context of their research and recommendations. The glossary in this report includes definitions of terms that are common to this project.

"Inference" is a term that is used often in the subcommittee reports. However, the context of its meaning is different based upon the discipline of those involved in the subcommittee. For the Work Taxonomy and Classification Subcommittee, inference is the "the act of passing from statistical sample data to generalizations (as of the value of population parameters) usually with calculated degrees of certainty"[39] That is, inference is about data generalizations. For the other subcommittees, inference is "the act of passing from one proposition, statement, or judgment considered as true to another whose truth is believed to follow from that of the former."[40] In short, it is the adjudicative or clinical judgment that occurs about an individual based upon a set of facts concerning the individual and the world of work.

To facilitate understanding of how inference is considered in this report, we are calling data generalizations "data inference" and judgments concerning people as "adjudicative judgment" or "clinical judgment." So, too, "inferential leap" will involve the degrees of generalization about the data and "judgment leap" is the clinical or human judgment that occurs when taking a set of facts about the person or world of work and arriving at adjudicative or clinical conclusions.

B.   How the OIDAP Developed its Recommendations

The methodology employed to arrive at the recommendations provided in this report used a variety of sources and techniques. Generally, the methodology included:

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[39] www.webster.com
[40] www.webster.com

- search and review of peer-review, government, and open source literature pertinent to the project in general, and specifically to each subcommittee's theme;

- qualitative research and the use of such validity measures as "member checking"[41] with users;

- solicitation and review of input from a variety of stakeholders; and,

- integration and triangulation[42] of information from all sources accessed within and beyond SSA.

This methodology ensured that our decisions were based upon the utility and objectivity of all information considered as relevant to our independent advice and recommendations. The subcommittee reports in the appendices detail the particular sources each subcommittee used or the analysis of the information. We note that not all of the recommendations and text in the subcommittee reports reflect the final Panel recommendations cited in this report. These differences are appropriate given the FACA deliberation process. The Panel as a whole may deliberate only in public meetings (either face-to-face or in teleconference); therefore, this final report reflects the Panel's deliberation and vote on all of the recommendations presented to it. A number of recommendations presented by the subcommittees have changed as reflected in their final form as Panel recommendations to SSA following full Panel deliberations on September 16-17, 2009.

Overall, the highlights of our data collection and consideration efforts are summarized below.

1.   OIDAP Meetings

As a Panel we held three face-to-face meetings in Washington, DC, Atlanta, Georgia, and Chicago, Illinois from February through June 2009. In addition, the Panel held two teleconferences, one on July 14, 2009, and the other on August 31, 2009. These meetings provided the Panel the opportunity to deliberate on a variety of issues pertinent to its activities, and specific to arriving at the advice and opinions outlined in this report.

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[41] A qualitative research term that connotes understanding data, interpretations, or conclusions with members. In this instance, this involved communication, input, and interaction with various users through different methods.

[42] Triangulation is a research term that describes applying and combining several research methods in the study of the same phenomenon.

2.   Public Comment at Quarterly Meetings and Electronically

At each of our quarterly meetings following the inaugural meeting, public comment was available to any person or organizational representative attending the meeting in person or via telephone per the guidelines outlined in the *Federal Register* notice for that meeting. The Panel also invited the public to provide input through OIDAP's website (www.ssa.gov/oidap) and e-mail address (OIDAP@ssa.gov), although very few comments were received in this manner. All comments or questions were addressed by the Designated Federal Officer or were remitted to the appropriate party for consideration.

3.   Working Papers and Literature Reviews

Throughout its course of meetings and deliberations, the Panel was provided with working papers prepared by SSA staff and deemed important to the Panel's mission. These included:

- *Developing an Initial Classification System*
- *Social Security Administration's Legal, Program, and Technical/Data Occupational Information Requirements*
- *SSA Plans and Methods for Developing a Content Model: Key Questions to be Addressed*
- *What is a Content Model?*

In addition, the subcommittees performed extensive literature searches and reviews. For detailed bibliographies, please see the respective subcommittee reports in the appendices.

4.   Subject Matter Expert Roundtables

Two of the subcommittees held roundtables with subject matter experts pertinent to their topic areas.[43]

5.   Subcommittee Meetings

Further, subcommittees held individual teleconference and face-to-face meetings based upon their work needs. Monthly or specially scheduled Executive Subcommittee teleconference or face-to-face meetings assisted in the intra-subcommittee flow of information and coordination of the Panel's work. Per FACA rules, subcommittee meetings are working sessions and not open to the public unless the Chair extends an invitation.

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[43] Appendices C and D summarize roundtables held by the Mental/Cognitive Demands and the Work Experience Analysis subcommittees, respectively.

6.   User Needs and Opinions

Important to the Panel's objectives was the understanding of the intrinsic needs of users involved in SSA's decision-making process. Initially, a case study simulation comprising a variety of users within the decision-making continuum was presented at the April OIDAP meeting. Some Panel members wanted further experiential opportunities to learn about the SSA disability adjudication process. Therefore, they visited State Disability Determination Services and Office of Disability Adjudication and Review offices throughout the country, as well as the Appeals Council office in Falls Church, Virginia. Some Panel members also interviewed vocational experts and claimant representatives to understand better those user needs, or the user's respective roles within the decision-making process.

To obtain input from users employed within SSA, the Occupational Information Development Project staff, through the User Needs & Relations subcommittee, developed, piloted, and used a qualitative instrument. This process was called the "User Needs Analysis," or UNA. The instrument was used to perform individual interviews and focus groups at State Disability Determination Services, Office of Disability Adjudication and Review, Office of Quality Performance, and at regional offices in Illinois, Georgia, Maryland, West Virginia, and Pennsylvania. Some UNAs were held concurrently during OIDAP quarterly meetings or within geographic access of the interviewers. Results from this qualitative research were consolidated and provided to the OIDAP through the subcommittee Chairs.[44] Based on the iterative nature of our work, the UNAs will continue into the future to encompass greater geographic representation of user needs throughout the United States.[45]

As part of the methodology to arrive at our recommendations, we also invited several organizations to provide input through presentations at our third quarterly meeting or in writing.[46] Specifically, the organizations were asked to opine about:

- ▪   any gaps that exist between the occupational information available in the DOT and what the members of the organization believe is necessary for the adjudication of claims in SSA's disability programs;

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[44] Detailed results of the UNAs conducted may be found in the User Needs & Relations Subcommittee report in Appendix F.

[45] User Needs & Relations Subcommittee recommendations in Appendix F.

[46] For a list of the organizations and their input, see the User Needs & Relations Subcommittee report in Appendix F.

- the information that is most valuable for SSA to include to ensure a proper transferable skills assessment given claimants' work histories; and,

- the areas where additional or new information is needed (e.g., physical or mental/cognitive demands of work, educational requirements of work, work settings, work skills, etc.).

As we developed our recommendations for the content model and classification in this report, all user input resulting from these solicitations was considered. Again, the results of the organization's responses were provided to the subcommittees through their respective Chairs.

OIDAP Content Model and Classification Recommendations

A.   Recommendation Overview

The effort of the Panel members in developing these content model and classification recommendations by the end of FY09 constitutes a tremendous commitment. The recommendations offered here are the starting point for the development of the OIS, not the finish line. They are based upon the most recent data available to us. We know that the development of an OIS specific to SSA disability adjudication needs is an iterative process. The need for such an OIS is apparent and its development has never been attempted – much less to the scale contemplated and required to meet SSA's needs as envisioned in these recommendations.

In this document, our recommendations are offered in two formats. First, they are categorized below into four areas: Person Side, Job Side, Person-Job Link, and Other OIS-Related Recommendations. Generally, they are displayed in the manner in which they arose from the subcommittee process and how they fall into these general thematic areas. Table 1[47] broadly summarizes the recommendation categories, subsumes the subcommittee recommendations into these categories, and anchors the recommendations to proposed activities. However, to add greater meaning to the recommendations as they fall into the scope and context of the Panel Charter, we display these recommendations within that scope both as summarized in the Executive Summary at the start of this report and the final Summary and Future Activities section of this report.

Before enumerating each of the recommendations below, each of the categories is defined as follows:

- *Person Side*: These are the basic data elements reflecting abilities possessed by the individual that can be clinically or otherwise observed, verified, measured, or inferred. Included in these recommendations are data element, research, and measurement considerations. The specific details and narratives associated with these recommendations can be found in the Physical Demands Subcommittee and the Mental/Cognitive

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[47] NOTE: Work Experience Analysis in the context of Table 1 implies the full medical-vocational assessment SSA must do to determine if an individual with a severe impairment retains the RFC to do substantial gainful activity given the demands of work and his or her medical and vocational profile. That is, while SSA conducts a transferable skills analysis (TSA) in limited circumstances (404.1568(d) and 416.968(d)), we mean to include the consideration of an individual's ability to do past work or other work as currently conceived by SSA (unskilled, semi-skilled, or skilled).

Demands Subcommittee reports available in appendices B and C, respectively.

- *Job Side*: These are the basic empirically supported observable and verifiable work activities. Again, this section includes data element, research, and measurement recommendations. Unless otherwise noted by a footnote, the main source for the recommendations in this section is the Work Taxonomy and Classification Subcommittee report available in Appendix E.

Person-Job Link: This process in disability evaluation involves the greatest potential for judgment leap we aim to reduce through our recommendations. Person-job linkage occurs when the job side information is matched to the person's medical and vocational profile as determined by his or her RFC (based on the functional effects of physical, mental, or cognitive impairments). This process determines whether an individual retains sufficient residual capacity to perform substantial gainful activity. Many of the person and job side variables share the same terminology. Therefore, the distinction between the person side and the job side might not always seem evident. The main source of the recommendations offered in this section is the Work Experience Analysis Subcommittee report found in Appendix D, with additional contributions from the Work Taxonomy and Classification Subcommittee report in Appendix E.

- *Other OIS-Related Recommendations*: Our recommendations for OIS content model and classification extend beyond the person, job, and linkage areas. Other recommendations are intended to ensure that 1) the OIS remains organic, not static; 2) the support structure to create an OIS is considered; 3) the content model contains comprehensive information needed for adjudication and program evaluation; 4) user input and concerns are included, and 5) general recommendations that arose from Panel deliberations are noted. Unless otherwise noted by a footnote, the main source of the recommendations offered in this section is the User Needs and Relations Subcommittee report in Appendix F.

Table 1. Occupational Information Systems Project Activities

	Revised Physical RFC (person-side)	Revised Mental RFC (person-side)	Vocational Profile Assessment (person-side)	Linking job-side to person-side: Validation	New Title Taxonomy (job-side)	Work Measurement Instrument (job-side)	
1	Review preliminary list of targeted constructs for missing content	Review preliminary list of targeted constructs for missing content	Assemble team/committees to oversee process	Assemble team/committees to oversee process	Develop interim taxonomy (based on finding middle ground between DOT and SOC using existing empirical data)	Review preliminary list of targeted constructs for missing content	
2		Policy review to assess impact, acceptability of each additional non-physical construct for SSA	Study ways for assessing skills (measured by JA instrument) still possessed by claimants	Initial analysis and review of legal, technical, policy, practical issues (including additional cognitive measures)			Identify/evaluate alternatives for data-collection infrastructure (SSA employees, VEs, contractors)

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	Revised Physical RFC (person-side)	Revised Mental RFC (person-side)	Vocational Profile Assessment (person-side)	Linking job-side to person-side: Validation	New Title Taxonomy (job-side)	Work Measurement Instrument (job-side)	
3		Form updated list of targeted non-physical constructs, removing problematic ones		Assist in design of JA, person-side pilots			Assemble data collection team for pilot; training
4		Review, feedback from users		Evaluate potential ways to link job and person sides using JA pilot results	Link to JA pilot sample identification		Identification of target occupations
5		Identify methods of collecting data on each construct, preliminary assessment of each		Additional data collection to evaluate methods for linking job and person sides (e.g., work experience analysis applications)			Oversee data collection process for pilot

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	Revised Physical RFC (person-side)	Revised Mental RFC (person-side)		Vocational Profile Assessment (person-side)	Linking job-side to person-side: Validation	New Title Taxonomy (job-side)	Work Measurement Instrument (job-side)	
6		Identify elements that will be rated directly	Identify potential measures or other processes that could be used to collect data on elements not directly rated		Assessment of bottom-line impact of various methods for doing work experience analysis			
7	Item writing, scale development to form prototype 1	Item writing, scale development to form prototype 1	Assess desirability, practicality of each data element	Item writing to form prototype 1			Item writing, scale development to form prototype 1	
8	Review, feedback from users, management	Review, feedback from users, management	Pilot study to test assessment procedures	Review, feedback from users, management			Review, feedback from users, management	

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	Revised Physical RFC (person-side)	Revised Mental RFC (person-side)		Vocational Profile Assessment (person-side)	Linking job-side to person-side: Validation	New Title Taxonomy (job-side)	Work Measurement Instrument (job-side)	
9	Modify as needed; develop prototype 2	Modify as needed, develop prototype 2	Reassess desirability, practicality of each data element	Modify as needed; develop prototype 2			Modify as needed; develop prototype 2	
10	Pilot study to do preliminary assessment of measurement properties, usability	Preliminary assessment of measurement properties, usability study	Switch any data elements that need to move to direct-rating track	Pilot study of SSA claims processors using new instrument			Pilot study to evaluate JA instrument in sample of high-frequency occupations	
11	Revise instrument as needed, develop Instrument Version 1	Revise as needed, develop RC 1	Pilot study of SSA claims processors using new instrument				Revise instrument as needed, develop Instrument Version 1	
12	Pilot study to test assessment procedures	Pilot study to test assessment						

	Revised Physical RFC (person-side)	Revised Mental RFC (person-side)		Vocational Profile Assessment (person-side)	Linking job-side to person-side: Validation	New Title Taxonomy (job-side)	Work Measurement Instrument (job-side)	
		procedures						
13	Revise as needed, develop Instrument Version 2	Revise as needed, develop Instrument Version 2						
14	Pilot study of SSA claims processors using new instrument	Pilot study of SSA claims processors using new instrument						

Recommendations

1.   *Person Side Recommendations—Physical Demands of Work*

We know that while the physical demand worker traits of the DOT represent some of its best features, there is room to refine and expand the traits, include additional discrete elements, and make their measurement more realistic. Toward this end, the recommendations in this report for physical demands of work include, modify, or add to the variables within the DOT.

a.   *Data Element Recommendations for Physical Demands of Work*

The Panel recommends that SSA consider these physical and sensory/motor abilities that are required to do work.

1.   Physical (uni- and bilateral, where applicable)

a. Balancing (expansion of categories)
b. Bending from a sitting position
c. Carrying
d. Climbing (increased specificity)
e. Crawling
f. Crouching
g. Fingering
h. Gripping (simple, forceful)
i. Handling
j. Handwriting
k. Kneeling
l. Lifting
m. Operating Foot/Hand Controls
n. Pinching (simple, forceful)
o. Pulling
p. Pushing
q. Reaching (various levels)
r. Rotating/twisting the neck
s. Running
t. Sitting
u. Standing
v. Stooping/Forward bending
w. Trunk rotation/twisting

        x.   Twisting wrist repetitively

        y.   Using keyboard, mouse, touchpad or other manual input devices

        z.   Walking

2. Sensory/Motor

    a)   Feeling
    b)   Hearing
    c)   Smelling
    d)   Speech
    e)   Tasting
    f)   Vision

b.   *Research Recommendations for Physical Demands of Work*

1. Research to establish a standard for repetition for physical activities.
2. Study the specificity and measures of sensory demands.
3. Explore and consider the feasibility of and need for conducting empirical research concerning environmental attributes that may restrict the ability to do work.
4. Explore and consider the feasibility of and need for conducting empirical research that quantitatively links the physical and sensory abilities that are required to meet the demands of work.

c.   *Measurement Recommendations for Physical Demands of Work*

1. Discrete and functional levels of measurement.
2. Level, time, concentration, and severity of environmental exposures.
3. Maximum continuous distance for dynamic movements (e.g., carrying, pushing, pulling, walking, climbing, running, crawling, etc.).
4. Maximum continuous duration of an activity that is required.

5. Refinement or creation of scales which reflect physical activity or duration which is appropriate for SSA's adjudication needs.
6. Identify the variation of physical demands within an occupation.

We know that over the last century the American economy has transitioned from the industrial age to the information age. This trend has migrated work demands that, on the aggregate, require more mental and cognitive processes. Thus, this movement accentuates the need to directly consider and study the mental and cognitive demands of work. Individuals applying for disability benefits who possess mental or cognitive impairments likewise reflect this trend.[48]

We recognize that the mental and cognitive demands of work are a tremendously challenging and ambitious area of research to undertake, but we believe it is necessary to do so now given the advances in research and technology that provide us with the exciting opportunity to start exploring these demands of work to establish better methods to reduce adjudicative judgment at the person-job match. This endeavor will require considerable and seminal efforts and we hope that SSA welcomes the challenge.[49]

For SSA, "the question of who bears the burden of proof with respect to documenting the *job relatedness* and *validity* of … non-physical personal traits that have the potential to produce significant *adverse impact* … is a nontrivial applied issue that has significant legal implications."[50] Therefore, we reviewed the present conceptual model of psychological abilities that SSA uses and we recommend revisions that SSA may consider. That is, a "revision of the current [Mental Residual Functional Capacity] should redress …: 1) the underrepresentation of neurocognitive abilities, 2) the reliance on coarse and underspecified categories to rate residual abilities, 3) the failure to account for longitudinal fluctuations in mental functioning due to impairment, 4) the inclusion of elements that combine disparate abilities, 5) the failure to recognize differences in the predictive power of various abilities, and 6) the large judgment leaps required to match residual abilities with job demands."[51] The recommendations in this report are an attempt to start the dialogue regarding these elements of the demand of work. They are likely to change as this area of research proceeds.

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[48] SSA Administrative data files in the Office of Retirement and Disability Policy.
[49] Mental/Cognitive Demands Subcommittee report, Appendix C.
[50] SSA Plans and Methods for Developing a Content Model: Key Questions to be Addressed, p. 15.
[51] Mental/Cognitive Demands Subcommittee report, Appendix C, p. 17.

2. *Data Elements Recommendations for Mental/Cognitive Demands of Work*

The Panel recommends that SSA consider the psychological abilities shown under each category below as important psychological abilities required to do work.

a. Neurocognitive Functioning

1. General cognitive ability (how well a person can reason, solve problems, and meet cognitive demands of varied complexity)
2. Language and communication (how well a person can understand spoken or written language, communicate his or her thoughts, and follow directions)
3. Memory acquisition (how well a person can learn and remember new information, such as a list of words, instructions, or procedures)
4. Attention and distractibility (how well a person can sustain the focus of attention in a work environment with ordinary distractions)
5. Processing speed (how quickly a person can respond to questions and process information)
6. Executive functioning (how well a person can plan, prioritize, organize, sequence, initiate, and execute multi-step procedures)

b. Initiative and Persistence

1. Attendance/punctuality (how consistently a person can leave his/her residence and maintain regular attendance and punctuality)
2. Initiative (whether a person can start and perform tasks once they are explained without an unusual level of supervision)
3. Pace/persistence (whether a person can continue performing understood tasks at an acceptable pace for a normal work week without excessive breaks)
4. Interpersonal Functioning

5. Cooperation (the extent to which a person's interactions with others are free of irritability, argumentativeness, sensitivity, or suspiciousness)

6. Response to criticism (how well a person responds to criticism, instruction, and challenges)

7. Social cognition (whether a person can navigate social interactions well enough to respond appropriately to social cues, state his or her point of view, and ask for help when needed)

d. Self-management

1. Personal hygiene (how well a person maintains an acceptable level of personal cleanliness and socially appropriate attire)

2. Symptom control (how well a person inhibits disturbing behaviors, such as loud speech, mood swings, or responding to hallucinations)

3. Self-monitoring (how well a person can distinguish between acceptable and unacceptable work performance)

3. *Research Recommendations for Mental/Cognitive Demands of Work*

a. Explore and consider the feasibility of conducting empirical research that quantitatively links the cognitive and mental abilities that are required to meet the demands of work.

1. Study ways to improve methods and scales for measuring psychological and interpersonal abilities of mental residual functional capacity.

2. Conduct validation and reliability studies of instruments related to mental residual functional capacities and occupational demands.

4) *Measurement Recommendations for Mental/Cognitive Demands of Work*

a. Use of appropriate scales with sufficient specificity for the constructs considered in the mental/cognitive demands of work.

b. Use of discrete categories and ratings for residual abilities.

Occupational Information Development Advisory Panel

Content Model and Classification Recommendations

Recommendations

1. <u>Job Side Recommendations</u>

We know that no existing *empirical* work taxonomy has been shown to describe all work in the economy.[52] This set of recommendations attempts to springboard from the scientific and empirical literature from the past century to offer a scientifically supported paradigm to consider all work as it is performed in the national economy.

      a.   *Data Element Recommendations for Work Taxonomy*[53]

          1.   Use the initial empirically derived work taxonomy as a stimulus to develop the instruments to measure each dimension (see Table 2).[54]

      b.   *Research Recommendations for Work Taxonomy*

          1.   Pilot study (18-month period)

              a)   Select the jobs most frequently: 1) held by at least 95% of SSA disability claimants; and, 2) identified by SSA as examples of work for those with specific residual functional capacities.

              b)   Conduct pilot study

              c)   Train expert users as a source to provide job level data for pilot study.

              d)   Obtain job level data by interviewing job incumbents during the pilot study.

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[52] Work Taxonomy and Classification Subcommittee report, Appendix E.

[53] To the work taxonomy were more detailed environmental data element considerations recommended by the Physical Demands Subcommittee and accepted by the Panel on 9/17/09 as follows: "The Panel recommends that SSA consider these to be potentially important environmental attributes of work: <u>Caustic, Chemicals, Cold, Confined spaces, Dust, Explosives, Fibers, Flammable, Fumes, Gases, Hazardous, Heat, Heights, Humidity, Lighting, Mold/Mildew, Noise, Smoke, Vibration, and Moisture.</u>"

2. Compare results of job level data from experts and incumbents.
3. Evaluate pilot study data for utility, reliability, and validity of job descriptions by the OIS through direct observation and convergence with expert validated job profiles.
4. Perform a usability analysis using the pilot study data to generate prototype occupational analysis reports and computerized systems.
5. Use pilot study results to refine the preliminary work taxonomy findings using psychometric principles. [55]
6. Develop and implement a plan to sample work from all jobs in the national economy for the operational database.

c. *Measurement Recommendations for Work Taxonomy*

1. Identify multi-item scales for existing work taxonomy dimensions.
2. Use items scaled per a) frequency of job occurrence and b) duration of required performance for the job.
3. Use decomposed ratings of work to prevent holistic ratings[56] of abstract work characteristics.
4. Reduce degree of overlap or redundancy between data elements and ratings to the extent possible.
5. Develop a content model for the OIS using the common metric recommended in Figure 1 to substantially reduce inference.[57]

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[56] Table 2 of the Work Taxonomy and Classification Subcommittee report reproduced as Table 2 within the context of this report.

[56] Harvey, R. J., & Wilson, M. A. (2000). Yes Virginia, there *is* an objective reality in job analysis. *Journal of Organization*[56] Harvey, R. J., & Wilson, M. A. (2000). Yes Virginia, there *is* an objective reality in job analysis. *Journal of Organizational Behavior, 21*(7), 829-854.

[57] Work Taxonomy and Classification Subcommittee recommendations in Appendix E. Also, see the Mental/Cognitive Demands Subcommittee recommendations in Appendix C and the Work Experience Analysis Subcommittee recommendations in Appendix D calling for employing methods to reduce adjudicative or clinical judgment in the person-job match.

Table 2. Proposed Work Taxonomy Dimensions

Taxonomic Source	D/O/P/T	Consolidation of Dimensions Sorted by Data/Other/People/Things
CMQ	D	Managerial Decision Making: Acquire/start/sell businesses
CMQ	D	Managerial Decision Making: financial
CMQ	D	Managerial Decision Making: prods/services, higher impact
CMQ	D	Managerial Decision Making: products/services, lower-impact
CMQ	D	Managerial Decision Making: strategic planning, entire org
CMQ	D	Take info, orders, interview
CMQ*	D	info/decide/resolve: High-level
CMQ*	D	info/decide/resolve: Lower-level
CMQ*	D	info/decide/resolve: mid-level
CMQ*	D	info/decide/resolve: Prof/tech
CMQ*, O*NET*,SOC*	D	Computer Language use/programming
CMQ, O*NET*,SOC*	D	Tech/scientific/computers-machines
GWI	D	Stock keeping/Bookkeeping
O*NET	D	Estimating the Quantifiable Characteristics of Products, Events, or Information
O*NET	D	Evaluating Information to Determine Compliance with Standards
O*NET	D	Judging the Qualities of Objects, Services, or People
O*NET,SOC*	D	Scheduling Work and Activities
O*NET	D	Updating and Using Relevant Knowledge
OAI	D	Biological Testing/Inspection Activities
OAI	D	Environmental Planning and Maintenance
OAI	D	Technical Planning and Drawing
OAI, GWI, O*NET,SOC*	D	Utilization and Processing of Numerical Data
OAI, WAP*,SOC*	D	Routine Clerical & Administrative Activities
PAQ	D	Attentive/discriminating work demands
PCTAQ*	D	Individual/Job-Related Decision Making
PCTAQ*, O*NET*	D	Individual/Job-Related planning
CMQ	O	Language use/foreign
CMQ,SOC*	O	Safety/damage to others

Table 2. Proposed Work Taxonomy Dimensions (cont'd)

Taxonomic Source	D/O/P/T	Consolidation of Dimensions Sorted by Data/Other/People/Things
PAQ	O	Variable vs. regular work schedule
PMPQ	O	Relevant Experience
PMPQ	O	Special Training
PMPQ*	O	Educational Requirements
WAP	O	Hourly Pay vs. Salary
WAP	O	job-related/required APPAREL
GWI, OAP	O-Cognitive	Spatial/Object Perception & Tracking
GWI, PAQ	O-Cognitive	Perceptual interpretation
O*NET	O-Cognitive	Thinking Creatively
PAQ, OAI	O-Cognitive	Environmental awareness
PCTAQ	O-Cognitive	General cognitive info processing
PCTAQ*	O-Cognitive	cognitive attention, focus
CMQ,SOC*	O-Context	Enforcement/demanding conditions
CMQ, PAQ	O-Context	Hazardous/unpleasant work environment
GWI	O-Context	Regulated/Standardized Work
MPDQ	O-Context	Autonomy of Action
MPDQ	O-Context	Complexity & Stress
WAP	O-Context	Job Security vs. Performance-Dependent Income
WAP	O-Context	Outdoor Work
PMPQ, PCTAQ*	O-Interpersonal	Interpersonal Activities
OAI	O-Physical	Activities Related to Coordination
OAI	O-Physical	Activities Related to Balance
OTHER	O-Physical	Activities Related to Hand Function
OTHER	O-Physical	Activities Related to Manual Materials Handling
OTHER	O-Physical	Activities Related to Position Tolerance
WAP	O-Physical	Activities Related to Mobility/Movement
OTHER	O-Sensory	Activities Requiring Olfactory Senses
OTHER	O-Sensory	Activities Requiring Tactile Senses
PAQ	O-Sensory	Visual input from devices/materials
PAQ	O-Sensory	Visual input from distal sources

Table 2. Proposed Work Taxonomy Dimensions (cont'd)

Taxonomic Source	D/O/P/T	Consolidation of Dimensions Sorted by Data/Other/People/Things
PCTAQ	O-Sensory	Audio attention
CMQ	P	Managerial Decision Making: POM/HR higher-level
CMQ	P	Managerial Decision Making: POM/HR, lower-level
CMQ	P	MDM: Implementing
CMQ,SOC*	P	Treatment/therapy
CMQ*	P	Communication: press/media
CMQ*	P	Communication: public/customers/clients
CMQ*	P	Communication: Regulators, Government
CMQ*,SOC*	P	Communication: students/children/civic
CMQ*,SOC*	P	delegating
CMQ*,SOC*	P	Resolving conflicts
CMQ*	P	supervision: sales/service
CMQ*, OAI*, WAP*, PAQ*, MDPQ*	P	Supervision: lower-level
CMQ*, OAI*, WAP*, PAQ*, MDPQ*,SOC*	P	supervision: middle-level
CMQ*, WAP*, PAQ*, PMPQ*,SOC*	P	Communication: mid-level exchange info
CMQ, O*NET*,SOC*	P	Negotiation
CMQ, WAP*, O*NET*,SOC*	P	Persuade/sell
MDQ,SOC*	P	Advanced Consulting
O*NET	P	Developing and Building Teams
OAI	P	Communication: Verbal
OAI,SOC*	P	Improving/Monitoring the Physical Performance, Capability and Adjustment of Others
OAI, PMPQ,SOC*	P	Instructing
OTHER	P	Communication: Written
OTHER	P	Project Management

6. Once a large database representative of all work in the national economy is available, examine various job classification methods based on a common metric.

2.   Where the Person-Job Link Happens

We also know that, ultimately, in the person-job match, what matters is whether the individual has any residual ability, medically and vocationally, that enables him or her to engage in either past work or other work in the economy that meets level of substantial gainful activity.[58] The individual's medical profile is considered and reflected in the individual's RFC. The individual's vocational profile involves consideration of his or her age, education, and work experience. For SSA, the medical-vocational profile considered at Step 4 includes the individual's RFC and work history, while Step 5 medical-vocational profile includes RFC, age, education, and work experience[59]. Because the job side includes information describing what is done on the job (i.e., work activities, the physical and mental/cognitive demands of work) and what is currently thought of as skills, the person-job link occurs when an individual's medical and vocational profiles are compared to determine his or her ability to work.

In these recommendations, we attempt to distinguish the essential components of the definition of what a skill is and how a skills analysis or work experience analysis is performed and separate them into those elements or processes for which occupational data could be gathered. By doing so, we are able to study the resulting data collected vis-à-vis current paradigms of how skills transfer or could transfer, as well as to provide the opportunity to potentially explore other methods that might result in greater face and predictive validity that are based on empirical data. We note that SSA uses the "transferability of skills analysis"[60] at Step 5 in very limited circumstances. We mean to include the consideration of an individual's ability to do past work or other work as currently conceived by SSA (unskilled, semi-skilled, or skilled).

a.   Data Element Recommendations for Work Experience Analysis

1. Use work activities as an observable and measurable proxy for 'skill' for data collection and development.
2. Develop work context factors for the OIS (e.g., industry, work settings, tools, machines, technologies, raw materials, products, subject matter, processes, service, etc)

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[58] Work Experience Analysis Subcommittee report, Appendix D.
[59] 20 CFR 404.1568 and 416.968 for SSA definitions for skills.
[60] 20 CFR 404.1568(d) and 416.968(d) for SSA definition of transferable skills analysis.

     b.   *Research Recommendations for Work Experience Analysis*

          1.   Conduct studies on data elements and occupational data collected in pilot studies that may inform the application of OIS data in SSA's work experience analysis. These studies could inform Agency policy in such areas as TSA, vocational advantage, relevance of work, complexity level, and time to proficiency.

Other OIS-Related Panel Recommendations

We provide overall recommendations pertinent to the development and maintenance of the OIS that we believe are critical to retaining the viability and organic nature of the database over time and to capture information that may inform general research. The recommendations below reinforce the reason and purpose of the OIS. They articulate the themes of program development, OIS maintenance, and extra data elements for data collection efforts. Also included in this section are recommendations for applied research. Most of the recommendations included in this section are based on the User Needs & Relations Subcommittee report available in Appendix F, unless otherwise specified in a footnote.

Several themes arose from the subcommittee research and reports that resulted in two general recommendations and affirmations of the Panel as to SSA's plans for the OIS. Specifically, the Panel's review and research over the last several months resulted in the unanimous concordance with SSA that the DOT should be replaced and not updated. This was noted in General Recommendation #2 that states:

> *The Panel concurs with SSA that the Agency needs to create a new occupational information system to replace the Dictionary of Occupational Titles (US Department of Labor, 1991) in SSA's disability adjudication process.*

Furthermore, the Panel concurred with the 12 specific technical and data requirements of this new OIS as discussed earlier in this report and affirmed in General Recommendation #1 that states:

The Panel concurs with SSA that any new occupational resources it creates must reflect the following:

- A classification system that is aggregated to support individualized disability assessment and that can be cross-walked to the United States' Standard Occupational Classification (SOC).
- Occupationally-specific data that are precise (i.e., they capture homogeneous ratings of work demands and worker traits), and they can be aggregated into clusters of similar work activities (i.e., occupational titles).
- Core tasks or work activities of the occupation.
- Minimum levels of requirements needed to perform the work.
- Observable and deconstructed measures.
- Manageable number of data elements or constructs that are critical to disability adjudication.
- Sampling methodology that captures the full range of work (i.e., all skill levels).
- Inter-rater agreement levels that justify data inference of high quality data.
- Data collection methods that produce high quality data.
- Occupational data that is empirically established as valid, accurate, and reproducible.
- Whether or how occupations allow workers to perform core work activities in alternative ways (e.g., sit-stand option).
- Terminology that is consistent with standard medical practice and human function.

Beyond the endorsing general recommendations that arose from the conglomeration of the Panel's work are additional OIS-specific recommendations detailed in the sections that follow.

c. *Extra Data Element Recommendations for the Content Model*

The Panel recommends that SSA consider these data elements for the OIS content model for adjudicative purposes.

1. English (Does the occupation require the worker to communicate in English?)
2. Literacy
3. Core work activities

    4.   Sit-stand option or alternative postures[61]

    5.   Use of assistive technology, tools, or other technology in performing work activity[62]

d)   Applied Research Recommendations

    1.   Develop a formal plan to conduct UNAs throughout the research and development phase of the OIS project to address the various stages of the OIS development and targeted to as many SSA internal and external users as possible.

    2.   When person-side instruments are developed, study the effects of the OIS content model data elements in SSA's disability process by comparing the use of newly-developed person-side instruments with the use of SSA's current physical and mental RFC assessments using a sample of disability claims that have already been adjudicated.

    3.   When the results of the pilot study of the work-side instruments are available, SSA should conduct studies of the application of these data in SSA's disability adjudication process to assess the effects of the data on both its disability process and programs (i.e., examine effects of the new OIS data, physical and mental demands of work, including work activities and other occupational data critical to RFC, work history, and transferable skills assessment).

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[61] Physical Demands Subcommittee recommendations in Appendix B also supports this recommendation.

[62] Physical Demands Subcommittee recommendations in Appendix B also supports this recommendation.

e.   *Extra Data Element Recommendations for Research*

The Panel recommends that SSA consider these data elements for the OIS content model for research and program evaluation purposes only, not for adjudicative purposes.

1.   Worker

a)   Chronological work history
b)   Concurrent jobs or occupations held
c)   Educational attainment
d)   Gender
e)   Health insurance enrollment
f)   Hours worked weekly or daily in occupation(s)
g)   Mode of transportation
h)   Primary or other language(s)
i)   Race and ethnicity
j)   Year of birth
k)   Zip code of residence

2.   Work

a)   Alternative work arrangements (e.g., telecommuting)
b)   Average shift
c)   Health insurance offered
d)   Seasonal or year-round
e)   Zip code of employment setting
f)   Language required other than English

f.   *SSA OIS Development*[63]

The information for this section of the recommendations came from the Work Taxonomy and Classification Subcommittee recommendations and General Recommendation #3.

1.   Develop an internal unit devoted to OIS design, development, data collection and analysis, and maintained with experts in common metric work analysis, labor

economics, and other specialties such as internal project management to interface with experts in a registered online community for the creation, operationalization, and maintenance of the OIS.

    a)   Increase internal work analysis expertise to carry out the core task of collecting and analyzing information about work, and maintaining the database accuracy.

    b)   Establish independence and scientific credibility of OIS unit.

    c)   Host online community of researchers and other relevant professionals to inform the OIS unit of emerging ideas, research and methods.

General Recommendation #3 further adds:

> *The Panel recommends that SSA identify and retain internal expertise for developing and conducting research for both the person-side and work-side taxonomies of the OIS.* [64]

    g.   *OIS Maintenance*[65]

    1.   Regularly and randomly select jobs for audit to keep the database current.

    2.   Schedule review of OIS items for usefulness vis-à-vis expired and emerging work content.

    3.   Host online communities to indicate the need for research. [66]

Lastly, the Panel knows that it does not operate in a vacuum. The most meaningful development of any OIS requires consideration of the voices of the users and other stakeholders, and provides opportunities for dialogue from and among the users, and the research, scientific, and academic communities, to help with the design and testing of tools applied effectively at the hands of the

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[63] Work Taxonomy and Classification Subcommittee recommendations in Appendix E.
[64] User Needs & Relations Subcommittee report in Appendix F for similar recommendations.
[65] Work Taxonomy and Classification Subcommittee recommendations in Appendix E.
[66] User Needs & Relations Subcommittee recommendations in Appendix F with additional discussion in the Work Taxonomy and Classification Subcommittee recommendations in Appendix E.

users.[67] Through our recommendations, we hope to develop the infrastructure to effectively deliver and enhance the communication with users, other stakeholders, and the public.

    h.   *Communication Recommendations for Users, the Public, and the Scientific Community*

    1.   Monitor developments in new and emerging media within SSA and the Federal government.

    2.   Explore alternative uses of the *Federal Register* for public comment to include the publication of the Panel's recommendations and other notices independent of the Panel's meeting announcements.

    3.   Develop FAQ sheets regarding the OIS project and the OIDAP for dissemination.

    4.   Summarize public comments and notify the public regarding the nature of these comments.

    5.   Publish notices about the OIDAP activities and contact information in relevant professional publications.

    6.   Develop branding and style sheets for a common look of the project and recognition by the public.

    7.   Electronic media presence

        a)   Explore the use of social media for contact with the public about the project.

        b)   Set expectations regarding the use of any social media notifying users of such media about the authoring, anonymity, expected response, online behavior, etc. differences in the use of such media.

        c)   Maintain electronic receptive and push media to inform the public about the project.

        d)   Host online communities during the development, operationalization, and maintenance of the OIS for registered scientific, research, academic, and related users to dialogue about occupational analysis data collected to encourage the development of an independent scientific community devoted to understanding occupational analysis issues using a

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[67] User Needs & Relations Subcommittee report in Appendix F with additional discussion in the Work Taxonomy and Classification Subcommittee report in Appendix E.

common metric that could suggest items for inclusion, propose work measurement instruments, and allow for the independent verification of SSA internal studies (e.g., pilot study, sampling plan, etc.). [68]

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[68] Work Taxonomy and Classification Subcommittee recommendations are contained in Appendix E.

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Summary and Future Activities

The Charter of the OIDAP states that we are to:

> … provide advice and recommendations related to SSA's disability programs in the following areas: medical and vocational analysis of disability claims; occupational analysis, including definitions, rating, and capture of physical and mental/cognitive demands of work, and other occupational information critical to SSA disability programs; data collection; use of occupational information in SSA's disability programs; and any other area(s) that would enable SSA to develop an occupational information system suited to its disability programs and improve the medical-vocational adjudication policies and processes.[69]

The recommendations set forth in the previous section constitute our initial efforts to meet the dictates set forth in the Charter. The scope of this first set of recommendations is specific to the content model and classification needs of the OIS. They are displayed in the person- and job-side, linking, and other categories noted above. However, from an operational perspective and within the scope of this first set of recommendations, the advice reflected in these recommendations is best summarized in seven general recommendations.

GENERAL RECOMMENDATIONS SUPPORTING THE NEED FOR A NEW OIS AND ON THE TECHNICAL, LEGAL, AND DATA REQUIREMENTS OF SUCH AN OIS

The creation of a new occupational information system is needed to replace the Dictionary of Occupational Titles for SSA's disability adjudication system. The OIS must include: a) occupations aggregated at a level to support individualized disability assessment; b) a cross-walk to the Standard Occupational Classification; c) precise occupationally-specific data; d) core work activities; e) minimum levels of requirements needed to perform work; f) observable and deconstructed measures; g) a manageable number of data elements; h) sampling methodology capturing the full range of work; i) inter-rater agreement justifying data inference; j) data collection of high quality data; k) valid, accurate, and reproducible data; l) whether core work activities could be performed in alternative ways; and, m) terminology that is consistent with medical practice and human function.

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[69] Occupational Information Development Advisory Panel Charter, December 9, 2008.

Occupational Information Development Advisory Panel

Content Model and Classification Recommendations

In order to create such a new OIS with these requirements, the basic data elements that constitute the starting point for researching its framework, or the content model and classification systems, are outlined in depth by the Panel. These data elements are the center of the scope of this first set of recommendations from the Panel to SSA.

GENERAL RECOMMENDATIONS REGARDING DATA ELEMENTS FOR THE NEW OIS

An initial empirically derived work taxonomy should serve as a stimulus to develop instruments to measure each dimension. Specific data elements for the development of the OIS include physical and psychological abilities required to do work; they also include work activities, context, and extra data elements for the content model.

The scope of the recommendations from the Panel include that of the occupational classification for the OIS. Beyond the technical, legal, and data requirements of the OIS as identified in the first general recommendation, the Panel further sets out another recommendation for the classification of the system.

GENERAL RECOMMENDATION FOR THE CLASSIFICATION OF THE OIS

Once a large database representative of all work in the national economy is available, SSA should examine various job classification methods based on the common metric.

The data element and classification recommendations represent the main scope of our advice for the content model and classification framework for the OIS.

We would be remiss to not consider the context upon which these recommendations lie or the need of a mechanism to create and maintain the structure of our recommendations such as recommended in Table 1. An OIS specific to SSA's needs should have a strong network of technical and professional expertise within and outside of SSA to support its creation and maintenance. Consequently, the Panel identifies recommendations that together comprise the fourth set of general recommendations.

Occupational Information Development Advisory Panel

Content Model and Classification Recommendations

GENERAL RECOMMENDATIONS FOR THE
CREATION OF INTERNAL AND EXTERNAL EXPERTISE
TO CREATE AND MAINTAIN THE OIS

Development of an independent internal unit at SSA staffed with experts addressing the work analysis and person-side development and research needs for the creation and maintenance of the OIS. Concurrent development and maintenance of online communities of researchers and other professionals to inform the unit's emerging and ongoing ideas, research, and methods.

With a strong independent internal unit of experts specific to the OIS, and input from research and professional communities external to SSA, the research needs of the OIS can better be examined. Although the primary scope of our recommendations in this report were for the data elements needed for the content model and classification, within the context of our review and deliberation, the Panel identified areas of basic and applied research that SSA may want to consider in the development the OIS and its application within disability adjudication. The constellation of the potential research results in the fifth set of recommendations by the Panel.

GENERAL RECOMMENDATIONS FOR
BASIC AND APPLIED RESEARCH

Research to develop and pilot work-side instruments and prototypes, perform a usability analysis, and create a sampling plan. Exploratory, validation, and reliability research on the quantitative link between person- and job-side mental/cognitive, physical, or environmental attributes and demands of jobs. Studies that focus on the consideration of the data collected vis-à-vis a work experience analysis. Research on best methods and standards for measurement and scaling of person-side variables. Applied research should focus on the user needs and comparative effects of new instruments on SSA's disability process and programs. Research should consider the inclusion of additional person- and job-side data elements that could foment independent research.

Related to the data element and research recommendations outlined above, the Panel found areas of measurement within the development or maintenance of the OIS that SSA may want to consider. These measurement suggestions are summarized in the sixth set of general recommendations by the Panel.

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Occupational Information Development Advisory Panel

Content Model and Classification Recommendations

GENERAL RECOMMENDATIONS FOR MEASUREMENT CONSIDERATIONS

Identify, refine, or create scales for person- and job-side dimensions, categories, and ratings that are discrete and consider frequency, duration, or other needs. Person-side measurements should be based on functional levels. These scales should have sufficient specificity to measure person-side constructs. Use decomposed ratings of work to prevent holistic ratings of abstract characteristics.

The Panel recognizes the importance of communication with and among users, the public, and the research and scientific communities. Therefore, the seventh set of general recommendations is directed at this interaction.

GENERAL RECOMMENDATIONS FOR COMMUNICATION WITH USERS, THE PUBLIC, AND THE SCIENTIFIC COMMUNITY

Explore, develop, host, and monitor the creation and use of various forms of traditional and emerging government and private media to inform or solicit input from various audiences about SSA and Panel activities regarding the development of the OIS.

As the Panel reaches the close of its first fiscal year of operation, we are proud to provide SSA with these seven general areas of recommendations. Ultimately, we recognize that the foremost reason why the Panel exists can be reduced to one word: inference. As stated earlier, this inference can be defined by data generalization or by adjudicative or clinical judgment about an individual's ability to work given an impairment. Presently, the static nature of the occupational information available for disability evaluation creates an ever-increasing gap in the user's ability to apply it. That is, day by day, the data inference and judgment leaps grow for those involved in making decisions about an individual's disability.

Furthermore, the person-job side link has never existed for mental and cognitive function without a great deal of adjudicative judgment. Arguably, the current mental residual functional capacity assessment requires the adjudicator to make the greatest judgment leap in the adjudicative process. Some users may likewise believe that skills analysis involves a similar level of judgment leap. Thus, our recommendations target suggested research to reduce the level of adjudicative and clinical judgment in both areas.

We provide a framework that gives SSA the platform to launch the development of an OIS that will be empirical, psychometrically sound, and legally defensible. The recommendations from each of the subcommittees are not all at the same

level of data inference. For example, the recommendations for work taxonomy and physical demands of work are based on concrete, observable, and verifiable constructs that are well grounded in decades of work analysis, ergonomic, human factor, medical, and rehabilitation research. Recommendations regarding how skills transfer and mental/cognitive demands of work will require greater levels of creativity, consideration, and research. Indeed, Panel deliberations suggest that these are two areas where there will be the greatest need for collaboration and creativity in research and application to reduce not only data inference, but also clinical and adjudicative judgment.

We realize that occupational data is used within a greater context of decision making at the individual case assessment, or n=1, level. In the course of developing these recommendations, we have come to recognize the inevitable need to explore the foundation of data-driven decision making that uses sound quantitative and qualitative validity and reliability principles as these apply to adjudicative judgment. The Panel plans to study qualitative, quantitative, and mixed research methodologies that could assist those involved in the disability adjudicative process to more effectively perform an individual case assessment. We are not referring to automated decision making or doing research at the individual case or n=1 level. Instead, we are referring to research in methodological approaches that may assist SSA in reducing data inference and, thereby, may also improve adjudicative judgment in light of OIS development in ways that would improve the accuracy of SSA's disability adjudication, as well as address the day-to-day operational concerns facing SSA adjudicators. For example, we believe it would be valuable to explore how the adjudicator could use OIS quantitative data with informed, yet qualitative judgment about various areas of mental or cognitive functioning to adjudicate a claim. We have begun literature review toward this end and will provide SSA with ideas for conceptual models as these emerge.

As indicated earlier, the recommendations offered in this report are our independent advice based on current findings and suggested next steps as outlined in Table 1 to continue on our roadmap toward offering independent advice and opinion as to building an OIS to replace the DOT in the disability adjudication process. We understand that SSA will review those recommendations vis-à-vis its needs. Thus, we look forward to the opportunity of consulting with SSA staff to proceed with any activities outlined in this the advice offered in this report.

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Glossary

Classification   How occupations are grouped.

Content Model   The type of data included in an occupational information system.

Core Tasks   Job duty or action that must be performed to carryout the purpose of the occupation.

Deconstructed Measures   A measurement strategy that seeks to obtain measures of abstract, latent constructs by virtue of statistically combining multiple ratings of more-specific, observable elements that can be observed and rated. Also knows as the "decomposed-judgment" rating strategy.

Synonymous with decomposed ratings.

Disability   Defined in §223(d)(1)(A) and 223(d)(2)(A) of the Social Security Act. For adults, it is the "[i]nability to engage in any substantial gainful activity by reason of a medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than 12 months. [A]n individual shall be determined to be under a disability only if his physical or mental impairment or impairments are of such severity that he is not only unable to do his previous work but cannot, considering his age, education, and work experience, engage in any other kind of substantial gainful work which exists in the national economy, regardless of whether such work exists in the immediate area in which he lives, or whether a specific job vacancy exists for him, or whether he would be hired if he applied for work. For purposes of the preceding sentence (with respect to any individual), "work which exists in the national economy" means work which exists in significant numbers, either in the region where

such individual lives or in several regions of the country."

The definition of disability for children under the age of 18 applying for benefits under Title XVI slightly differs from the above and is not included in this report.

g	General cognitive ability.
Inference	Inference is 1) the act of passing from statistical sample data to generalizations (as of the value of population parameters) usually with calculated degrees of certainty, and 2) the act of passing from one proposition, statement, or judgment considered as true to another whose truth is believed to follow from that of the former (www.webster.com).
Impairment	See §404.1508 and §416.908: An impairment results from anatomical, physiological, or psychological abnormalities which can be shown by medically acceptable clinical and laboratory diagnostic techniques. A physical or mental impairment must be established by medical evidence consisting of signs, symptoms, and laboratory findings, not only an individual's statement (§404.1527 and §416.927). See §404.1528 and §416.928 for further information about symptoms, signs, and laboratory findings.
Job Analysis	The various methods to analyze the requirements of a job. For specifics of how this term is used in industrial/organizational psychology, rehabilitation, and credentialing fields, see http://en.wikipedia.org/wiki/Job_analysis
n=1	Synonymous with the individual case assessment.

Residual Functional Capacity   The greatest level of function an individual can still perform despite physical, mental/cognitive, or other limitations imposed by a medically determinable impairment. SSA assesses an individual's residual functional capacity based on all the relevant evidence in the case record. In determining residual functional capacity, SSA considers the individual's ability to meet the physical, mental, sensory and other requirements of work. See §404.1545 and §416.945 for detailed information.

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Occupational Information Development Advisory Panel

Content Model and Classification Recommendations

APPENDIX A

About the Panel

Occupational Information Development Advisory Panel

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APPENDIX A

About the Occupational Information Development Panel

Official Designation: The Committee is entitled the Occupational Information Development Advisory Panel, established by Michael J. Astrue, Commissioner of Social Security, on December 9, 2008.

Objective and Scope of Activities: This discretionary Panel, established under the Federal Advisory Committee Act of 1972, as amended (hereinafter referred to as "the FACA"), shall report to the Commissioner of Social Security ("Commissioner"). The Panel will provide independent advice and recommendations on plans and activities to replace the Dictionary of Occupational Titles used in the Social Security Administration's (SSA) disability determination process. The Panel shall advise the Agency on creating an occupational information system tailored specifically for SSA's disability programs and adjudicative needs. Advice and recommendations will relate to SSA's disability programs in the following areas: medical and vocational analysis of disability claims; occupational analysis, including definitions, ratings and capture of physical and mental/cognitive demands of work and other occupational information critical to SSA disability programs; data collection; use of occupational information in SSA's disability programs; and any other area(s) that would enable SSA to develop an occupational information system suited to its disability programs and improve the medical-vocational adjudication policies and processes.

Description of Duties: While the Panel's role is solely advisory, the duties of the Panel include, but are not limited to: attendance at meetings; review of relevant materials; and participation in presentations, discussions, and deliberations to prepare and deliver recommendations to the Commissioner.

Panel Membership: The Panel shall be comprised of not more than 12 members, including: a) members of academia recognized as experts in relevant subject areas such as occupational analysis, vocational assessment, and physical and occupational rehabilitation; b) professional experts in relevant subject areas, such as vocational rehabilitation, forensic vocational assessment, and disability insurance programs; c) medical professionals with experience in relevant subject areas, such as occupational or physical rehabilitation medicine, psychiatry or psychology, and physical or occupational therapy; d) professional experts who represent or advocate on behalf of persons with disabilities; and, e) an SSA representative with expertise in SSA's disability program policies, processes and systems.

Member appointments may be made by the Commissioner for a period of two years. Members who are not full time Federal officers or employees shall serve as Special Government Employees under the authority of 5 U.S.C. § 3109. Members shall receive compensation for time spent on the Panel's behalf and reimbursement for travel expenses in accordance with the FACA and its implementing regulations.

Members and Social Security Administration Staff

Panel Members

Gunnar B. J. Andersson, M.D., Ph.D.
Mary Barros-Bailey, Ph.D.— *Chair*
Robert T. Fraser, Ph.D.
Shanan Gwaltney Gibson, Ph.D.
Thomas A. Hardy, J.D.
Sylvia E. Karman, Project Director
Deborah E. Lechner, PT, MS
Lynnae M. Ruttledge, Director, WA VR Services
David J. Schretlen, Ph.D.
Nancy G. Shor, J.D.
Mark A. Wilson, Ph.D.

Mental Cognitive Subcommittee

David J. Schretlen, Ph.D.—*Chair*
Robert T. Fraser, Ph.D.
Sylvia E. Karman, Project Director

Physical Demands Subcommittee

Deborah E. Lechner, PT, MS—*Chair*
Gunnar Andersson, M.D., Ph.D
Mary Barros-Bailey, Ph.D.
Sylvia E. Karman, Project Director

Work Experience Analysis Subcommittee

Thomas A. Hardy, J.D.—*Chair*
Mary Barros-Bailey, Ph.D.
Sylvia E. Karman, Project Director
Lynnae M. Ruttledge, Director, WA VR Services
Nancy G. Shor, J.D.

User Needs and Relations Subcommittee

Sylvia E. Karman, Project Director.—*Chair*
Mary Barros-Bailey, Ph.D.
Lynnae M. Ruttledge, Director, WA VR Services
Nancy G. Shor, J.D.

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Work Taxonomy and Classification Subcommittee

    Mark A. Wilson, Ph.D.—*Chair*
    Shanan Gwaltney Gibson, Ph.D.

Occupational Information Development (OID) Staff
Office of Program Development and Research

    Michael Dunn, Social Insurance Specialist
    Debbie Harkin, Social Insurance Specialist
    R.J. Harvey, Industrial/Organizational Psychologist
    Sylvia Karman, Project Director
    Sika Koudou, SCEP Student
    Robert Pfaff, Senior Analyst
    Shirleen Roth, Senior Analyst
    Debra Tidwell-Peters, Designated Federal Officer
    Mark Trapani, Senior Analyst
    Elaina Wise, Staff Assistant

Occupational Information System Workgroup (members in addition to the OID staff)

    Tom Johns, Branch Chief, Office of Quality Performance, Dallas
    Kristen King, Administrative Appeals Judge, Appeals Council, Office of
        Disability Adjudication and Review
    John E. Owen III, Deputy Director, Division of Disability Determination
        Services Operations Support, Office of Disability Determinations
    Michele Schaefer, Program Policy Officer, Office of Disability Programs
    Susan J. Swansiger, Acting Division Director, Division of Field
        Procedures, Office of the Chief Administrative Law Judge, Office of
        Disability Adjudication and Review
    Nancy Torkas, Branch Chief, Program Analysis Office, Office of Medical
        and Vocational Evaluation

Occupational Information Development Advisory Panel
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Member Biographical Information

Gunnar B. J. Andersson, M.D.

Dr. Andersson is the The Ronald L. DeWald, M.D. Professor and Chairman Emeritus of the Department of Orthopedic Surgery at Rush University Medical Center, Chicago, Illinois. Dr. Andersson was Chairman of the Department of Orthopedic Surgery from 1995 to 2008. During his tenure as Chairman he has also been the President of the Medical Staff, the Vice Dean for Surgical Sciences and Services and the Senior Vice President of Medical Affairs each for two year periods. Dr. Andersson received his M.D. from the University of Göteborg, Sweden in 1967, did his residency at Sahlgren University Hospital and also obtained a Ph.D. in medical science at the University of Göteborg in 1974. After a fellowship at the London Hospital he joined the faculty at the University of Göteborg for ten years.

In 1985 he moved to the United States and Rush University Medical Center. His clinical area of interest is spine while his research interests are disc degeneration, epidemiology and occupational biomechanics. Dr. Andersson is a past President of the Orthopaedic Research Society, the International Society for the Study of the Lumbar Spine and the American Academy of Disability Evaluating Physicians. He has been a council member of the National Institutes of Arthritis and Musculoskeletal and Skin Diseases at NIH, Chairman of the Research Committee at the American Academy of Orthopaedic Surgeons and a member of three Institute of Medicine committees. He is a member of 15 Editorial Boards, a Deputy Editor for Spine, Editor-in-Chief of Contemporary Spine Surgery and an Associate Editor of Clinical Biomechanics. He is the author of over 260 original publications, over 155 books and book chapters and 440 abstracts.

Mary Barros-Bailey, Ph.D.

Mary Barros-Bailey, PhD, CRC, NCC is a bilingual rehabilitation counselor, vocational expert, and life care planner in Boise, Idaho. She is a past Chair (2007-2008) of the Commission on Rehabilitation Counselor Certification (CRCC) and served as the Ethics Committee Chair from 2005-2007. Mary was one of the founding members of the Inter-organizational O*NET Task Force (IOTF) that in the early 2000s collaborated with the US Social Security Administration and the US Department of Labor on the use of occupational data within the disability context. She is a reviewer or on the Editorial Boards of several peer-review journals such as the Journal of Counseling & Development (American Counseling Association), the Journal of Forensic Vocational Analysis (American

Board of Vocational Experts), and the Journal of Mixed Methods Research (SAGE Publications). Mary has a doctorate in Counseling with a cognate in Rehabilitation Counseling from the University of Idaho. Her research and presentation interests include professional issues in rehabilitation counseling (ethics, methodological, aging, multicultural, and international). She has presented and published nationally and internationally.

Robert T. Fraser, Ph.D.

Robert T. Fraser, Ph.D. is a professor in the University of Washington's Department of Rehabilitation Medicine, joint with the Departments of Neurological Surgery and Neurology and consultant with Associates in Rehabilitation and Neuropsychology. He is an active counseling and rehabilitation psychologist, a certified rehabilitation counselor and a certified life care planner who directs Neurological Vocational Services within Rehabilitation Medicine. Within neurological rehabilitation, he has specialized in epilepsy, brain injury, and multiple sclerosis.

Dr. Fraser is author or co-author of more than one hundred publications and co-editor on four texts to include Traumatic Brain Injury Rehabilitation (CRC Press,1999), Multiple Sclerosis Workbook (New Harbinger, 2006), and Comprehensive Care in Epilepsy (John Libbey, 2001). He has been awarded numerous Federal grants by the Department of Education (NIDRR and RSA) - four of which have been specific to traumatic brain injury rehabilitation, and, more recently, in epilepsy self-management by the Center for Disease Control (CDC). He was awarded two World Rehabilitation Fund fellowships to review, respectively, the post-acute traumatic brain injury programs in Israel and epilepsy rehabilitation advances in Scandinavia and Holland. He lectures nationally on TBI rehabilitation. Research emphases have included evaluation of innovative psychosocial rehabilitation strategies and prediction of vocational rehabilitation outcome across different neurological disabilities. He is the recipient of two American Rehabilitation Counseling Association Research Awards, and an Epilepsy Foundation of America Career Achievement Award. Dr. Fraser is a past-president of Rehabilitation Psychology, Div. 22 of the American Psychological Association and a Fellow in the Division, a former Board member of the Epilepsy Foundation of America (EFA), a current board member of the Epilepsy Foundation Northwest, and was a former board member to the Board of Governors for the International Consortium of Multiple Sclerosis Centers.

Dr. Fraser has received master's degrees in rehabilitation counseling (University of Southern California) and public administration (Seattle University). His doctorate is in rehabilitation psychology from the University of Wisconsin–Madison, with a dissertation focused on the use of task analysis in the national classification and utilization of state agency vocational rehabilitation personnel.

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Shanan Gwaltney Gibson, Ph.D.

Professor Gibson's expertise is in issues related to human resources management & organizational behavior in organizations. Her research includes more than 35 published conference proceedings and 20 peer-reviewed journal articles on topics relevant to human resources and organizational development including job analysis, technology acceptance in organizations, and entrepreneurship. Her research can be seen in the Journal of Small Business Strategy, Business Education Forum, Small Business Institute Forum, and Management Research News, among others.

Professor Gibson is an Associate Professor of Management at East Carolina University and a member of the College of Business since 2003. Professor Gibson has extensive experience teaching issues related to occupational analysis; in addition to currently teaching graduate level Human Resources, she previously spent two years teaching Industrial and Organizational Psychology at ECU, as well as courses at Radford University and Texas A&M Corpus Christi. Professor Gibson was awarded the 2009 Robert L. Jones University Alumni Award for Outstanding Teaching and the 2009 Max Ray Joyner Award for Faculty Service through Continuing Education; she was recently named as the College of Business Teaching Fellow for 2009 – 2012. She is a member of The Academy of Management, the Society for the Advancement of Management, the Society for Industrial & Organizational Psychology, the Southeast Decision Sciences Institute, and the Southeast Institute for Operations Research and the Management Sciences.

Dr. Gibson graduated with a B.A. in Liberal Arts (magna cum laude) from Armstrong Atlantic State University and a M.S. in Industrial and Organizational Psychology and a Ph.D. in Industrial and Organizational Psychology from Virginia Polytechnic Institute & State University.

Thomas A. Hardy, J.D.

Thomas Hardy is an attorney in Private Practice concentrating his work in Social Security and Long Term Disability Appeals.

Previously, Hardy worked for a long term disability insurance carrier as the nationwide Manager of Vocational Rehabilitation Services; subsequently he took on Management of Medical Services and later also assumed the Supervision of Local Counsel. He was previously employed in the private sector as Vocational Disability Counselor. This combination of Medical, Vocational, and Legal knowledge made him a logical choice for a position on the IOTF (Inter Organizational Task Force) where he served for five years as a representative of

the Private Insurance Industry to the Social Security Administration and Department of Labor.

Hardy earned his Juris Doctor from Rutgers University, his Masters Degree from the University of North Texas and Bachelors Degree from St. Charles Borromeo College. He is a member of the Pennsylvania and New Jersey Bars. Hardy also holds professional certifications from the national Board for Certified Counselors (NCC), Commission on Rehabilitation Counselor Certification (CRC) and Commission of Insurance Rehabilitation Specialists (CIRS). He resides in Philadelphia

Sylvia E. Karman

As Director for Social Security Administration's (SSA's) Occupational Information Development Project in the Office of Program Development and Research, Sylvia Karman, oversees the research and development of occupational information tailored to SSA's disability programs. She directs the investigations and developmental work to replace the Dictionary of Occupational Titles, as well as studies to inform disability policy development. She also chairs the Panel's User Needs and Relations Subcommittee and SSA's Occupational Information System Development Workgroup. Ms. Karman serves as an expert for SSA executive management and for numerous private and public sector entities on medical-vocational assessment and occupational information issues critical to SSA disability evaluation. As the former Chief of the Vocational Policy Branch in SSA's Office of Disability Programs and, before that, the lead senior policy analyst and project manager for occupational information analysis and policy issues related to SSA's use of the Dictionary, she has long held a leadership role for the agency in these subject areas.

Ms. Karman began her career with SSA in 1979 as a college intern. After graduating in 1982 with a BA degree from Towson University in Maryland, her work involved policy and legislative development and program evaluation for the Supplemental Security Income program under title XVI and for the agency's disability programs under both titles II and XVI. Ms. Karman has presented and published papers in the areas of SSA's use of the Dictionary of Occupational Titles for disability adjudication, medical-vocational assessment, and the role of vocational factors and occupational information in disability evaluation, including transferable skills analysis. She is a frequent speaker at conferences and seminars throughout the US and Canada.

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Deborah E. Lechner

Deborah graduated from the University of North Carolina at Chapel Hill in 1975 with a BS degree in physical therapy. She later received her post-professional masters from the Massachusetts General Institute in Boston. Lechner is President and founder of ErgoScience, Inc.

From 1988 to 1993, she developed and validated a state of the art FCE, the Physical Work Performance Evaluation (PWPE) as part of her research responsibilities at UAB. When the results of the research were positive, the University of Alabama at Birmingham Research Foundation encouraged her to market the evaluation. ErgoScience® was formed to meet this need. Lechner brings to the FCE process a solid grounding in biomechanics and kinesiology from her experience in a computerized gait analysis and teaching kinesiology. Another powerful influence on her approach to FCE was her graduate training at the Mass General Institute. The program emphasized standardization, objectivity, reliability, and validity in clinical measurement. In the PWPE, as with other ErgoScience® products and courses, she combines her research background with 25+ years of clinical experience. She has recently developed a job demands analysis process and has assisted her faculty in developing coursework in industrial rehabilitation, AMA impairment ratings, and marketing rehabilitation services. Under her leadership, ErgoScience® continues to combine both a clinical and research focus, as well as offering state-of-the-art continuing education.

Lynnae M. Ruttledge

As a person born with a disability, Lynnae was served by the Michigan Vocational Rehabilitation program and assisted in obtaining her teaching credentials at the beginning of her career. Her extensive work history in the disability field has focused on working in the public and non-profit sectors in Michigan, Oregon and Washington. She has served in policy development, program management and key leadership positions in independent living, vocational rehabilitation, workforce development and business leadership networks.

Lynnae moved to the state of Washington in October 2005 to serve as the Director of the Washington Division of Vocational Rehabilitation. By 2007, the Division was recognized by the Governor with an outstanding management award and eliminated its 13,000+ waiting list by early 2008. Lynnae continues to lead the Division as it expands its capacity and partnerships to assure that more individuals with significant disabilities become successfully employed.

As a Governor's appointee, Lynnae serves as an ex-officio member of both the State Rehabilitation Council and the State Independent Living Council. She represents the Department of Social and Health Services on the state Workforce Investment Board.

As a longtime volunteer and disability rights expert, Lynnae has been affiliated with Mobility International USA since 1988 and has traveled to China, Russia, New Zealand/Australia, Germany, Japan, Zimbabwe, Uzbekistan, Peru, Qatar, Tunisia and Mali.

David J. Schretlen, Ph.D.

David J. Schretlen is an Associate Professor of Psychiatry, as well as an Associate Professor of Radiology at the Johns Hopkins University School of Medicine. He is board-certified in clinical neuropsychology, and works at the Johns Hopkins Hospital, where he sees patients, teaches, and conducts research.

Dr. Schretlen completed his doctorate in clinical psychology at the University of Arizona in 1986, an internship at McLean Hospital, Harvard Medical School, and a post-doctoral residency in neuropsychology and rehabilitation at the UCLA Neuropsychiatric Institute. While at UCLA, Dr. Schretlen was awarded a Mary E. Switzer fellowship by the National Institute of Disability and Rehabilitation Research.

Dr. Schretlen has served as a grant reviewer for the National Institutes of Health and the Veterans Administration Medical Center. He serves on the editorial boards of several scientific journals. He also has authored over 175 articles, monographs, book chapters, and abstracts. His research interests include the use of quantitative brain imaging to investigate cognitive and emotional aspects of human behavior. He has received federal and private research funding to study determinants of work disability in traumatic brain injury and bipolar disorder. He currently is analyzing predictors of functional disability in schizophrenia and bipolar disorder. Related to this is another program of research in which Dr. Schretlen is developing strategies to increase the diagnostic sensitivity and specificity of neurocognitive measures for persons of diverse socioeconomic background.

In addition to research and teaching, Dr. Schretlen is actively engaged in clinical work that primarily involves neuropsychological assessment. He consults to physicians about treatment planning and attorneys about matters involving such matters as vocational aptitude and work disability resulting from brain injuries.

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Nancy G. Shor, J.D.

Nancy G. Shor is Executive Director of NOSSCR (National Organization of Social Security Claimants' Representatives) located in Englewood Cliffs, New Jersey. She edits NOSSCR's monthly publication, *Social Security Forum,* and coordinates NOSSCR's research and advocacy efforts on behalf of Social Security and SSI disability claimants. She is a frequent speaker at CLE programs across the country and has testified before Congressional committees on Social Security issues on numerous occasions. She is the author of two chapters of *Social Security Practice Guide,* published by Lexis Nexis. Ms. Shor is a member of the National Academy of Social Insurance.

Ms. Shor is a past Commissioner for the American Bar Association Commission on Law and Aging. In 2009, she was appointed to Social Security Administration's Occupational Information Development Advisory Panel. She graduated from Boston University School of Law in 1976 and Wellesley College in 1973. She is admitted to practice in Massachusetts and the District of Columbia. Ms. Shor was in private practice for two years before becoming the first Executive Director of NOSSCR in 1979.

Mark A. Wilson, Ph.D.

Dr. Mark A. Wilson, Associate Professor of Psychology and Area Coordinator of the Doctoral Program in Industrial and Organizational Psychology, NC State University, joined the faculty in 1992. He received a B.A. in Psychology from Wartburg College (1975), an M.A. in Experimental Psychology from the University of Missouri-Kansas City (1978), and a Ph.D. in Industrial/ Organizational Psychology from Ohio State University (1983).

While completing the Ph.D., he served as Project Coordinator, Technical Director, and Senior Research Associate for Organizational Research and Development Inc. on a comprehensive human-resource research project involving human-resource planning, job analysis, selection (managerial assessment centers), performance appraisal, and compensation for a market-leading insurance company. The experience drastically altered his view of the field and his research interests. It was while working on the project that he developed his interest in the integration of human-resource systems, comprehensive job analysis, his dedication to the scientist-practitioner model and the problems of practitioners, and his love for fieldwork.

He has always been interested in work measurement issues, models of human job performance in organizations, and research methods. He has consulted and conducted research extensively with numerous large organizations in both the private and public sectors. He has taught graduate and undergraduate

management courses as an Assistant Professor at both Texas Tech University (1981-1985) and Iowa State University of Science and Technology (1985-1992). In 1999, he was made an honorary member of the United States Army Special Forces. In 2006, he was appointed editor of *Ergometrika* (The Journal of Work Measurement Research). He is currently editing the forthcoming *Handbook of Work Analysis in Organizations* to be published by Psychology Press/Routledge.

Physical Demands Subcommittee

Content Model and Classification Recommendations

APPENDIX B

Report of the

Physical Demands Subcommittee

Physical Demands Subcommittee

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Physical Demands Subcommittee

Content Model and Classification Recommendations

Physical Demands Subcommittee

Subcommittee Chair

Deborah E. Lechner, PT, MS

Subcommittee Members

Gunnar Andersson, MD, Ph.D.
Mary Barros-Bailey, Ph.D.
Sylvia E. Karman, Project Director
Occupational Information Development
Social Security Administration

September 1, 2009

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Content Model and Classification Recommendations

Introduction

Purpose/Mission and the Role of Subcommittee: The purpose/mission of the Physical Demands Subcommittee is to provide recommendations to the OIDAP regarding the development of the physical demands content model and components of a new Occupational Information System (OIS). This new OIS will serve as a long-term replacement for the Dictionary of Occupational Titles (DOT), the Selected Characteristics of Occupations (SCO), and the Revised Handbook for Analyzing Jobs (RHAJ).

Each occupation in the new OIS will be described to some extent by the physical demands and requirements of the occupation. Our recommendations will focus on the following categories of physical demands:

I.   Manual Materials Handling/Strength;

II.   Postures and Positions;

III.   Mobility and Movement;

IV.   Psychomotor;

V.   Sensory; and,

VI.   Environmental.

Each of these categories will have a list of physical demands. For example, the Manual Materials Handling/Strength would have:

- Lifting;

- Carrying;

- Pushing; and,

- Pulling.

Many of these physical demands would have further qualifiers such as one-handed vs. two-handed lifting, carrying pushing and pulling, and would be rated according to duration and repetition.

The Physical Demands Subcommittee will also discuss the issues with the present "level of gross physical activity" (i.e., Sedentary, Light, Medium, etc.) that is consistent with an individual's overall physical residual functional capacity (RFC). SSA needs such a schema at Steps Four and Five of their sequential disability determination process.

Physical Demands Subcommittee

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Physical Demands Subcommittee

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Methodology and Procedures

The Physical Demands Subcommittee investigated and deliberated on the physical demands components of the OIS to inform its recommendations in the following manner:

Panel Meetings Involving Relevant Presentations: Members of the Physical Demands Subcommittee attended all meetings held by the Occupational Information Development Advisory Panel (Panel) on the following dates:

- February 23-25, 2009—Washington, DC
- April 27-29, 2009—Atlanta, GA
- June 9-11, 2009—Chicago, IL

During each of these Panel meetings, the Physical Demands Subcommittee heard testimony from a variety of stakeholders (within and outside the Social Security Administration (SSA)) regarding desired changes to the physical demands in the current DOT, SCO and RHAJ. The Chair of the Physical Demands Subcommittee presented a preliminary literature review at the June 2009 Panel meeting.

Formation of Subcommittees: The Physical Demands Subcommittee was formed on February 25, 2009 and consisted of Deborah Lechner, PT, MS, Chair; PhD, Gunnar Andersson, MD, PhD; Mary Barros-Bailey; and, Sylvia Karman, Project Director, Occupational Information Development, Social Security Administration.

Activities of Subcommittees: The Physical Demands Subcommittee met five times:

- April 2009—Panel meeting in Atlanta, GA
- Via teleconference—May 2009
- June 2009—Panel meeting in Chicago, IL
- Via teleconference—July 29, 2009
- Via teleconference—August 31, 2009

We have also exchanged information and research articles via email in preparation for our subcommittee meetings.

Studies: A preliminary feasibility study was conducted in June 2009, pulling data from Functional Capacity Evaluations (FCEs) that have been performed for the purpose of long term private disability determination. The purpose of this

feasibility study is to determine the time required to perform a data transfer from existing .tif files into a Microsoft Excel spreadsheet which would permit the data to be analyzed. It was determined that sanitizing the records would involve five minutes per record. Entering data into a spreadsheet or database would take approximately 10 minutes per record. Over 900 records in which a comprehensive set of tasks was evaluated are available. Accessing these records would allow SSA to perform an exploratory factor analysis of physical demands and is being considered.

Sources Consulted: Members of the Physical Demands Subcommittee reviewed the physical components of existing general work taxonomies as well as taxonomies used in the ergonomics literature for the purposes of classifying the physical demands of work. See the bibliography and the Excel spreadsheet in Appendix A of this report for details.

DDS/ODAR/Appellate Council Visits: Members of the Physical Demands Subcommittee visited their local Disability Determination Services (DDS) offices and the Maryland Office of Disability Adjudication and Review (ODAR), and Appellate Councils to observe the current DOT/SCO taxonomy being utilized in SSA's disability determination process and the adjudication of appeals.

Review of Recommended Documents and SSA Working Papers: Members of the Physical Demands Subcommittee reviewed the following presentations and SSA-prepared and recommended papers;

- Working Paper: *What is a Content Model?*
- Working Paper: *Developing an Initial Classification System*
- Working Paper: *Social Security Administration's Legal, Program and Technical/Data Occupational Information Requirements*
- Working Paper: *SSA Plans and Methods for Developing a Content Model: Key Questions to Be Addressed*
- Presentation: A History of Job Analysis (Mark A. Wilson, Ph.D.)

In addition, the subcommittee reviewed user input from the following sources:

- A Call to Update the DOT: Findings of the International Association of Rehabilitation Professionals (IARP), Occupational Database Committee (Authors: Angela Heitzman et al), *The Rehab Professional*, 17(2)
- IARP OIDAP Survey Summary, July 2009, Final

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- Occupational Information System Survey Comments: IARP, August 3, 2009
- Comments from National Organization of Social Security Claimants' Representatives (NOSSCR)
- User Needs Analysis: Office of Disability Adjudication and Review; Office of Appellate Operations: (Authors: Roth & Dunn, SSA, OPDR).
- User Needs Analysis: Maryland Disability Determination Services (DDS) (Authors: Roth & Dunn, SSA, OPDR).
- National Association of Disability Representatives (NADR) OIDAP Committee – Collaborative Opinion: July 2009
- Comments from the American Board of Vocational Experts (ABVE)*
- Comments from the American Physical Therapy Association*
- Comments from the American Occupational Therapy Association*
- Presentation by Georgina B. Huskey, President, National Association of Disability Examiners
- Presentation by Trudy Lyon-Hart, Secretary of the National Council of Disability Determination Directors

*Included in Appendix F—Report of the User Needs and Relations Subcommittee

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Physical Demands Subcommittee Recommendations

Issues Considered

In its deliberations, the Physical Demands Subcommittee considered the following:

1) The application of the physical demands taxonomy within the context of the Social Security Administration's Five-Step process for disability determination.

2) The efficacy or lack thereof of the current DOT/SCO physical demands classification system.

3) The effects of a change of the current DOT/SCO physical demands classification system on the medical and rehabilitation community that also currently utilizes the DOT for private disability determination and for workers' compensation cases, and the extent to which SSA and external users share requirements.

4) The input provided from stakeholders at the various Panel meetings from February through June of 2009.

5) The input provided from stakeholders in the 2002 job analysis research sponsored by the Department of Labor.

Specific Physical Elements (Demands)/ Recommended Level of Detail

In general, we feel that with the exception of a few areas, the current categories of physical demands provided in the DOT/SCO provide a fairly adequate level of detail. The physical demands that are not adequately covered are as follows:

1) <u>Above v. below-waist lifting</u>. There is currently no distinction between above and below-waist lifting. We consider this to be a problem when documenting the lifting requirements of various occupations and comparing those requirements to individuals with varying physical dysfunctions. For example, an individual who has sustained an upper extremity dysfunction could possibly handle 30 lb lifting below waist but only able to sustain 10 lb of lifting above waist. Conversely an individual with a lower extremity or back dysfunction would likely be able to lift much better above waist than below waist. Since there is such a high prevalence of applicants who apply for Social Security disability with a low back dysfunction/diagnosis, we believe that distinguishing between these two types of lifting is important for SSA.

2)   <u>Reaching levels and types defined</u>. The current DOT defines reaching as a physical demand of work. Claimants with shoulder dysfunction can tolerate reaching at shoulder height and below fairly well. However reaching above shoulder height is typically problematic. Claimants with hand injuries and resulting swelling in a dependent position, tolerate low reaching poorly. For these reasons, we recommend that reaching be subcategorized into three different heights a) Above shoulder; b) Shoulder to waist height; and, c) Below waist. In addition, the reaching required should be designated as either one-handed or two-handed reaching as noted below.

3)   <u>Addition of keyboarding and use of mouse/touchpad</u>. Given the frequency of computer use in today's work environment, we feel that the addition of keyboarding and use of pointing devices is warranted. We feel that keyboarding involves a specialized type of finger dexterity that justifies identifying it as a separate physical demand. The use of the mouse requires reaching and handling. The use of the touchpad requires fingering and sensation.

4)   <u>Addition of forceful gripping and forceful pinching</u>. The current DOT taxonomy addresses Handling and Fingering. Handling is described as hand function that includes contact of the palm of the hand with the object being handled. Fingering is described as contact of the fingers only (not palm of hand) with the object being handled. Neither of these descriptions address squeezing and pinching motions of the hands and fingers respectively. In SSA claimants with hand dysfunction resulting in weak or painful gripping and pinching this hand function is not appropriately addressed within the parameters of handling and fingering.

5)   <u>Documenting the uni- and bi-lateral requirements of occupations</u>. Currently there are no classification options to address the requirements of one hand in manual materials handling and forceful exertions in the DOT/SCO. If an applicant with an injury or disease affecting one arm applies for disability, there currently is no way to compare the remaining residual functional capacity of his/her unaffected arm to the one-handed requirements of the job. By adding the following to the classification system, we feel that this issue could be addressed:

- One-handed lifting
- One-handed carrying
- One-handed push and pull

- One-handed reaching
- One-handed fingering
- One-handed handling

6) <u>Addition of trunk (body) rotation/twisting/lateral bending</u>. The current taxonomy in the DOT does not mention trunk/body rotation. For claimants who have low back dysfunction, trunk rotation is often a challenge and is required for many jobs. The trunk rotation can be repetitive or it can be statically held while a hand and positional task is performed.

7) <u>Addition of neck rotation/twisting, bending and extension</u>. The current DOT taxonomy does not address neck rotation and bending. For claimants with neck dysfunction (i.e., arthritis, cervical disc disease, and cervical stenosis) the extent of neck rotation and bending required for work is an important issue. The neck movements can occur repetitively or held statically while an eye-hand task is performed.

8) <u>Addition of forward bending from sitting</u>. The current DOT taxonomy addresses only forward bending from a standing position. However, some occupations require forward bending from a sitting position as well. Occupations such as mechanics, electricians, plumbers, painters are a few examples. Claimants with low back dysfunction may have difficulty with this position.

9) <u>Increased specificity for climbing</u>. Currently the DOT taxonomy addresses climbing. In the definition this can include climbing stairs, ladders, poles, ropes, or scaffolding. The physical ability required for each type of climbing is significantly different. Stair climbing is the least demanding of all types of climbing because it requires less hip and knee motion and strength. Ladder climbing requires significantly more hip and knee motion and strength and some use of the upper extremities. The physical demands of a vertical ladder are greater than an A-frame ladder. Pole and rope climbing requires similar hip and knee motion as ladder climbing but significantly more arm strength than ladder climbing. Stair climbing and climbing an A-frame ladder can typically be performed with one hand or arm. The other types of climbing require bilateral hand use. Climbing ramps may also need to be included.

10) <u>Addition of Running</u>. Not many professions require running. For those that require running, however, the demand is an important

challenging occupational requirement. The current DOT does not address running as a physical requirement.

11) <u>Categories for Balance</u>. The current DOT has a single classification of balance.   However, the balance required varies greatly depending on the surface on which the worker must work. For example, the balance required for walking on even surfaces is much less than that required for uneven surfaces. The balance required for ladder climbing, and beam and scaffold walking, is much greater than that for level walking. For these reasons, we recommend classifying balance into at least four categories: a) Even/Level surfaces; b) Uneven/Irregular surfaces; c) Ladder climbing; d) Beam and scaffold walking; and, e) Balancing by walking on an incline.

12) <u>Separate Classification of Sitting, Standing, and Walking</u>. The current DOT classifies sitting, standing, and walking as part of the General Physical Category. We recommend that each of these variables be classified separately and categorized according to duration or percent of day spent in these activities.

13) <u>Ability to Alternate Position</u>. There are some sedentary jobs where a sit-stand option is available. This identification borders on accommodation. However, if the sit-stand option is available, it opens up opportunities for employment that would otherwise be unavailable.

14) <u>Ability to Use Assistive Devices</u>: In some work environments the use of physical assistive devices is permitted and the work environment lends itself to the use of these devices. In other environments the use of assistive devices is not feasible. Notation of the occupations that allow these devices would be helpful.

15) <u>Operation of Foot Controls</u>: Needs to be added. Documentation of whether one or two feet are required would be helpful in cases where the applicant has use of only one foot such as the case if applicants with an amputation or with paralysis or loss of sensation of one foot.

16) <u>Repetitive Twisting of Wrist</u>: Needs to be added. Documentation of the presence of this activity in an occupation would be important to applicants with carpal tunnel, chronic tendonitis, and arthritis. Individuals with these diagnoses tolerate repetitive turning of the wrist and forearm poorly. These motions are present to some

degree in many manufacturing jobs and in the food processing industry.

17) Handwriting. Needs to be added. Most occupations in today's environment required handwriting to some extent. The duration of writing can affect the work tolerance of those with carpal tunnel and arthritis.

Comprehensiveness: The Physical Demands Subcommittee believes that the physical demands taxonomy should be as comprehensive as possible, covering all physical demands that are required for work.

Specificity: The Physical Demands Subcommittee believes that the level of specificity or detail of the content model and taxonomy should be carefully balanced with practicality and feasibility in mind. Too little detail will result in the frustration that has occurred with the current DOT expressed by many of the user needs analyses and stakeholder presentations. Alternatively, too much detail will render the system impractical and cumbersome to use. We believe that the level of detail contained in many of the ergonomic taxonomies and assessment tools is more detail that would be feasible or practical for SSA. However, we believe that these tools can provide information that will be instructive for SSA in establishing certain parameters for operational definitions. For example, we recommend that SSA conduct a formal literature review of the topic of repetition to determine an appropriate operational definition for repetitive.

Operational Definitions: Operational definitions are extremely important to the reliability and validity of any data collection method for job analysis. The definitions must be written in sufficient detail to allow job analysts to correctly classify the physical demands. Our field experience in job analysis has shown that positions such as bending/stooping are difficult to classify correctly and to distinguish from standing or squatting/crouching without specific operational definitions. Questions arise such as: How much forward bending has to occur in order for the physical demand to be classified as stooping? Is it 10 degrees, 20 degrees, 30 degrees or more? Our experience indicates that it must be a visible angle that can be clearly distinguished. We have come to appreciate that there is no one magical number. However, an arbitrary cut point at least allows the analysts to be consistent with one another and with themselves on a re-test situation. The following provide a few examples:

- Trunk angle required to distinguish stooping from standing;

- Knee angle required to separate squatting from stooping;

- Shoulder angle for reaching high, low, medium;

- Force for forceful gripping as distinct from handling; and,

- Number of consecutive steps to be considered walking vs. standing.

Recommended Rating System for Specific Demands

Significant controversy surrounds the issue of measurement parameters of the physical demands. However, most agree that some sort of classification system of the extent of repetition as well as duration should be included.

Repetition:

- Low Repetition:1-12 times per hour

- Moderate: 13-30 times per hour

- High: 31 to 60 times per hour

While we agree that repetition should be addressed, we are not confident that this should be the classification system. It may be that the number of repetitions would vary depending on whether one is classifying upper extremity vs. trunk repetition. In our brief review of the ergonomics literature, we noted a wide variation in what is considered "repetitive."

We feel that this subject deserves very close attention. As such we recommend a thorough analysis of the literature on repetitive work to determine the most appropriate classification system for repetition.

> _Duration_: Several groups have mentioned that a scale for duration for physical demands is very important. However, most feel that the current categories of Never, Occasional (1-33% of the day), Frequent 34 – 66% of the day, and Constant > 66% of the day, are too broad. Most user needs groups and individuals requested a seldom or rarely category and IARP requested that the OIS classify jobs that require more than an 8-hour day. The length of time a physical demand is performed and the length of a workday should be captured in the data gathering process. Once the data is analyzed, future recommendations could address how best to address this issue.

> _Maximum Continuous Duration_. In addition to the issue of total duration throughout the day, the maximum continuous duration a position is assumed or other physical demand must be performed is important as well. For example, a physical demand may occur occasionally (up to 1/3

of the day) and in one occupation. The demand would be interspersed intermittently throughout the day while in another occupation, this 2.7 hours of activity would occur continuously. Many claimants can tolerate activity if the physical demand is required intermittently but may not be able to if it is required continuously for 2.7 hours.

Maximum Continuous Distance: For dynamic movements such as carrying, pushing, pulling, walking, climbing, running, crawling, etc., the maximum continuous distance can be a very important occupational demand. If a claimant can only walk 50 continuous feet and the occupation requires at least 500 feet of continuous walking, then there is an obvious mismatch between claimant's ability and the occupational demand. The challenge is that each job that is analyzed in an occupation may vary considerably when it comes to these distances based on the size of the physical location.

Variations of Physical Demands within Occupations: Each occupation will be studied by observing and measuring physical demands in multiple representative jobs. Most certainly there will be a range of demands for each occupation. Even if demands are similar, the extent to which these demands are required will vary. The occupational classification will identify the highest physical demand level in individual job analyses that will then be used to determine a mean for each occupation.

General Physical Category

The current DOT taxonomy defines general physical demands categories as Sedentary, Light, Medium, Heavy, Very Heavy. Some frustrations with these general physical categories of have been expressed by user groups. The frustrations have mainly centered on several issues:

1)   Some of the categories are too broad. For example, the Medium category contains occupations that require 21-50 lbs of lifting and Heavy includes materials handling in the 51-100 lbs.

2)   The definitions include the extent of sitting, standing, and walking that are required for each level of work. The specific duration of sitting, standing and walking are only vaguely defined for the Sedentary and Light levels and not defined at all for Medium level and above.

3)   Interpretation of the levels vary from organization to organization and among vocational evaluators, insurance companies and case managers, making it difficult to report functional testing results in a way that is consistent and meaningful for all referral sources.

4)   Classification of jobs with multiple levels of material handling.

Recommendations for improvements include:

1)   More narrow ranges of material handling.

2)   Focus definitions on materials handling only. Classify sitting, standing and walking as independent physical demands and rate according to the duration.

3)   Standardization of interpretation of the categories and how they relate to claimant disability or ability is needed in the new OIS. Once data is captured, recommendations should focus on suggesting methods to represent this concept. That is, these could involve assigning ranges to weights that are standardized.

4)   Occupations should be classified according to the heaviest level of material handling required. So that if a job requires lifting of a variety of materials some of which weigh 10 lb, some 35 lb and some 53 lb. Then the job would be classified based on the 53 lb weight. If a job had light lifting but heavier pulling, the job would be classified according to the pulling.

Recommendation:

1)   Create more categories that are not as broad. Perhaps a system that increases by smaller weight increments may provide a solution. However, once the data is gathered and analyzed, future recommendations could suggest a scale that is more applicable than what users presently have.

Recommend Methods of Data Collection

For the DOT, data was collected using field analysts. However, this data collection has been criticized for lack of standardization. In fact, standardization was provided through the *Handbook of Analyzing Jobs*. But the training and utilization of this method was not consistent across all field locations. For the O*NET, the data collection was entirely through self report.   The Physical Demands Subcommittee strongly believes that data collection for the physical demands of work cannot be done via self-report. There are numerous studies that demonstrate that self-reported physical demands are neither reliable nor valid, especially at the level of detail requested by user needs analyses, and stakeholder comments (Wiktorin, Kariqvist, & Winkel, 1993; Oliveira de Souza & Gil Coury, 2004).

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Sensory/Motor Category

This category includes feeling, hearing, vision, and tasting/smelling. The American Occupational Therapy Association identified sensory skill demands as "actions or behaviors required to locate, identify, and respond to sensations and to select, interpret, associate, organize, and remember sensory events based on discriminating experiences through a variety of sensations that include visual, auditory, proprioceptive, tactile, olfactory, gustatory, and vestibular." Analysis of the literature regarding such topics as visual ergonomics, hearing demands of work, and other related areas found little contemporary research regarding the sensory demands of work.

User groups comments are summarized in the following sensory categories:

1) Speech: Talking may be a function of the mental/cognitive process of receptive and expressive speech as is addressed in that subcommittee's recommendations with respect to the outcomes of expressive and receptive language that are measurable and observable. From a physical standpoint, only speech quality (sound and frequency) are considered.

2) Feeling:

   a. User Recommendation: Tactile perceptions of objects, environmental conditions, and other sensations felt through the skin.

   b. Measurement needs: refined frequency measures.

3) Vision:

   a. User Recommendation: Degree of vision needed to complete the task (i.e., peripheral, accommodation, near acuity, far acuity, etc.), including vision in one or both eyes.

   b. Measurement needs: level of peripheral vision required to avoid hazards and distance from visual stimuli represented the greatest need for data elements to be included the content model. Scales should use realistic units (e.g., distances), such as the use of the Snellen chart, of measurement rather than frequencies.

4) Hearing:

    a. User Recommendation: Degree of sound discrimination to safely and adequately carry out a work activity. Specificity in job requirements with respect to distinguishing different levels of sound as well as any level of sound regardless of source.

    b. Measurement needs: Decibel and frequency demand scales rather than frequency scales.

5) Tasting/Smelling:

    a. The ability to detect the existence of pleasant or unpleasant tastes or smells may be essential to certain occupations, such as first responders (e.g., firefighter, police officer) and those in the hospitality industry (e.g., chef, waitress, child care provider). It should be included when their impairment alone, or in constellation with other impairments, may preclude a claimant from performing the core functions of occupations for which they may have skills.

Recommendations

1) Defining talking within the physical demands context in terms of speech quality rather than the receptive or expressive qualities that are more of the mental/cognitive process.

2) Consider more discrete, appropriate, and functional levels of measurement for feeling, vision, and hearing.

3) Although not frequently encountered as an impairment consideration, including taste and smell sensory demands due to their relevance as essential and core functions of a variety of occupations.

4) Sensory demands are not a primary expertise of any of the members of the Physical Demands Subcommittee. For this reason, we recommend that SSA convene a focus group or roundtable of experts in the area of vision and hearing for more specific recommendations and definitions that are contemporary.

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Legal, Technical, and Data Issues

Legal issues in the physical demands area that are important to consider relate mainly to the accuracy of the data that populates the occupational data base. The data collection method must be shown to be reliable and valid. The data should be collected by direct observation using a classification system with well-defined operational definitions rather than self-report.

Test-retest and inter-rater reliability should be studied. Validity will be more difficult and costly to establish. We believe that the data collection method could be compared to a full-day time and motion study in a limited number of occupations at each of the physical demand levels (Sedentary, Light, Medium, etc). A less rigorous but alternative method of establishing validity would be to compare the results of the data analysis method to expert opinion. However, this method of face validity is the weakest form of validity.

A training course and accompanying manual would need to be developed. Analysts would need to attend a rigorous training with testing and certification in the established data collection method. Based on research conducted in 2002 with the US Department of Labor, the training could occur via the internet with protocol practice using videotaped jobs. Periodic re-certification would be required.

Suggested Studies

The Physical Demands Subcommittee recommends that SSA undertake the following studies to inform the overall process:

- Perform an analysis of the literature on repetition to determine the most appropriate definition of the term repetitive.

- Perform contemporary research regarding the sensory demands of work, particularly as these relate vision and hearing, the areas most identified by users that require attention.

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Environmental Category

A complete job description should include information about the environmental conditions present. Of particular concern are exposures to heat and cold, humidity, wetness (moisture, rain, water), dust, chemicals, fumes, gases, smoke, mold or mildew, fibers including asbestos, vibration and general conditions of the workplace (hazardous environment, heights, noise, animals, etc.). Whether work is performed outdoors or indoors is important since environmental factors are more difficult to control outdoors.

Most research on the effect of environmental factors on health and human performance concerns noise, thermal stress (heat and cold), and vibration. In areas such as noise and vibration safety standards have been developed which include level and time of exposure. This is also true for exposure to fibers (such as asbestos). With respect to thermal stress the best measure would be the core temperature (about 98.6^O F or 37° C), but this is an uncomfortable measure to obtain. In thermally neutral environments (air temperature 20-23° C for a resting, comfortably clothed person) the body maintains its heat balance by regulation of blood flow. When the temperature increases beyond that level or when vigorous activity is performed increased blood flow in the skin results in sweating. Under excessive heat stress this mechanism shuts down and the core temperature rises (hyperthermia) with potential development of heat exhaustion and even heat stroke. Conversely, in colder temperatures the body restricts this blood flow, then contracts muscles rapidly (shivering). With extreme cold the regulation fails and the body starts losing heat to the environment (hypothermia). This can cause death. A complicating factor is the heat accommodation that naturally occurs in a hot environment. This process results in increase of sweating, reduced salt concentration in sweat and reduction in core temperature and heart rate. To determine heat stress one needs to measure air temperature, humidity, air velocity and surrounding surface temperatures. Although a number of measures have been developed to address these interactions the "dry bulb temperature" thermometer is the simplest and most practical (Hancock & Vasmatzidis, 1999).

In 1986 NIOSH developed as set of heat stress criteria as requested by OSHA (Millar 1986). Those are primarily based on effective temperature (which combines air temperature, humidity and air movement) and exposure time. A formula has also been developed to convert temperature to "wet bulb glove temperature" (WBGT) which takes radiant heat and air velocity into account (Yagloglou & Minard, 1957). Recommended exposure limit curves were developed by NIOSH taking the environmental heat (WBGT) and metabolic heat (generated by the worker) into account (NIOSH Publications 86-113). The simplest way to describe heat stress is to record the temperature, time of exposure, and frequency of exposure.

As exemplified in the discussion of heat stress, highly sophisticated analyses can be performed for most environmental conditions. In the context of a useful job description, all the discussed exposures should be described, but detailed measurements of exposures are unpractical. At a minimum the exposure, its concentration (severity), frequency and the workers ability to address the exposures (protective equipment, etc.) should be described.

Recommendations:

1)　　Describe and define environmental conditions as they relate to: heat and cold, humidity, wetness (moisture, rain, water), dust, chemicals, fumes, gases, smoke, mold or mildew, fibers including asbestos, vibration and general conditions of the workplace (hazardous environment, heights, noise, animals, etc.).

2)　　Define appropriate measures for each condition where possible (e.g., for noise and vibration issues provide details of the level and time of exposure) or, at a minimum, include descriptions of levels of exposure, concentration or severity, frequency and accommodations available to address the effects of the exposure (such as protective equipment).

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Definition of Terms

<u>Accommodation</u>: adjustment of lens of eyes to bring an object into sharp focus.

Balancing: maintaining body equilibrium to prevent falling.

- Balancing on level surfaces

- Balancing on Uneven surfaces

- Balancing on Ladders

- Balancing on Beam and Scaffolding

Carrying: Transporting an object over a distance through walking, usually holding the load in the hands or arms.

- One-handed: using one hand or arm to carry the object

- Two-handed: using both hands or arms to carry the object

Color Vision: ability to identify and distinguish colors.

Crawling: moving about on hands and knees, hands and feet or on the abdomen

Crouching: bending the body downward and forward by bending legs at the hips and knees with simultaneous forward bending of the spine. This is typically performed when working with material that is at or near the floor level. Squatting includes positions where one knee is on the floor or both knees are off the floor.

Depth Perception: ability to judge distances and spatial relations.

Far Acuity: clarity of vision at 20 feet or more.

Feeling: perceiving attributes of items as size, shape, temperature as experienced through the skin.

Field of Vision: Observing an area that can be seen up and down and right and left when eyes are fixed on a given point.

Fingering: picking, pinching, or otherwise working primarily with the fingers. The object handled does not contact the palm of the hand.

Handling: seizing, holding, grasping, turning, or working with hands; using the hands in such a fashion that the object being handled contacts the palm and fingers of the hand.

Hearing: perceiving the nature of sounds by the ear.

Kneeling: bending the legs at the knees to come to rest on both knees.

Ladder Climbing: Ascending or descending either A-frame or vertical ladders.

Lifting: Raising or lowering an object from one level to another. Involves primarily vertical displacement of the load but can also include a component of horizontal displacement as well. Can involve one or two-handed lifting and can occur either above waist or below waist.

- One-handed: using one hand or arm to raise or lower the object

- Two-handed: using both hands or arms to raise or lower the object

- Above-waist: lifting that occurs from the waist and above. Typically performed primarily with the strength of the arms, shoulders, and upper back.

- Below-waist: lifting that occurs from the floor to approximately waist height. Typically performed primarily with the strength of the legs and low back.

Near Acuity: clarity of vision at 20 inches or less.

Physical Demands: occupational demands that require movement of the body, including arms, legs, hands, feet, neck and back.

Pulling: Exerting force upon an object so that the object moves toward the force.

- One-handed: using one hand or arm to pull the object

- Two-handed: using both hands or arms to pull the object

Pushing: Exerting force upon an object so that the object moves away from the force.

- One-handed: using one hand or arm to push the object

- Two-handed: using both hands or arms to push the object

Reaching: extending arms and hands away from the body in any direction. Shoulder angle must be 45 degrees from the body to be considered reaching. Three levels of reaching include:

- Low: below the waist

- Medium: waist to shoulder height

- High: above shoulder

Scaffolding or Pole Climbing: Ascending or descending scaffolding or poles.

Sitting: Remaining in a seated position with knees and hips flexed to some extent and buttocks resting on surface.

Speech: voice tone, quality, projection, and other physical attributes during speech production in the communication process.

Stair Climbing: Ascending or descending stairs.

Standing: Remaining on one's feet in an upright position without walking.

Strength Category: The manual material handling/ demands category of the work.

Stooping/Forward Bending: bending the body downward and forward from a standing position by bending the spine at the hips and/or waist. The hips must be flexed more than 20 degrees and the knees are kept relatively straight (flexed no more than 35 degrees).

Tasting/Smelling: distinguishing flavors or odors using the tongue and/or nose.

Walking: Moving about on foot. Requires three consecutive steps to be considered walking.

- Level surfaces: surfaces that are level and do not include ramps or uneven terrain

- Uneven surfaces: surfaces that include uneven terrain. Includes walking outside over grass, dirt, gravel, up and down curbs

- Ramps/inclines: surfaces that include an incline of over 15 degrees

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Physical Demands Subcommittee

Content Model and Classification Recommendations

Appendix A

Excel Spreadsheet Comparison of Occupational and
Ergonomic Classification Schemes

Shoulder Reach Ranges	RULA	REBA	PATH	LUBA	PEO	VIRA	TRAC	DOL 2002 Research
Flexion								
Level 1	0-20	0-20	0 -90	0-45	0-90	0-30	0-60	0-45
Level 2	20-45	20-45	90 +	45-90	90+	30-60	>60	45-90
Level 3	45 -90	45 -90	NA	90-150	NA	60-90	NA	>90
Level 4	90 +	90 +	NA	>150	NA	NA	NA	NA
Extension								
Level 1	NA	0	NA	0-20	NA	>0	NA	NA
Level 2	NA	>20	NA	20-45	NA	NA	NA	NA
Level 3	NA	NA	NA	> 45	NA	NA	NA	NA
Medial Rotation								
Level 1	NA	NA	NA	0-30	NA	NA	NA	NA
Level 2	NA	NA	NA	30-90	NA	NA	NA	NA
Level 3	NA	NA	NA	> 90	NA	NA	NA	NA
Lateral Rotation								
Level 1	NA	NA	NA	0-10	NA	NA	NA	NA
Level 2	NA	NA	NA	30-Oct	NA	NA	NA	NA
Level 3	NA	NA	NA	>30	NA	NA	NA	NA
Abduction								
Level 1	NA	NA	NA	0-30	NA	0-30	0-60	0-45
Level 2	NA	NA	NA	30-90	NA	30-60	>60	45-90
Level 3	NA	NA	NA	>90	NA	60-90	NA	>90
Adduction								
Level 1	NA	NA	NA	0-10	NA	NA	NA	NA
Level 2	NA	NA	NA	30-Oct	NA	NA	NA	NA
Level 3	NA	NA	NA	>30	NA	NA	NA	NA
Elbow Bend Ranges								
Minimal	NA	60 - 100	NA	0-45	NA	NA	NA	NA
Moderate				45-120	NA	NA	NA	NA
Severe	NA	<60; > 100	NA	>120	NA	NA	NA	NA
Wrist Ranges								
Flexion								
Minimal	0-15	0-15	NA	0-20	NA	NA	NA	NA
Moderate				20-60	NA	NA	NA	NA
Severe	>15	>15	NA	>60	NA	NA	NA	NA
Extension								
Level 1	NA	NA	NA	0-20	NA	NA	NA	NA
Level 2	NA	NA	NA	20-40	NA	NA	NA	NA
Level 3	NA	NA	NA	>45	NA	NA	NA	NA

Appendix A

Excel Spreadsheet Comparison of Occupational and
Ergonomic Classification Schemes
(continued)

Wrist Ranges *(cont'd)*	RULA	REBA	PATH	LUBA	PEO	VIRA	TRAC	DOL 2002 Research
Twisting/Pronation								
Neutral	No #	No #	NA	0-70	NA	NA	NA	NA
Non-Neutral	No #	No #	NA	>70	NA	NA	NA	NA
Twisting/Supination								
Neutral	No #	No #	NA	0-90	NA	NA	NA	NA
Non-Neutral	No #	No #	NA	>90	NA	NA	NA	NA
Radial Deviation								
Level 1	No #	No #	NA	0-10	NA	NA	NA	NA
Level 2	No #	No #	NA	30-Oct	NA	NA	NA	NA
Level 3	NA	NA	NA	>30	NA	NA	NA	NA
Ulnar Deviation								
Level 1	No #	No #	NA	0-10	NA	NA	NA	NA
Level 2	No #	No #	NA	20-Oct	NA	NA	NA	NA
Level 3	NA	NA	NA	>20	NA	NA	NA	NA
Trunk Ranges								
Flexion								
Level 1	0-20	0-20	0-20	0-20	0-20	NA	0-15	0-35
Level 2	20 - 60	20 - 60	20-45	20 - 60	21-60	NA	15-45	>35
Level 3	60 +	60 +	> 45	>60	> 60	NA	45-75	NA
Level 4	NA	NA	NA	NA	NA	NA	>75	NA
Ext								
Min	NA	0 - 20	NA	NA	NA	NA	NA	NA
Mod	NA	> 20	NA	NA	NA	NA	NA	NA
Twist								
Level 1	0	0	0-20	0-20	0-45	NA	NA	No #
Level 2	> 0	> 0	> 20	20-30	> 45	NA	NA	No #
Level 3	NA	NA	NA	30-45	NA	NA	NA	No #
Level 4	NA	NA	NA	>45	NA	NA	NA	No #
Side bend								
Level 1	0	0	0-20	0-10	NA	NA	NA	NA
Level 2	> 0	> 0	> 20	10 to 20	NA	NA	NA	NA
Level 3	NA	NA	NA	20-30	NA	NA	NA	NA
Level 4	NA	NA	NA	>30	NA	NA	NA	NA
Neck Ranges								
Flexion								
Min	0-10	0-20	0-30	0-20	0-20	0-20	NA	No #
Mod	10 to 20		NA	20-45	NA	>20	NA	No #
Sev	20 +	20+	> 30	>45	> 20	NA	NA	No #
Ext								
Min	NA	0-20	NA	0-30	NA	NA	NA	No #
Mod	NA		NA	30-60	NA	NA	NA	No #
Sev	NA	20+	NA	>60	NA	NA	NA	No #

APPENDIX A

Excel Spreadsheet Comparison of Occupational and
Ergonomic Classification Schemes
(continued)

Neck Ranges *(cont'd)*	RULA	REBA	PATH	LUBA	PEO	VIRA	TRAC	DOL 2002 Research
Twist								
Level 1	0	0	0-45	0-30	0-45	NA	NA	No #
Level 2	> 0	> 0	> 45	30-60	> 45	NA	NA	No #
Level 3				>60				
Side bend								
Level 1	0	0	0-30	0-30	NA	NA	NA	No #
Level 2	> 0	> 0	> 30	30-45	NA	NA	NA	No #
Level 3				>45	NA	NA	NA	No #
Squat								> 45 knee flexion
Walk/Climb								3 consecutive steps
NA = Category not used; joint position not classified								
No # = Category/ joint position classified but no specific ROM criteria provided								

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APPENDIX C

Report of the

Metal-Cognitive Subcommittee

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REPORT OF THE MENTAL COGNITIVE SUBCOMMITTEE OF THE

OCCUPATIONAL INFORMATION DEVELOPMENT ADVISORY PANEL

Subcommittee Chair

David J. Schretlen, Ph.D.

Subcommittee Members

Robert T. Fraser, Ph.D.

Sylvia E. Karman, Project Director

September 1, 2009

Mental Cognitive Subcommittee

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Executive Summary

The Mental Cognitive Subcommittee was assembled to advise the OIDAP about what psychological abilities of disability applicants should be included in the Content Model and Classification Recommendations made to the Social Security Administration.

The Subcommittee reviewed relevant scientific literature, consulted experts in the fields of psychiatric disability and vocational outcomes research, heard presentations by academic experts, staff members of the Social Security Administration (SSA), and Disability Determination Services (DDS), and interviewed medical consultants and disability claims examiners for the Maryland State DDS office. The Subcommittee convened a Roundtable Meeting in Chicago in June 2009 that was attended by participants representing a broad range of expertise. Roundtable participants were asked to nominate human abilities they regarded as essential for work, and to discuss their rationale for including each element. The Subcommittee met both in person and via telephone conference to synthesize the data obtained from these activities and sources. Finally, other OIDAP members and Roundtable participants were asked to comment on the provisional synthesis of essential human abilities that the Subcommittee recommends for inclusion in the Content Model. The essential recommendations of this Subcommittee are as follows:

1. The conceptual model of psychological abilities required to do work should be revised. The aims are to redress shortcomings of the current model, base a revised model on scientific evidence, identify specific abilities that can be reliably assessed and tested for predictive validity, and retain elements of the current mental residual functional capacity (MRFC) model that meet these criteria in order to maintain continuity where possible.

2. Psychological abilities that are deemed essential to do work are conceptualized as falling into four core categories: (A) <u>neurocognitive functioning</u>, (B) <u>initiative & persistence</u>, (C) <u>interpersonal functioning</u>, and (D) <u>self-management</u>.

3. The Subcommittee recommends that SSA adopt 15 abilities that represent specific aspects of the four general categories listed above. These abilities and the rationale for including each are described in the report.

4. The Subcommittee recommends that it provide ongoing consultation to the OIS Project's psychometrician as the SSA develops items for data collection. The SSA should consider using different methods and scales, depending on the psychological ability being assessed.

5. The Subcommittee recommends a series of studies to determine the reliability and predictive validity of any instruments developed to assess residual functional capacities and occupational demands as part of the OIS Project.

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Introduction

The Mental Cognitive Subcommittee was convened by the OIDAP Chair. The members initially included David J. Schretlen, PhD (Chair), Robert T. Fraser, PhD, Sylvia E. Karman, and Mary Barros-Bailey, PhD. However, Dr. Barros-Bailey subsequently withdrew from membership. A biographical sketch of each member appears in Appendix A of this report.

In a working paper entitled "What is a Content Model?" the SSA concluded that the Occupational Information System it plans to develop must describe the personal abilities and characteristics that individuals must possess in order to be able to perform each occupation. Further, these abilities and characteristics must be defined in ways that are maximally useful for assessing the residual functional capacity (RFC) of claimants. In response, the OIDAP Chair appointed a Mental Cognitive Subcommittee to review mental abilities that can be impaired by illness or injury, and thereby impede a person's ability to do work. The aim of this subcommittee was to make recommendations about how to conceptualize the mental and interpersonal characteristics required to do work. The characteristics of interest are circled in Figure 1 below, with a primary emphasis on intermediate levels of abstraction.
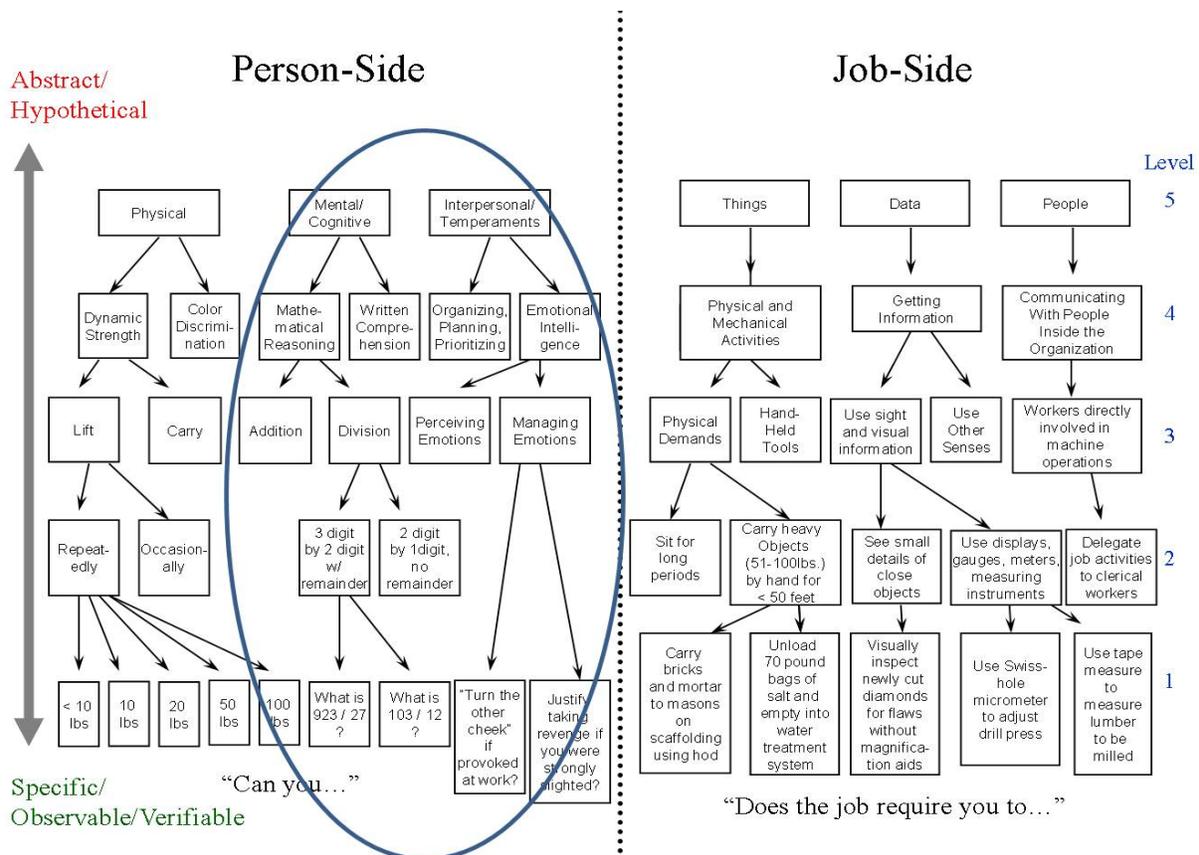
Figure 1. Cartoon depicts the person-side and job-side characteristics to be considered for inclusion in an occupational information system. The Mental Cognitive Subcommittee was asked to help OIDAP conceptualize the essential psychological abilities at intermediate levels of abstraction that should be included in such a model.

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Mental Cognitive Subcommittee

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Methodology, Procedures, and Findings

<u>Mental Cognitive Subcommittee discussions and activities</u>: The subcommittee's approach to data gathering and analysis consisted of multiple activities. These included break-out meetings at the second quarterly OIDAP meeting in Atlanta, Georgia, and the third quarterly OIDAP meeting in Chicago, Illinois. In addition, the subcommittee met by telephone conference calls seven times between March 17, 2009, and August 12, 2009.

In the first telephone conference, subcommittee members agreed to review the MRFC assessment (SSA-4734-F4-SUP) currently used for disability determination purposes, and to discuss its elements at the next meeting. Subcommittee members agreed to consider what psychological variables should be included in the content model for an ideal OIS, how they should be measured, and what existing sources of empirical data linking specific aspects of cognitive, emotional, and behavioral functioning to job performance are available for review. At the second telephone conference, Dr. Fraser proposed that an ideal behavioral assessment would include measures of processing speed, divided attention, incidental memory, executive abilities, and verbal fluency. He noted that depression and anxiety are important to assess because they are known to impede job maintenance. He also cited research showing that variables that predict return to work can differ from those that predict job maintenance, and that optimal predictors vary by medical condition (e.g., traumatic brain injury versus multiple sclerosis). Dr. Barros-Bailey emphasized the importance of assessing an individual's capacity to initiate tasks and inhibit behavioral outbursts, as well as the importance of determining the validity of any assessment instruments developed. Dr. Schretlen asked whether the SSA might be willing to consider funding or conducting research designed to empirically determine the cognitive and other "person-side" abilities and characteristics required to successfully meet the demands of selected occupations.

As a result of these telephone conferences and a discussion at the second quarterly meeting of the OIDAP, the subcommittee decided to convene a Roundtable Meeting on June 8, 2009. The meeting agenda and which experts to invite were discussed via email correspondence and during telephone conference calls on May 8 and 19, 2009. Results of the June Roundtable Meeting were discussed by the subcommittee on July 21, 2009 and August 5, 2009. These discussions focused on synthesizing feedback obtained from participants both during and after the June Roundtable Meeting. Subcommittee members debated the merits and limitations of various conceptualizations of both the overarching categories or dimensions of psychological and interpersonal abilities that are required to perform work, as well as the specific exemplars of these categories. These discussions informed recommendations made in the subcommittee's final report to the OIDAP.

<u>Presentations to the OIDAP and Mental Cognitive Subcommittee</u>: Information derived from presentations made to and by the subcommittee also was considered for inclusion in the subcommittee's report to the OIDAP. Points of greatest relevance to the subcommittee's charge are summarized below.

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<u>First Mental Cognitive Subcommittee Presentation</u>: At the OIDAP quarterly meeting on April 29, 2009, Dr. Schretlen gave a presentation entitled "Cognitive Assessment for the Determination of Mental Residual Functional Capacity." In this presentation, he explained that individual differences in cognitive performance strongly predict occupational attainment in healthy adults, and often predict work outcomes (employment, disability, job placement, work performance) better than symptom or injury severity in many psychiatric conditions, such as schizophrenia, traumatic brain injury, and multiple sclerosis. He suggested that this makes cognitive impairment a sort of "final common pathway" to work disability. However, he pointed out that most research on the relationship between cognitive functioning and work is based on performance-based measures, such as individually administered tests of IQ, attention, and memory. Consequently, if SSA elects to rely on ratings derived from medical records or other informants to assess cognitive abilities, it will be essential to validate such ratings against performance-based measures of residual cognitive abilities.

Dr. Schretlen next pointed out that the universe of cognitive processes can be parsed into smaller "factors" many different ways. He described and contrasted the statistical methods of exploratory and confirmatory factor analysis. He then reviewed the results of 19 studies that investigated the underlying or latent structure of cognitive functioning among healthy adults and patients with neuropsychiatric disorders. This showed that there is scientific evidence for varied factor structures. Dr. Schretlen discussed the advantages and disadvantages of adopting a parsimonious model of cognitive functioning (just one or two factors) versus a more complex model (three or more factors). A single summary measure of residual cognitive capacity (such as "g") has the advantages of being easily understood, reliably measured, and strongly predictive of work outcomes. The main disadvantage is that relying solely on g might mask more specific cognitive impairments that could preclude the ability to work. Dr. Schretlen then showed a table from the Wonderlic Personnel Test (WPT) manual depicting the WPT scores of several thousand adults in 70+ occupations. The WPT reliably measures g in 12 minutes, and the table clearly demonstrates that scores on this test vary by occupation, likely due to differences in occupational complexity. Further, nearly half of the 100 most widespread occupational groups overlapped with jobs for which incumbents' WPT scores were reported in the test manual, and their scores spanned a very broad range. Dr. Schretlen then presented the findings of two studies conducted at Johns Hopkins. One showed that a very brief test that measures two cognitive factors (the Mental Status Exam −Telephone Version or MSE−TV) distinguished SSI/SSDI beneficiaries who were found disabled due to a mental disorder from healthy adults with very large effect sizes. The other study involved a confirmatory factor analysis of 15 cognitive measures in 576 adults. It showed that a six-factor model of cognitive architecture applied equally well to healthy adults and patients with schizophrenia or bipolar disorder despite large group differences in overall levels of performance on the cognitive tests. Dr. Schretlen concluded the presentation by reiterating the point that the SSA will have to decide whether to use performance-based measures (like IQ tests) or informant ratings (as currently used for MRFC assessment) to measure psychological abilities that are essential to work. He emphasized that validating any new instruments

to assess psychological abilities also will require the SSA to determine what level of impairment shall define a disability "threshold." Finally, he urged the SSA to develop proprietary measures, rather than rely on previously published psychological tests, and to conduct the necessary research to validate measures that are adopted. Slides and references for this presentation are shown in Appendix D.

Second Mental Cognitive Subcommittee Presentation: At the OIDAP quarterly meeting on June 10, 2009, Dr. Schretlen presented a talk entitled "Clinical Inference in the Assessment of Mental Residual Functional Capacity." In this presentation, he outlined three major approaches that the SSA might use to draw inferences about whether an individual claimant has sufficient residual psychological (or physical) capacities to do work. The aim of this talk was to discuss the underlying logic and threats to the validity of each method of inference. The first method involves reliance on pathognomonic signs, such as a positive Babinski reflex that signifies the presence of an upper motor neuron lesion. Dr. Schretlen explained that the major limitations of this method are that the reliability with which such pathognomonic signs can be elicited and the frequency of their appearance in normal (i.e., non-pathological) populations are rarely assessed. He presented data showing that many so-called pathognomonic signs occur quite frequently in healthy adults. The implication of these limitations is that the SSA should not assume that successful job incumbents are free of such signs. For example, if an occupation requires frequent lifting of 25 pounds from the ground, it would be prudent to study a random selection of persons who successfully work in that occupation to determine how many of them are unable to frequently lift 25 pounds from the ground. The SSA should not assume that all successful job incumbents in that occupational category can do so.

The second approach to inference involves pattern analysis, or the identification of a clinically recognizable gestalt of signs, symptoms, and laboratory findings, to diagnose a disease or condition. This approach to inference probably mirrors the logical task of matching an individual claimant's RFC to specific occupational demands. A great deal of empirical evidence supports the validity of this approach to inference, but it has two limitations: First, it works best for individuals whose clinical presentations are typical of a given disease or condition. It is more difficult to diagnose a disease or condition when the patient's presentation is atypical, or when the clinical presentation is obscured by the presence of co-occurring conditions or treatment side-effects. The second limitation is that normal intra-individual variability can be misinterpreted as meaningful. For example, Dr. Schretlen showed that in one study, 197 normal healthy adults showed an average discrepancy of more than 3 standard deviations (i.e., the equivalent of >50 IQ points) between their best and worst score on a battery of cognitive tests. Dr. Schretlen concluded that the logic of this approach closely mirrors the process of matching RFC with job demands, but he cautioned that empirical study of populations of individuals with and without disabilities is needed to validate the approach.

The third method of clinical inference involves deficit measurement. Dr. Schretlen pointed out that this is the most widely used and accepted approach to diagnosing impairment. An IQ of 70 falls 2 standard deviations below the mean and places one

among the lowest 2% of the population in overall intelligence. Scores below this are widely considered abnormal. Likewise, laboratory blood values or measures of physical strength that place one among the lowest 2% of the population are also usually interpreted as abnormal. However, some diseases or injuries might cause a decrement in some ability, even though the person's residual capacity remains within the normal range for the population as a whole. For example, an attorney who sustains a severe traumatic brain injury might lose 25 IQ points as a result. However, if her IQ was 120 before the accident, it would still fall within the average range after the accident. Thus, impairment can be defined by an ability that is very low compared to the population as a whole, or by a decline from a person's own pre-morbid level of functioning.

Dr. Schretlen pointed out that these observations have important implications. One is that these two scenarios suggest that we need to establish different types of cutoffs to define "impairment." He also presented data which show that normal adults frequently produce one or two abnormal scores using <u>any</u> cutoff when enough tests are administered. Dr. Schretlen concluded the talk by pointing out that a study of successful job incumbents would probably show that many, and perhaps even most, people fall short of meeting one or more of their usual job demands. He noted that whatever cutoff the SSA uses to define insufficient RFC to meet a job demand will directly affect the percentage of applicants who will be found disabled. He asked whether a claimant whose upper extremity strength exceeds that of the weakest 10% of successful incumbents in a given occupation should be deemed able to do that job. Obviously, the claimant can meet that job's strength demands to some degree because 10% of successful job incumbents are weaker than he. However, maybe the 10% of successful job incumbents who are weaker were stronger when they were hired, and would not be hired if they applied for the same job today. The point is that the SSA will have to decide what cutoff defines insufficient RFC if disability determination is ever based on empirical evidence. Finally, Dr. Schretlen also discussed the issue of "effort" and how suboptimal effort can uncouple the linkage between ability and performance on tests of psychological functioning, strength, etc. Slides and references for this presentation are shown in Appendix E.

<u>Mental Cognitive Roundtable</u>: On June 8, 2009, the Subcommittee held a Roundtable meeting in Chicago, Illinois, to solicit opinions from and facilitate discussion by experts in the field about mental impairments that cause work disability. In a series of discussions, the Mental Cognitive Subcommittee identified and invited a panel of experts to participate in a one-day meeting for this purpose. Participants were provided with background materials ahead of the meeting (see Appendix C). The first document explained the purpose and scope of the Roundtable. It asked each participant to review the current MRFC assessment (SSA-4734-SUP), and then write a brief response to each of four questions before the meeting. The four questions were as follows:

1. If you think the current MRFC Assessment does not need revision, or that improving it is not feasible, explain why.

2. If you think the existing MRFC Assessment could be improved, then nominate up to 10 dimensions of psychological and interpersonal functioning that, when impaired by disease or injury, impede one's ability to work.[1]

3. Do you know of any well-designed empirical studies that have identified psychological or interpersonal deficits that decrease the likelihood an affected individual will be able to do competitive work?

4. While the goal of this Roundtable is not to devise measures of the person characteristics you nominate in response to Question 2, please comment on what you deem to be the best approach (informant-rating, self-rating, direct observation, testing) to assess the characteristics you enumerated. (These might vary across functions.)

The Roundtable participants, their affiliations, and areas of expertise are shown in the table below. Each participant's biographic sketch appears in Appendix B.

Name	Affiliation	Expertise
David J. Schretlen, PhD, ABPP	OIDAP Mental Cognitive Subcommittee (chair); Johns Hopkins University	Clinical neuropsychology; cognitive & neuroimaging correlates of disability
Robert T. Fraser, PhD	OIDAP Mental Cognitive Subcommittee; University of Washington	Rehabilitation psychology; TBI; epilepsy; multiple sclerosis
Marry Barros-Bailey, PhD, CRC	OIDAP (chair); Mental Cognitive Subcommittee; Private Practice	Rehabilitation counseling; life care planning; vocational expert
Sylvia E. Karman, BA	SSA; Director, Occupational Information Dev. Project; Mental Cognitive Subcom.	SSA disability programs; use of the DOT for disability adjudication
Mark Wilson, PhD	OIDAP Work Taxonomy Subcommittee (chair); North Carolina State University	Industrial and organizational psychology; occupational analysis
Shannon Gwaltney-Gibson, PhD	OIDAP Work Taxonomy Subcommittee; East Carolina University	Industrial and organizational psychology; occupational analysis
E. Sally Rogers, ScD	Director of Research, Center for Psychiatric Rehabilitation, Boston University	Psychiatric rehabilitation outcomes research; vocational recovery
Gary R. Bond, PhD	Professor, Department of Psychiatry, Dartmouth University School of Medicine	Psychiatric rehabilitation outcomes research; supported employment
Susanne Bruyère, PhD	Director, Employment and Disability Institute, ILR School, Cornell University	Disability policy and discrimination; rehabilitation outcomes research
Lynda Payne, PhD	Maryland Disability Determination Services, Consulting Psychologist	Developmental psychology, psychiatric disability
Pamela A. Warren, PhD	Departments of Psychology and Psychiatry, University of Illinois	Occupational and health psychology; psychological disability management

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[1] For purposes of calibrating the level of specificity that we are looking for, a capacity such as "the ability to reason" is too global and nonspecific. Conversely, a capacity such as "the ability to tolerate occasional brusque remarks from co-workers without losing one's temper" might be too specific. Because our aim is to develop a list of candidate abilities that is comprehensive but parsimonious, we ask that you limit your list to about 10 functional capacities. Based on SSA requirements, these dimensions or factors must be observable and measurable.

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In addition to the Roundtable participants, 16 representatives of SSA and other stakeholder associations observed the proceedings and asked questions of the panelists. These included:

Aliza Gordon, SSA

Deborah Harkin, SSA

Debra Tidwell-Peters, SSA

Elaina Wise, SSA

Elizabeth A. Kennedy, SSA

George D. Harris, SSA

John E. Owen, III, SSA

Michele Schaefer, SSA

Nancy Torkas, SSA

Paul Kryglik, SSA

Robert J. Harvey, SSA

Robert Pfaff, SSA

Shirleen B. Roth, SSA

Susan J. Swansiger, SSA

Thomas A. Hardy, OIDAP

Tom Johns, SSA

Elizabeth Rasch, NIH

Ms. Karman opened the Roundtable by providing a brief overview of the OIDAP. Then, following brief remarks by Dr. Fraser, Dr. Schretlen opened the Roundtable discussion by asking participants to address Question 1 from the Purpose and Scope invitation. Participants uniformly agreed that the current MRFC assessment could be improved. Dr. Rogers noted that the form is oriented toward lower level occupations and that some items assess two abilities, making it difficult to rate an individual who shows no limitation in one respect but some limitation in the other. Dr. Warren and others noted that the ratings are cross-sectional but illness-related impairments wax and wane over time. Dr. Bond noted that impairments are often situation-specific, and Dr. Rogers emphasized that observer ratings based on situational assessments have generally been found to be more predictive of work outcomes in mental illness than pencil-and-paper tests or ratings of an individual's personal characteristics. Dr. Payne observed that the current rating scheme is too coarse (not significantly limited; moderately limited; markedly limited), lacks sensitivity to fluctuations over time, and does not mirror occupational demands. Drs. Wilson, Gwaltney-Gibson, and others concurred that the inferential leap between residual abilities and job demands is too large. Dr. Fraser noted that the items are not evenly distributed across cognitive domains (e.g., eight concern attention/concentration, whereas only three concern memory and reasoning). Dr. Payne also noted that the items probably are not weighted equally in terms of how disabling they are.

Most of the Roundtable discussion focused on Question 2, which asked participants to nominate dimensions of psychological and interpersonal functioning that, when impaired by disease or injury, impede one's ability to work. Responses to the 20 individual items

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that inform the current MRFC assessment (SSA-4734-SUP) included the following comments:

1. *The ability to remember locations and work-like procedures.* The locations queried by this item are unclear. Also, why ask about "work-like" procedures?

2. *The ability to understand and remember very short and simple instructions.* What defines very short and simple instructions is unclear. If someone understands instructions but cannot remember them, how is this rated?

3. *The ability to understand and remember detailed instructions.* These abilities could be assessed with a single item that rates information complexity (e.g., the person can understand and remember simple but not complex instructions).

4. *The ability to carry out very short and simple instructions.* Since it is highly unlikely that someone can carry out short and simple instructions without understanding them, these items are redundant.

5. *The ability to carry out detailed instructions.* Again, 4 and 5 could be combined in a single item that rates complexity.

6. *The ability to maintain attention and concentration for extended periods.* The qualifier "extended" lacks specificity. Item does not capture differences in kinds or intensity of attention required by different jobs.

7. *The ability to perform activities within a schedule, maintain regular attendance, and be punctual within customary tolerances.* There was widespread agreement that an item like this should be retained.

8. *The ability to sustain an ordinary routine without special supervision.* Despite lively debate, several participants argued that an item rating one's ability to work in a reasonably independent fashion is useful. In response to question of whether job descriptions can reference level of supervision they entail, Dr. Wilson said "yes."

9. *The ability to work in coordination with or proximity to others without being distracted by them.* Equally disabling is whether is person is distracting to others. It was suggested that we could assess distractibility to and by others in an item about problems working with other people. Also, it was noted that many people are more distracted by technology (surfing the Internet, text messaging) than by other people.

10. *The ability to make simple work-related decisions.* Several participants felt that this item is unnecessary as it is too low-level. However, degree of decision making is a fundamental dimension by which jobs vary, so some assessment of this should be retained.

11. *The ability to complete a normal workday and workweek without interruptions by psychological symptoms.* Although this item is multi-faceted, it is the only item that rates functioning over a week and it maps onto actual work demands.

12. *The ability to interact appropriately with the general public.* While several participants felt that this is an important ability, it also was noted that there is no disease or injury that selectively impairs one's ability to interact with the general public but not coworkers or supervisors.

13. *The ability to ask simple questions or request assistance.* Concern about this item centered on the qualifier "simple." In general, rating assertiveness was endorsed.

14. *The ability to accept instruction and respond appropriately to criticism from supervisors.* Despite differences of opinion about whether to assess reactions to "criticism," "feedback," or "direction," there was broad agreement that the ability to deal with authority and supervision at work is important to assess.

15. *The ability to get along with coworkers or peers without distracting them or exhibiting behavioral extremes.* Concern was expressed about the complexity of this item and use of the term "behavioral extremes."

16. *The ability to maintain socially appropriate behavior and to adhere to basic standards of neatness and cleanliness.* Participants favored separating hygiene and socially appropriate behavior, as these often do not correlate and they have different implications in terms of meeting the demands of different jobs.

17. *The ability to respond appropriately to changes in the work setting.* There was broad agreement that it is important to assess flexibility in response to changing demands.

18. *The ability to be aware of normal hazards and take appropriate precautions.* This item is set so low that it does not discriminate among applicants or the ability to meet different job demands. Essentially, lacking awareness of normal hazards or the ability to take needed precautions probably precludes any form of employment.

19. *The ability to travel in unfamiliar places or use public transportation.* Several participants expressed doubt that this item is necessary.

20. *The ability to set realistic goals or make plans independently of others.* Several participants suggested that an item assessing executive functioning would be useful.

In response to Question 3, all of the Roundtable participants indicated that they were not aware of any large scale studies or research databases linking MRFC to the performance of specific work demands in any normal, psychiatric, or neurological population. Many small studies and some large scale studies that examined demographic, clinical, and cognitive predictors of work outcomes have been reported,

but none of these offers the level of specificity required by SSA to link MRFC to work. Drs. Fraser, Rogers, Bond, and Bruyère all provided references and/or PDF files of articles of potential interest. These articles have been reviewed by the Mental Cognitive Subcommittee and cited in the reference section of this report.

This research is chiefly found within the psychiatric vocational rehabilitation literature. A number of these studies support social or interpersonal skills as consistently related to job success (Becker et al., 1998; MacDonald-Wilson, Rogers, & Anthony, 2001; Tsang et al., 2000). A fifteen-year review of the psychiatric rehabilitation literature indicated mixed results related to psychiatric symptoms or diagnoses, but confirmed social skills as a consistent predictor of work outcome for people with psychiatric disabilities. MacDonald-Wilson, Rogers, and Anthony (2001) conclude that although psychiatric diagnoses and symptoms tend to be related to poorer vocational outcomes, there is not a high correlation as supported by the research to date.

In terms of cognitive functioning and vocational status, there are some limited studies that indicate a relationship. Gold et al. (1999), using the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS), established significant differences between employed and unemployed participants on the total battery score and four index scores (immediate memory, delayed memory, attention, and language). In a later study, Gold et al. (2002), using a full neuropsychological battery, established that measures of IQ, attention, working memory, and problem solving were related to job tenure as assessed over 24 months. In summarizing the existing literature, although there are some established findings, further study is needed in relation to these domains of interpersonal, emotional, and cognitive functioning and vocational status (MacDonald-Wilson, Rogers, & Anthony, 2001). This research needs to be extended outside the bounds of psychiatric rehabilitation and involve larger mainstream samples with more discrete and standardized measures of functioning as related to successful job tenure.

Finally, in response to Question 4, the Roundtable participants briefly discussed their thoughts about the most useful approaches to measurement of MRFC. Several themes emerged from this discussion. First, it was universally recognized that any assessment of MRFC must incorporate a longitudinal component because most mental disorders involve some degree of functional variability over time, and some disorders, such as recurrent major depression or bipolar disorder, are usually characterized by episodes of impairment separated by periods of more intact functioning. One potential approach to this would be to include ratings of frequency of impairment over time (e.g., interpersonal conflicts could be rated in terms of frequency over time).

Another criticism was that the current ratings (not significantly limited, moderately limited, and markedly limited) are too coarse and lack clear definitions. One approach to improving this would be to use behaviorally anchored rating scales (BARS). Another would be to specify intensity or complexity in quantitative terms.

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In the context of this discussion, Dr. Elizabeth Rasch asked for a description of situational assessments. Dr. Rogers explained that they typically involve having a trained rater observe while a person engages in work-related tasks. The observer then rates the person's engagement in work activities using rating scales, often with behavioral anchors. The examination can take up to six hours, and it enables the examiner to make very realistic observations of a person's pace, persistence, self-direction, rate of on-task behavior, etc. Dr. Bond added that a limitation of work sample observation is that assigned tasks might bear little resemblance to the kind of work that a given patient wants or intends to do.

Finally, there was some discussion of the need to consider additive and interaction effects. This would require an empirical study involving relatively large samples of workers with and without disabilities in order to test higher-order relationships among predictors of work outcomes.

Following the Roundtable, participants were asked to revise their pre-meeting responses to the four questions based on the discussions held in Chicago. Dr. Schretlen took the post-meeting responses to Question 2 (or pre-meeting responses of those who did not submit revisions), and created a matrix of psychological abilities nominated by each participant for inclusion in an MRFC assessment. These are shown in the table on the next two pages.

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Core Psychological Abilities Nominated by Roundtable Participants as Essential for Work

	David Schretlen	Bob Fraser	Lynda Payne	E. Sally Rogers	Gary Bond	Pamela Warren	Susanne Bruyere
Information Processing and Decision Making							
1	General cognitive ability	Reasoning & problem-solving (verbal, visual)	Cognitive ability	Capacity to learn to new skills			Information processing ability
2	Communication & language	Ability to communicate (with co-workers, supervisors & public)		Written and oral expression	Communication skills	Language abilities	
3	Verbal memory ability	Ability to understand & remember verbal instructions & work-relevant material	Memory			Memory, short and long-term	Recall information
4	Visual memory ability	Ability to understand & remember visual instructions & work-relevant material	Memory			Visual-spatial processing	
5	Psychomotor speed	Ability to process information efficiently		Speed of processing		Motor skills & dexterity	Speed of information processing
6	Attention & distractibility	Ability to attend & concentrate			Attention	Attention; focus	Avoid distractibility
7	Executive functioning	Ability to initiate, perform, and regulate task sequences	Flexibility, executive functioning planning, emotional regulation	Organizational capacity	Adapt to ambiguity		Flexibility in response to competing and changing demands
8	Other candidates		Independent decision-making ability	Exercise good judgment	Judgment; Ability to follow instructions	Ability to comply with instructions	Interpret and execute info; Sequence tasks
Initiative & Persistence							
1	Attendance & punctuality	Ability to initiate & persist in work activities	Leave the house	Initiate work tasks			
2	Ability to complete tasks independently		Ability to complete tasks independently	Motivation and work identity			
3	Persistence (hours/day)				Persistence		

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		David Schretlen	Bob Fraser	Lynda Payne	E. Sally Rogers	Gary Bond	Pamela Warren	Susanne Bruyere
4	Persistence (days/week)		Ability to perform simple tasks at an acceptable quality level within reasonable timelines	Stamina & persistence to consistently work 40 hrs/week				
Interpersonal Functioning								
1	Interpersonal friction		Ability to interact cooperatively and flexibly (w/ supervisor, coworkers, public)	Ability to interact with others (co-workers, supervisors & public)		The ability to work with others on tasks		
2	Response to criticism		Ability to respond to feedback/criticism (from supervisor, coworkers, public)	Ability to accept supervisory guidance		The ability to respond to supervision	Effort at work	Deal with stressful interactions
3	Assertiveness		Ability to assert positive and negative perceptions and feelings relative to work (w/ supervisor, coworkers, public)			Ability to express oneself when needed		
4	Other candidates			Ability to understand & interpret social cues		Social cognition		Ability to interpret social cues
Self-Management & Self-Monitoring								
1	Personal hygiene		Ability to maintain level of personal hygiene appropriate to workplace	Ability to maintain acceptable hygiene				
2	Disturbing behaviors		Ability to maintain organized and socially appropriate thinking, speech, and behavior over the work week	Ability to control symptoms				
3	Self-monitoring		Ability to maintain an acceptable level of personal and social awareness					

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4	Other candidates		Ability to manage mood and emotions as appropriate on the job	emotional regulation		Affect regulation; Stress tolerance	Affective status; modulate mood	Ability to control and express emotional states
	Note about method:				Need situational assessment			

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In addition to the activities described above, the Mental Cognitive Subcommittee Chairman visited the Maryland State Disability Determination Services (Maryland DDS) office in Timonium, Maryland, on August 7, 2009. There, Dr. Schretlen interviewed Ms. Sue Page, Director, and two medical consultants, Carla Sarno, MD (chief psychiatrist) and Kenneth Wessell, EdD (chief psychologist). He also interviewed Ms. Rachel Watts and Mr. Bash Kamara, both claims examiners who have worked for Maryland DDS for 6 and 2 years, respectively. Ms. Page explained that the Maryland DDS expects to receive between 66,000 and 72,000 new applications for disability benefits during the current year, representing close to a 20% increase in applications over the previous year. She explained that the Maryland DDS has 3 psychiatrists and 13 psychologists as consultants who evaluate the medical evidence regarding mental impairments and MRFC.

In interviews, Dr. Sarno, Ms. Watts, and Mr. Kamara all reiterated the inadequate representation of longitudinal fluctuations in all aspects of psychological functioning taken into account by the current MRFC assessment. Dr. Sarno indicated that she relies primarily on the Psychiatric Technique Review Form (PRTF) to capture longitudinal aspects of psychiatric disability. All three agreed that obtaining more quantitative, specific, and behaviorally concrete measures of psychological and interpersonal abilities could greatly facilitate their work, but only if linkages between these abilities and job demands are more transparent than they are under the current system. Dr. Wessel, who has worked for 23 years as a consulting psychologist for DDS, said that he finds the current MRFC assessment adequate to adjudicate claims, and that the larger problem is obtaining the medical evidence needed to rate items and write a narrative using the MRFC form.

The Subcommittee also reviewed working papers prepared by the SSA, input from end users (comments, questions, and suggestions) based on surveys, and input from several professional organizations. Discussion of the information received from these sources will be presented in the OIDAP report.

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Based on a review of the scientific literature, presentations by staff members from the SSA, DDS, and various professional organizations to the Subcommittee and OIDAP, presentations by OIDAP Subcommittee panelists, input from experts who participated in the Chicago Roundtable, interviews of DDS staff, and internal discussions, the Mental Cognitive Subcommittee reached several conclusions that it deems relevant to the development of a new Occupational Information System. These conclusions and the recommendations to which they lead are outlined below.

Recommendation 1: The conceptual model of psychological abilities required to do work, as reflected by the current MRFC assessment, should be revised. The revised model should: (i) redress shortcomings of SSA's current conceptual model of the psychological abilities required to do work, (ii) be based on sound scientific evidence where possible, (iii) lead logically to elements that can be reliably assessed and empirically tested for predictive validity, and (iv) retain elements of the current MRFC assessment that are consistent with scientific evidence, reliably measurable, and valid predictors of the ability to work, as this will provide continuity with the existing system.

As documented in previous sections, it is widely recognized both within and outside of the SSA that the current MRFC assessment is based on a simplistic conceptual model of the psychological abilities that are required to do work. Much of the language that appears in Form SSA-4734-F4-SUP was drawn directly from the *Dictionary of Occupational Titles (*DOT) in response to the need for an instrument to complement the physical RFC assessment. However, the MRFC was never subjected to rigorous study to verify its reliability and predictive validity of the elements that comprise it.

Recommendation 1a: Any revision of the current MRFC assessment should redress the following shortcomings: (1) the underrepresentation of neurocognitive abilities, (2) the reliance on coarse and underspecified categories to rate residual abilities, (3) the failure to account for longitudinal fluctuations in mental abilities, (4) the inclusion of elements that combine disparate abilities, (5) the failure to recognize differences in the predictive power of various abilities, and (6) the large inferential leaps required to match residual abilities with job demands.

Studies of work outcome among persons with mental disorders typically regress work outcomes (e.g., employment, work performance, job loss) on multiple predictors, such as demographic variables, clinical characteristics, and measures of cognitive or social functioning. While hundreds of such studies have been published, the Subcommittee found none that examined the accuracy with which a broad set of psychological abilities predicts whether individuals with mental disorders can work and what occupational demands they can meet, *independent of their demographic background and clinical symptoms*. These are the questions that the SSA must answer to adjudicate disability claims. However, research has shown that neurocognitive test performance strongly predicts whether persons with many different mental disorders, neurological conditions, and medical diseases can work.

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Given evidence that neurocognitive functioning predicts work outcomes among persons with mental and physical disorders, the Subcommittee reviewed factor analytic studies that have examined the underlying, latent structure of cognition. The aim was to develop a parsimonious list of abilities that the SSA might use to link with occupational demands that will be described by the new OIS. Many different factor structures have been found by previous studies involving healthy and mentally disordered samples. Consequently, previous research has not yielded a single, broadly replicated factor structure to guide the Subcommittee's recommendations. On the other hand, the same research provides scientific support for several alternate models of cognitive architecture. This affords the Subcommittee and the SSA some latitude in deciding how to balance parsimony with specificity in choosing the conceptual model that will drive instrument development.

Recommendation 1b: The SSA should include aspects of neurocognitive functioning in a revised conceptual model of MRFC. This recommendation responds to the perceived failure of the current MRFC assessment to account for impairments of specific cognitive abilities. These can result from traumatic brain injury, other acquired brain disorders, developmental disorders that cause cognitive deficits without mental retardation, and various psychiatric and medical conditions in which other symptoms are primary but that also involve cognitive morbidity, such as schizophrenia. Inadequate assessment of neurocognitive impairments was noted as a shortcoming of the current MRFC assessment by every group from which the Subcommittee obtained input. Including neurocognitive abilities in a revised MRFC assessment could greatly improve SSA's ability to identify under-recognized impairment-related limitations that preclude the ability to do work.

The most parsimonious approach would be to assess general cognitive ability ("g"), which can be reliably measured and expressed with a single number. Numerous studies show that g predicts the ability to do work. Further, when job incumbents are compared, they show sizable differences on tests of g corresponding to differences in job complexity. However, tests of g are less sensitive to the deleterious effects of mental disorders than tests of some other cognitive abilities whose impairment can also limit a person's ability to work. Also, empirical research might show that another aspect of cognitive functioning predicts the ability to do work better than g. For these reasons, the Subcommittee recommends that the SSA adopt a multi-dimensional model of cognitive functioning for a revised MRFC assessment. While the provisional "core mental residual functional capacities" (see below) incorporate a six-factor model of neurocognitive functioning, the Subcommittee recognizes that alternate models with fewer or different factors might provide a more efficient assessment with little loss of predictive validity.

Regardless of the number and specific cognitive abilities that SSA ultimately decides to include in a revised MRFC assessment, it will be important to empirically study and eliminate any adverse disparate impact that assessing cognitive functioning could have on specific subgroups of persons applying for disability benefits, such as women, older adults, and racial or ethnic minorities.

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Because human behavior is multiply-determined, it is impossible to parse psychological abilities that are essential for work into completely orthogonal dimensions. For example, the ability to focus on a task likely reflects not only an underlying trait-like attentional capacity, but also such state-like influences as wakefulness, medication side-effects, the nature of ambient distractions, the presence of intrusive thoughts, etc. Nevertheless, the Subcommittee concluded that it is useful to group abilities that are essential for work into broad categories that are *relatively* independent. The SSA's current assessment of MRFC organizes abilities into four broad categories: (1) understanding and memory, (2) sustained concentration and persistence, (3) social interaction, and (4) adaptation. Various users (e.g., DDS medical consultants) and Roundtable participants agreed that the existing organization is imperfect but workable. The Subcommittee decided to recommend revising, rather than discarding, this organization, as described below.

Recommendation 2: The Subcommittee recommends that the SSA reorganize the elements of its MRFC into the following four categories: (1) neurocognitive functioning, (2) initiative and persistence, (3) interpersonal functioning, and (4) self-management. This revised conceptualization of MRFC elements provides greater homogeneity of within-category elements and clearer between-category distinctions of MRFC content than the organization implied by Form SSA-4734-F4-SUP.

Recommendation 3: The Subcommittee recommends that SSA adopt the psychological abilities shown under each category in the outline below entitled "Core Mental Residual Functional Capacities." The 15 abilities specified in this outline provide a comprehensive but parsimonious assessment of the four major categories of psychological functioning required to do work. However, the Subcommittee recognizes that the SSA might choose to discard or replace some of these 15 abilities, or add others that are not listed below. Therefore, a brief explanation of why each element of the proposed MRFC assessment was included and worded as shown is presented below. We also identify other abilities that the Subcommittee considered but excluded from the proposed outline, and explain the reasoning that led to each decision.

Core Mental Residual Functional Capacities

Psychological residual functional capacities are conceptualized under four major categories of functioning. Following each specific ability outlined below is a statement intended to elaborate its meaning in greater detail.

    (A) Neurocognitive functioning

        1.   General cognitive/intellectual ability (how well a person can reason, solve problems, and meet cognitive demands of varied complexity)

        2.   Language & communication (how well a person can understand spoken or written language, communicate his or her thoughts, and follow directions)

        3.   Memory acquisition (how well a person can learn and remember new information, such as a list of words, instructions, or procedures)

4. <u>Attention & distractibility</u> (how well a person can sustain the focus of attention in a work environment with ordinary distractions)

5. <u>Processing speed</u> (how quickly a person can respond to questions and process information)

6. <u>Executive functioning</u> (how well a person can plan, prioritize, organize, sequence, initiate, and execute multi-step procedures)

(B) Initiative & persistence

7. <u>Attendance/Punctuality</u> (how consistently a person can leave his/her residence and maintain regular attendance and punctuality)

8. <u>Initiative</u> (whether a person can start and perform tasks once they are explained without an unusual level of supervision)

9. <u>Pace/Persistence</u> (whether a person can continue performing understood tasks at an acceptable pace for a normal work week without excessive breaks)

(C) Interpersonal functioning

10. <u>Cooperation</u> (the extent to which a person's interactions with others are free of irritability, argumentativeness, sensitivity, or suspiciousness)

11. <u>Response to criticism</u> (how well a person responds to criticism, instruction, and challenges)

12. <u>Social cognition</u> (whether a person can navigate social interactions well enough to respond appropriately to social cues, state his or her point of view, and ask for help when needed)

(D) Self-management

13. <u>Personal hygiene</u> (how well a person maintains an acceptable level of personal cleanliness and socially appropriate attire)

14. <u>Symptom control</u> (how well a person inhibits disturbing behaviors, such as loud speech, mood swings, or responding to hallucinations)

15. <u>Self-monitoring</u> (how well a person can distinguish between acceptable and unacceptable work performance)

Under the first category, neurocognitive functioning, the Subcommittee recommends that the SSA adopt a six-factor model. Each of the constituent abilities has been found to predict either the ability to work or level of occupational attainment among persons with various mental disorders and/or healthy adults.

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General cognitive/intellectual ability (*g*) is the most robust predictor of occupational attainment, and corresponds more closely to job complexity than any other ability. The wording underscores the closer association of *g* with "fluid" (reasoning) than "crystallized" (knowledge) intellectual abilities.

Language & communication refer to receptive and expressive language abilities to the extent that these can be impaired by disease or injury (as in post-stroke aphasia, neurodevelopmental language disorder, etc.). The Subcommittee recognizes that this construct overlaps language "skills," such as literacy, fluency in English, and mastery of the rules of grammar. Complicating this overlap is the fact that individuals who develop aphasia usually suffer some loss of these skills as manifestations of the underlying primary language disorder. It also should be noted that language ability differs from speech production.

Memory acquisition refers to the ability to encode, store, and retrieve new information. Impairment of this ability is referred to as anterograde amnesia. The Subcommittee excluded the loss of remote autobiographical memories or over-learned skills (i.e., retrograde amnesia) from this ability for two reasons. The first is that it is *extremely* rare for a person to develop retrograde amnesia in the absence of anterograde amnesia as a result of a brain disease or injury. The second is that claimed retrograde amnesia in the absence of anterograde amnesia is a common presentation of feigned memory impairment. Consequently, the Subcommittee intended to emphasize anterograde memory impairment in the definition of this ability.

Attention & distractibility refer primarily to the ability to focus attention and resist distraction. The Subcommittee recognizes that this partially overlaps the ability to persist in working at a task, but construed the latter as placing greater demands on the ability to stay engaged over days to weeks. The description of this ability is intended to emphasize the capacity to focus attention despite environmental or internal distractions.

Processing speed refers to how quickly a person can process *simple* information, such as judging whether two numbers are the same. Simple processing speed has been found to account for variability in how well people perform many everyday activities, including untimed tasks. Individual differences in processing speed can be measured quickly and reliably with pencil-and-paper or computerized tests, but they generally are not observable at the behavioral level. Consequently, the Subcommittee notes that it would be particularly important to determine how reliably this ability can be rated from medical records, and whether such ratings have predictive validity.

Executive functioning probably does not represent a unitary ability, as is apparent in its description. Because of this, it might be impossible to assess executive functioning with a single measure. The Subcommittee recommends including it because measures of executive functioning predict work outcomes among persons with mental disorders. Clinical performance-based tests of executive functioning, such as the Trail Making Test, Tower of London, and Stroop Color-Word Test, frequently are timed and thereby conflate the assessment of executive functions with processing speed and attentional

demands. In addition, it should be noted that behavioral ratings and performance-based tests of executive functioning rarely show significant statistical correlation in studies that administer both types of measures to the same participants.

<u>Attendance/Punctuality</u> refers to the ability to leave one's residence, attend work regularly, and be punctual within customary tolerances. This corresponds to Item 7 on Form SSA-4734-F4-SUP. As noted above, there was widespread agreement among the Roundtable participants that this item be retained.

<u>Initiative</u> refers to the ability to start and perform tasks once they are explained without an unusual level of supervision. The wording of this item's description was intended to emphasize both the ability to initiate tasks once they are understood, and the extent to which a person is capable for working independently. While the ability to initiate work is not represented on the existing MRFC assessment, the ability to perform understood tasks without special supervision corresponds to Item 8 on Form SSA-4734-F4-SUP.

<u>Pace/Persistence</u> involves the ability to perform understood tasks at an acceptable pace for a week without excessive breaks. This corresponds to Item 11 on Form SSA-4734-F4-SUP. Again, despite the fact that this ability clearly is multiply-determined and therefore susceptible to impairment by many different factors, there was widespread agreement that this ability should remain in a revised MRFC assessment because it is sensitive to longitudinal fluctuations in everyday functional competence.

<u>Cooperation</u> refers to freedom from interpersonal friction. Impairments of this ability can take the form of argumentativeness, excessive sensitivity, suspiciousness, hostility, etc. The current MRFC includes several items (12, 14, & 15) that aim to separately assess interpersonal difficulties with supervisors, coworkers, and the general public. While the Subcommittee realizes that occupations differ in the nature, frequency, and closeness of interpersonal contact they entail, there is little reason to believe that mental disorders or injuries impair a person's ability to cooperate with specific *classes* of people (e.g., only coworkers).

<u>Response to criticism</u> refers to the ability to accept instruction, directions, and criticism from others. This corresponds to Item 14 on Form SSA-4734-F4-SUP, which frames the ability solely in relation to instruction or criticism by supervisors. The Subcommittee again recommends broadening this item to assess one's ability to accept instruction and respond appropriately to criticism, regardless of its source.

<u>Social cognition</u> refers to abilities that enable people to respond appropriately to others. Closely aligned with the concept of emotional intelligence, social cognition is thought to depend on a person's ability to interpret nonverbal communication, empathize with others, and recognize when another person's point of view differs from one's own. The current MRFC assessment does not capture social cognition, and the Subcommittee recommends adding it because several mental disorders and injuries can impair social cognition, and thereby disrupt normal social and emotional reciprocity.

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Personal hygiene involves the ability to maintain an acceptable level of personal cleanliness, grooming, and socially appropriate attire. This largely overlaps Item 16 on Form SSA-4734-F4-SUP, but adds the element of wearing socially appropriate attire. The rationale for this addition is that occupations vary not only in what level of personal hygiene is acceptable, but also in the extent to which employees are expected to recognize and don attire that is acceptable in the work environment.

Symptom control refers to a person's ability to inhibit the expression of disturbing symptomatic behaviors, such as loud or pressured speech, vocal tics, extreme mood swings, or responding to hallucinations. The Subcommittee recommends adding this item because of wide variation in how completely and consistently persons with mental disorders can control the manifestation of symptomatic behaviors. Likewise, it is recognized that occupations likely differ in how much disturbing behaviors are tolerated.

Self-monitoring refers to a person's ability to monitor and evaluate the quality of his own task performance. The Subcommittee recommends adding this item because mental disorders and injuries can impair a person's ability to perceive the accuracy of his or her own task performance, especially when tasks require precision.

In addition to these 15 core psychological and interpersonal abilities that are recommended for assessment in a revised MRFC assessment, several others were nominated but not included. Because the SSA might later consider adding one or more of these, a brief discussion of the Subcommittee's rationale for rejecting these items is offered next.

Several Roundtable participants and end users suggested that the revised MRFC should assess Judgment. The major reason this does not appear on the list of abilities recommended for inclusion is that the underlying construct is difficult to define, and the Subcommittee doubts that it can be reliably assessed. If the SSA decides to continue relying primarily on informant ratings (as it does now), isolated incidents that appear to involve poor judgment are likely to be weighted excessively by some adjudicators and dismissed by others. Wearing insufficient clothing in cold weather, failing to look both ways before crossing the street, giving money to a swindler, having an extramarital affair, driving while intoxicated, spending money excessively, smoking cigarettes despite having emphysema, driving while using a cellular phone, and criticizing one's supervisor could all be construed as failures of judgment. However, (1) they are likely to have very different consequences, (2) their impact on the ability to work are likely to vary enormously, and (3) they could all be attributed to factors other than judgment, per se (e.g., cognitive impairment, addiction, etc.). For these reasons the Subcommittee decided not to recommend that the revised MRFC attempt to assess judgment.

Others suggested that the ability to modulate mood or regulate emotion be included in a revised MRFC assessment. In fact, the Subcommittee did add an item (14) that is intended to assess a person's ability to inhibit the expression of symptomatic behavior, which certainly could include severely depressed, elated, or angry mood states. However, the reason a separate rating of mood state was not included in the list of

recommended abilities for MRFC assessment is that feeling sad or depressed does not, in itself, preclude the ability to work. Many people work despite suffering from sadness, despair, anxiety, or hopelessness. Rather, it is only when depression causes one to neglect personal hygiene, not get out of bed, lose focus on tasks, slow down one's thinking, or stop avoid required interactions with coworkers that difficulty modulating one's mood impairs the ability to work. Thus, this item was not thought to convey useful incremental information above and beyond those recommended in the core list.

A third ability suggested for inclusion is <u>stress tolerance</u>. After beginning a job, persons with mental disorders often find work increasingly stressful. Over time they might worry that coworkers dislike them, develop insomnia, or stop taking prescribed medications. If the person comes to work late and gets reprimanded, he or she might quit rather than respond adaptively. While the factors leading to such job failures can vary enormously, persons with mental disorders often are less able to cope effectively with stressors than psychologically healthy adults. Although only one Roundtable participant nominated stress tolerance for inclusion in a revised MRFC assessment, the Subcommittee recommends that the Panel urge SSA to consider the *possibility* of adding it to the list of 15 items. However, the Subcommittee was not prepared to make this recommendation for several reasons. First, because poor stress tolerance usually manifests as a series of maladaptive responses to stressors, reliable assessment of it almost certainly would require longitudinal data. Second, poor stress tolerance is very difficult to define in operational terms. Third, stressors that lead to decompensation among persons with low stress tolerance due to neuropsychiatric impairment probably have very little to do with job demands, per se. More often, they have to do with problems outside the work place, such as family conflicts, or than involve illness-related internal conflicts. For this reason, while illnesses and injuries can impair a person's stress tolerance, it is precisely because the can lead to unexpectedly severe reactions to idiosyncratic stressors and seemingly trivial events that it may be impossible to establish any correspondence between this ability and the demands of work.

<u>Recommendation 4</u>: The Subcommittee recommends that the Panel provide ongoing consultation to the OIS Project's psychometrician as the SSA develops items for data collection. More generally, the Subcommittee recommends that the SSA consider the possibility that MRFC abilities be assessed using different methods (e.g., informant ratings for some, performance-based measures for others) and different scales (e.g., Likert, behaviorally-anchored ratings, percentiles, etc.) for different categories of psychological and interpersonal abilities.

<u>Recommendation 5</u>: Finally, the Subcommittee recommends a series of studies to examine the reliability and predictive validity of any instruments developed to assess residual functional capacities and occupational demands as part of the OIS Project. The recommended studies are described in greater detail below.

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Suggested Studies

The Subcommittee recommends that the SSA conduct a series of studies and data analyses. Before describing these, the Subcommittee notes that the SSA compiled a document entitled "Data on the top 100 Occupations by Employment for 2008 and Projected 2016." One table in this document shows the top 100 occupations by total persons employed for 2008 based on the *Household Data Annual Averages*. These data were drawn from the Current Population Survey, a monthly survey conducted by the Bureau of Census for the BLS. The top 100 occupations are based on SOC levels. A few represent occupational titles that encompass more than one detailed occupation. The occupations are ranked by the total employed (in thousands). Approximately 65% of persons in the U.S. labor force work in one of these 100 occupations. A reformatted version of this table appears below.

Occupation (Standard Occupational Classification)	Total Employed (Thousands)	Occupation (Standard Occupational Classification)	Total Employed (Thousands)
Managers, all other (managers not listed separately)	3,473	Medical assistants and other healthcare support occupations	831
First-line supervisors/managers of retail sales workers	3,471	Education administrators	829
Retail sales persons	3,416	Human resources, training, and labor relations specialists	803
Driver/sales workers and truck drivers	3,388	Hairdressers, hairstylists, and cosmetologists	773
Secretaries and administrative assistants	3,296	Farmers and ranchers	751
Cashiers	3,031	Other teachers and instructors	751
Elementary and middle school teachers	2,958	Inspectors, testers & sorters	751
Registered nurses	2,778	Management analysts	731
Janitors and building cleaners	2,125	Social workers	729
Waiters and waitresses	2,010	Food preparation workers	724
Cooks	1,997	Miscellaneous agricultural workers	723
Customer service representatives	1,908	Preschool & kindergarten teachers	685
Nursing, psychiatric, and home health aides	1,889	Counselors	674
Laborers and freight, stock, and material movers, hand	1,889	Police and sheriff's patrol officers	674
Accountants and auditors	1,762	Bus drivers	651
Chief executives	1,655	Painters, construction & maint.	647
Construction laborers	1,651	First line supervisors/managers of food preparation and servers	635
First line supervisors/managers of office and administrative support workers	1,641	Pipelayers, plumbers, pipefitters, and steamfitters	606
Carpenters	1,562	Welding, soldering, & brazing workers	598
Stock clerks and order filers	1,481	Insurance sales agents	573
Maids and housekeeping cleaners	1,434	Industrial truck and tractor operators	568
Bookkeeping, accounting & auditing clerks	1,434	Licensed practical/vocational nurses	566
Receptionists and information clerks	1,413	Medical & health services managers	561

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Occupation (Standard Occupational Classification)	Total Employed (Thousands)	Occupation (Standard Occupational Classification)	Total Employed (Thousands)
Sales representatives, wholesale and manufacturing	1,343	Property, real estate, and community service managers	558
Child care workers	1,314	Office and administrative support workers, all other	558
First line supervisors/managers of non-retails sales workers	1,287	Shipping, receiving, and traffic clerks	543
Grounds maintenance workers	1,262	Computer programmers	534
Construction managers	1,244	Sales representatives & service	521
Postsecondary teachers	1,218	Billing and posting clerks and machine operators	516
Secondary school teachers	1,210	Computer & info systems managers	475
Office clerks, general	1,176	Tellers	466
Financial managers	1,168	Maintenance & repair workers	461
Miscellaneous assemblers and fabricators	1,050	Health diagnosing and treating practitioner support technicians	447
Food service managers	1,039	Clergy	441
Computer software engineers	1,034	Industrial machinery mechanics	439
Teacher assistants	1,020	Personal financial advisors	430
Lawyers	1,014	Network systems and data analysts	422
General and operations managers	985	Engineering technicians	416
Real estate brokers and sales agents	962	Data entry keyers	415
Production workers, all other	958	Machinists	409
Marketing and sales managers	922	Bailiffs, correctional officers & jailers	403
Physicians and surgeons	877	Operating engineers and other construction equipment operators	398
Electricians	874	Heating, air conditioning, and refrigeration mechanics	397
First line supervisors/managers of productions and operating workers	874	Loan counselors and officers	392
Personal and home care aids	871	Packers and packagers, hand	391
Security guards & gaming surveillance officers	867	Securities, commodities, and financial services agents	388
Automotive service techs & mechanics	852	Special education teachers	387
First line supervisors/managers of construction trades and extraction workers	844	Computer support specialists	382
Computer scientists and systems analysts	837	Postal service mail carriers	373
Designers	834	Taxi drivers and chauffeurs	373

Although not shown in this report, the manual for the Wonderlic Personnel Test (WPT; 1992) includes a figure that presents the mean and median scores of persons employed in 72 occupations. Attorneys, for example, produced the highest mean and median WPT scores, while packers produced the lowest WPT scores of the 72 occupational groups. Occupations that appear in the top 100 table were cross-referenced with the WPT figure. This revealed that the most common occupations in the

United States are filled by individuals who represent a *very broad spectrum of general cognitive ability* based their WPT scores. This exercise suggests that occupational differences in the WPT or some other measure of *g* among successful job incumbents might serve as an ideal measure of overall job complexity.

Based on this reasoning, the Subcommittee recommends that the SSA conduct a study in which all of the revised physical and mental residual functional capacity measures are administered to a nationally representative sample of persons who have worked for at least 6 months (i.e., "successful" incumbents) in one of the 150 to 200 most common occupations in the U.S. economy. If 50 to 75 successful incumbents in each occupation are assessed, this will require 7,500 to 15,000 study participants.

By characterizing the physical and psychological abilities of a broadly representative sample of successful job incumbents using the measures developed for the OIS, it will be possible to arrange all 150−200 occupations hierarchically in terms of each person-side characteristic. By reflection, each such hierarchy can be interpreted to reflect the extent to which the underlying ability is required by each job. In this way, occupational demands for lifting could be arranged from most to least by comparing the maximum weight incumbents of each occupational group can actually lift when tested. Likewise, differences in job complexity could be defined by arranging the mean scores of job incumbents on some measure of *g* by occupational group. The occupation whose incumbents earn the highest mean score would be identified as demanding the most general cognitive ability. The occupation whose incumbents earn the lowest score would be identified as requiring the least general cognitive ability. By documenting the *distribution* of scores on each physical and psychological measure for all 150−200 occupations surveyed in this way, the SSA would be able to specify where any given disability applicant's measured abilities fall in the distribution of abilities required by each occupation. The same principle would apply to every measured person-side characteristic and every job-side demand.

The results of this study could solve many problems. First, measuring the physical and psychological abilities of successful job incumbents would provide empirical data about the actual abilities required to perform each occupation. Second, by studying only the 150−200 most common occupations, residual abilities of claimants will be compared to the requirements of occupations that are widely available. (Based on the table above, it is likely that the top 150−200 occupations include at least 65% of all jobs in the U.S. economy.) Third, by assessing both physical and psychological abilities of successful job incumbents, the SSA would obtain critical information about the *demands* of specific occupations for linking with *patterns* of residual abilities shown by individual disability benefits. Fourth, this approach would greatly decrease the "inferential leap" currently required between residual functional capacities as assessed by the SSA and occupational demands as described in the DOT. Fifth, comparing the residual physical and mental abilities of persons who have been adjudicated as unable to work with the distributions of corresponding abilities among successful job incumbents could provide crucial scientific data to help the SSA determine what levels of RFC are too low to work in specific occupations. Finally, recording evidence about medical conditions that

successful job incumbents have could provide quantitative data about what residual capacities enable persons with a medical condition to work.

In addition to this normative study, the Subcommittee recommends that a study be conducted of claimants for disability benefits and SSI/SSDI beneficiaries who have been adjudicated as unable to work. By administering the revised physical and mental residual functional capacity instruments along with the current instruments, the SSA will be able to determine which specific measures best distinguish individuals who are able to work (with or without medical conditions) and those who file disability claims and/or are adjudicated as disabled from working under current SSA rules.

References

Becker, D. R., R. E. Drake, et al. (1998). "Job terminations among persons with severe mental illness participating in supported employment." <u>Community Mental Health Journal</u> **34**(1): 71-82.

Bond, G. R. and R. E. Drake (2008). "Predictors of competitive employment among patients with schizophrenia." <u>Current Opinion in Psychiatry</u> **21**(4): 362-369.
> Purpose of review: Recently published studies examining predictors of competitive employment for patients with schizophrenia are reviewed. Recent findings: Researchers continue to examine predictors of employment among three types of variables: patient characteristics, environmental factors, and interventions. Provision of supported employment is the strongest predictor of competitive employment in this population, while patient predictors continue to show modest associations with outcomes. Environmental factors, including societal and cultural influence, local economy, labor laws, disability policies, and governmental regulations, are presumed to have major influences on employment, but these factors have been little studied. Summary: Given the strong and consistent evidence base for the effectiveness of supported employment in helping individuals with schizophrenia achieve competitive employment, mental health planners should make access to this practice a high priority. Barriers to implementation of supported employment, including finance, organization, integration, training, and supervision, need to be systematically addressed. The field currently lacks an adequate understanding of the role of societal, cultural, and regulatory factors in facilitating and hindering employment outcomes; such research is much needed. (PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Bond, G. R. and M. H. Friedmeyer (1987). "Predictive validity of situational assessment at a psychiatric rehabilitation center." <u>Rehabilitation Psychology</u> **32**(2): 99-112.
> Used situational assessment to predict employment outcomes for 77 individuals (mean age 24.5 yrs) attending a community psychiatric rehabilitation program. The assessment form was a 22-item checklist comprised of 4 dimensions: work readiness, work attitudes, interpersonal relations, and work quality. Ratings were made in 2 work settings: prevocational work crews and transitional employment. Situational assessment predicted outcome better than did work history. Staff ratings were significantly higher for Ss working in transitional employment, although ratings made in both settings were predictive of later employment outcomes. It is concluded that situational assessment may be a method better suited for screening out members who have poor work potential than selecting members who will definitely succeed. (PsycINFO Database Record (c) 2009 APA, all rights reserved)

Bruyere, S. M. (2005). "Using the International Classification of Functioning, Disability and Health (ICF) to promote employment and community integration in rehabilitation." <u>Rehabilitation Education</u> **19**(2): 105-117.
> The current varied definitions of disability and successful outcomes of rehabilitation service delivery make comparisons across service systems difficult in most cases. The World Health Organization's International Classification of Functioning, Disability and Health (ICF) has the potential to assist vocational rehabilitation administrators, policymakers, and practitioners with creating a transferable conceptual framework for defining indicators of successful outcomes in the integration of persons with disabilities into the workforce and community. This article provides a review of selected literature on applications of the ICF to medical rehabilitation,

employment, and community participation for persons with disabilities. In addition, the next steps to make better use of this framework in applications to vocational rehabilitation service delivery, counselor education, and research are discussed. (PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Bruyere, S. M., S. A. Van Looy, et al. (2005). "The International Classification of Functioning, Disability and Health: Contemporary Literature Overview." Rehabilitation Psychology **50**(2): 113-121.

This article reviews the literature from the 3 years since the International Classification of Functioning, Disability and Health's (ICF's) endorsement, focusing on those articles that discuss (a) what the ICF means and how it can be used; (b) the general utility of the ICF for specific fields, such as nursing, occupational therapy, speech-language pathology, and audiology; (c) examples of applications for classification in particular disorders, such as chronic health conditions, neuromusculoskeletal conditions, cognitive disorders, mental disorders, sensory disorders, and primary and secondary conditions in children; (d) uses of the ICF to recode prior work across multiple surveys and across country coding schemes on disability-related national survey items; and (e) governmental uses of the ICF in the United States and selected countries abroad. Future directions needed to effectively implement the ICF across rehabilitation policy, research, and practice are discussed. (PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Burkhauser, R. V., J. S. Butler, et al. (2001). "How policy variables influence the timing of applications for Social Security Disability Insurance." Social Security Bulletin **64**(1): 52-83.

This article analyzes the impact of policy variables--employer accommodations, state Social Security Disability Insurance (DI) allowance rates, and DI benefits--on the timing of an application for DI benefits by workers with a work-limiting health condition starting when their health condition first begins to bother them. The analysis uses a rich mixture of personal and employer characteristics from the Health and Retirement Study linked to Social Security administrative records. We find that most workers do not apply immediately for DI benefits when they are first bothered by a health condition. On the contrary, the median working-age man with a work-limiting condition waits 7 years after that time before applying, and the median working-age woman waits 8 years. Although the risk of applying for benefits is greatest in the year following onset, only 16 percent of men and 13 percent of women in our sample apply within the first year, and the risk of application falls thereafter. That finding suggests that institutional factors, in addition to health factors, may play a role in the timing of DI applications. Using kernel density estimates of the distribution of application and nonapplication ordered by state allowance rates (the rate of acceptance per DI determination in each state), we find that both men and women who live in states with high allowance rates are disproportionately more likely to apply for benefits in the first year after their condition begins to bother them than are those in states with low allowance rates. Using life-table analysis, we also find that men and women who are accommodated by their employers are significantly less likely to apply for DI benefits in each of the first few years after their condition begins to bother them than are those who are not accommodated. On the basis of this evidence, we include these policy variables in a model of the timing of DI application that controls for other socioeconomic variables as well as health. Using a hazard model, we find that workers who live in states with higher allowance rates apply for DI benefits significantly sooner than those living in states with lower allowance rates following the onset of a work-limiting health condition. Workers who are accommodated

following the onset of a work-limiting health condition, however, are significantly slower to apply for DI benefits. Using the mean values of all explanatory variables, we estimate the relative importance of changes in these policy variables on the speed with which workers apply for benefits after onset. We find that the mean time until application for men is 10.22 years. Universal accommodations following onset would delay application by 4.36 years. In contrast, a 20 percent decrease in state allowance rates would delay application by only 0.88 years. For working-age women, the average expected time until application once a condition begins to bother them is 10.58 years. Universal accommodations would delay that by 3.76 years, and a 20 percent decrease in allowance rates would delay it by 1.47 years. A complication in this analysis is that the policy variables are to some degree endogenous. Accommodation is probably offered more often to workers who want to continue working. Allowance rates are chosen by states on the basis of federal policy and local choices and probably in part on the health condition of workers in the state. Therefore, our estimates are upper bounds of these policy effects. Still, we believe we provide evidence that the social environment faced by workers with work-limiting health conditions can significantly influence their decision to apply for DI benefits, holding their specific health conditions constant.

Desmarais, L. B. and P. R. Sackett (1993). "Investigating a cognitive complexity hierarchy of jobs." Journal of Vocational Behavior **43**(3): 279-297.

> Investigated the construct validity of the Occupational Aptitude Patterns (OAP) Map, an occupational classification system based on ability requirements, by placing the positions held by a large, nationally representative sample of full-time employed, young, civilian adults into the classification system. Results largely supported the OAP Map structure. The OAP Map captured differences across jobs in their requirements for general cognitive ability, although the overlap across job clusters was large. The Map differentiated jobs also on the basis of their requirements for specific abilities (e.g., scientific/mechanical ability), once the effects for general cognitive ability requirements were taken into account. (PsycINFO Database Record (c) 2009 APA, all rights reserved)

Dickinson, D., A. S. Bellack, et al. (2007). "Social/communication skills, cognition, and vocational functioning in schizophrenia." Schizophrenia Bulletin **33**(5): 1213-20.

> Deficits in social/communications skills have been documented in schizophrenia, but it is unclear how these deficits relate to cognitive deficits and to everyday functioning. In the current study, social/communication skills performance was measured in 29 schizophrenia patients with a history of good vocational functioning (GVF) and 26 with a history of poor vocational functioning (PVF) using a role-play-based social skills assessment, the Maryland Assessment of Social Competence (MASC). A battery of standard cognitive tasks was also administered. MASC-indexed social skills were significantly impaired in PVF relative to GVF patients (odds ratio = 3.61, P < .001). Although MASC social skills performance was significantly associated with cognitive performance in domains of verbal ability, processing speed, and memory, the MASC nevertheless remained an independent predictor of vocational functioning even after controlling for cognitive performance. Social/communications skills predict vocational functioning history independently of cognitive performance, and social skills measures should be considered for inclusion in test batteries designed to predict everyday functioning in schizophrenia.

Mental Cognitive Subcommittee

Content Model and Classification Recommendations

Fraser, R. T. and D. C. Clemmons (2000). Traumatic brain injury rehabilitation: Practical vocational, neuropsychological, and psychotherapy interventions. Boca Raton, FL US, CRC Press.

>This book presents innovative guidelines for allied health members of the traumatic brain-injury rehabilitation team with information to help achieve more successful vocational and psychosocial outcomes. It provides a clear overview of critical components of neuropsychological information and the use of this information in vocational planning; examples of functional areas of cognition and neuropsychological assessment; the linkages between cognitive and behavioral impairments; the different categories of assistive technology; psychotherapy and behavioral interventions as well as successful vocational interventions; and models of work access, including methods of supported employment, the development of a tailored job coaching program, and the specifics of utilizing natural supports. This book is useful to anyone involved in neurorehabilitation, vocational rehabilitation, rehab psychology, neuropsychology, and students in counseling programs or studying medical aspects of disability. (PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the cover)

Fraser, R. T., E. Johnson, et al. (In press). Using neuropsychological information in vocational planning: perspective for clinical practice. A practical guide to neuropsychological testing for patients, practitioners and other professionals. E. Arzubi and E. Mambrino. New York, Springer Publishing Company.

>This chapter provides a practical overview of the benefits of using neuropsychological testing in vocational rehabilitation planning. A major emphasis of the chapter is on the interplay between neuropsychologists and vocational rehabilitation staff in optimizing the utility of the neuropsychological report in the work planning effort.

Fraser, R. T., D. Vandergoot, et al. (2004). "Employment outcomes research in vocational rehabilitation: Implications for Rehabilitation Counselor (RC) training." Journal of Vocational Rehabilitation **20**(2): 135-142.

>This paper reviews salient categories of rehabilitation programs' employment outcomes research, as recently presented by the authors at the May 2002 "Bridging Gaps" conference, sponsored by the National Institute of Disability and Rehabilitation Research (NIDRR) and the Office of Special Education and Rehabilitation Services (OSERS), US Department of Education and several co-sponsors (e.g., the American Psychological Association/Rehabilitation Psychology, Division 22, etc.). The purpose of this paper is to review these findings and draw the most relevant implications for rehabilitation counselor training programs' curricula. The paper begins with a review of the contextual changes affecting vocational rehabilitation (VR) services delivery today and then presents employment outcomes research findings as related to the vocational rehabilitation participant, the rehabilitation counselor in the placement process, and the actual services provided. Implications for rehabilitation counseling curricula are presented not only in relation to job placement coursework, but also coursework relating to counseling strategies, vocational assessment, and medical aspects of disability. Modifications to coursework in the above areas (and potentially others) should have impact in preparing more of an "employment outcomes skilled and oriented" RC program graduate. (PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Frey, W. D., S. T. Azrin, et al. (2008). "The Mental Health Treatment Study." Psychiatric Rehabilitation Journal **31**(4): 306-312.

Social Security Disability Insurance (SSDl) beneficiaries with primary psychiatric impairments comprise the largest, fastest growing, and most costly population in the SSDl program. The Mental Health Treatment Study provides a comprehensive test of the hypothesis that access to evidence-based employment services and behavioral health treatments, along with insurance coverage, can enable SSDl beneficiaries with psychiatric impairments to return to competitive employment It will also examine which beneficiaries choose to enter an employment study under such conditions. Currently in the field in 22 cities across the U.S., the MHTS aims to recruit 3,000 SSDl beneficiaries with psychiatric impairments into a randomized controlled trial. This paper describes the MHTS, its background, and its process and outcome assessments. (PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Gold, J. M., R. W. Goldberg, et al. (2002). "Cognitive correlates of job tenure among patients with severe mental illness." American Journal of Psychiatry **159**(8): 1395-402.

OBJECTIVE: There is clear evidence that cognitive performance is a correlate of functional outcome among patients with schizophrenia. However, few studies have specifically examined the cognitive correlates of competitive employment performance or the longer-term outcomes of vocational rehabilitation. The objective of the present study was to examine the cognitive predictors of vocational functioning in the context of a controlled clinical trial by comparing two approaches to vocational rehabilitation. METHOD: A broad neuropsychological battery was administered to 150 patients upon entry into the vocational rehabilitation trial. Vocational performance was assessed over a 24-month follow-up interval. RESULTS: There were no differences in baseline cognitive performance between the 40 patients who obtained competitive employment and the 110 patients who remained unemployed over the follow-up interval. In contrast, multiple cognitive measures were significantly correlated with the total number of hours that patients were employed. The cognition-job tenure relationship appears to be fairly general, involving measures of IQ, attention, working memory, and problem solving. CONCLUSIONS: Cognitive performance was a significant predictor of job tenure but not job attainment in the context of a clinical trial of two vocational rehabilitation approaches. It appears that many persistently unemployed patients are capable of obtaining competitive employment with effective vocational services. Longer-term employment success, however, may be related to multiple aspects of baseline cognitive performance.

Gold, J. M., C. Queern, et al. (1999). "Repeatable battery for the assessment of neuropsychological status as a screening test in schizophrenia I: sensitivity, reliability, and validity." American Journal of Psychiatry **156**(12): 1944-50.

OBJECTIVE: Cognitive impairment is an important feature of schizophrenia and is correlated with functional outcome. However, psychiatry lacks a screening instrument that can reliably assess the types of cognitive impairment often seen in schizophrenia. The authors assessed the sensitivity, convergent validity, and reliability of the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) as well as the relationship of the RBANS to symptoms and employment status. This newly published test takes 25 minutes to administer and was standardized on a U.S.-Census-matched adult population. The test provides a total score and five index scores, each with a mean value of 100 (SD = 15). METHOD: RBANS data were obtained from 129 patients with schizophrenia in the outpatient and inpatient programs of the Maryland Psychiatric Research Center. RBANS data were correlated with WAIS-III and Wechsler Memory Scale, 3rd ed. performance in 38 patients. Reliability data for alternate forms of the RBANS were

obtained from 53 patients; symptom ratings were obtained from 48 patients; and employment status was examined in 77 patients. RESULTS: The patients with schizophrenia demonstrated marked impairment on the RBANS (their mean total score was 71.4). The patients' index scores suggested that they had relatively less impairment of language and visual functions than of memory and attention. The RBANS demonstrated high correlations with full-scale IQ and memory measures. The total score demonstrated good reliability. RBANS performance minimally correlated with Brief Psychiatric Rating Scale ratings but was strongly related to employment outcome. CONCLUSIONS: The RBANS appears to be a useful cognitive screening instrument in schizophrenia. The instrument may be a useful prognostic indicator and offers a means of assessing cognitive status.

Gottfredson, L. S. (1986). "Occupational Aptitude Patterns Map: Development and implications for a theory of job aptitude requirements." Journal of Vocational Behavior **29**(2): 254-291.
> Used US Employment Service data on the cognitive and noncognitive aptitude requirements of different occupations to create an occupational classification, "the Occupational Aptitude Patterns Map (OAPM),"of 13 job clusters arrayed according to major differences in overall intellectual difficulty level and in functional focus (field) of work activities. The OAPM was compared with an alternative, aptitude-based classification; with J. L. Holland's (1985) typology of work environments; and with ratings for complexity of involvement with data, people, and things. Those comparisons supported the construct validity of different aspects of the OAPM and helped clarify uses for which it is most appropriate. It is concluded that when combined with previous evidence about patterns of job aptitude demands, the OAPM provides the basis for a theory of job aptitude requirements. The OAPM and accompanying analyses support the following hypotheses: (1) General intelligence is the major gradient by which aptitude demands have become organized across jobs in the US economy; (2) within broad levels of work, the aptitude demands of different fields of work differ primarily in the shape of their cognitive profiles; and (3) different aptitude demand patterns arise in a large part from broad differences in the tasks workers actually perform on the job. (45 ref) (PsycINFO Database Record (c) 2009 APA, all rights reserved)

Gottfredson, L. S. (2002). "Where and why g matters: Not a mystery." Human Performance **15**(1): 25-46.
> Explains g as being the highly general capability for processing complex information of any type, explaining its value in predicting job performance. And, as complexity is the major distinction among jobs, g is more important further up the occupational hierarchy. The author discusses the generalizability and stability of the g factor, its meaning as a construct, and the complexity factor among jobs. (PsycINFO Database Record (c) 2008 APA, all rights reserved)

Harding, B., S. Torres-Harding, et al. (2008). "Factors associated with early attrition from psychosocial rehabilitation programs." Community Mental Health Journal **44**(4): 283-288.
> This study aimed to identify characteristics associated with early dropout from a vocationally oriented psychosocial rehabilitation (PSR) program for clients with severe mental illness. The sample consisted of 194 individuals who participated in a study comparing a supported employment program to a stepwise vocational program. Study participants who dropped out of the PSR program within 6 months of study entry were compared to those who continued for at least 6 months. Dropouts had poorer competitive employment outcomes than those who continued. Participants with at least a high school diploma, never married, with a schizophrenia-

spectrum diagnosis, and those assigned to a stepwise model of vocational rehabilitation were more likely to dropout. The implications of these findings are discussed. (PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Heitzman, A. M., J. M. Meltzer, et al. (2009). "A call to update the DOT: Findings of the IARP Occupational Database Committee." The Rehabilitation Professional **17**(2): 63-84.

Lerner, D., B. C. Amick, III, et al. (2003). "Relationship of employee-reported work limitations to work productivity." Medical Care **41**(5): 649-659.

> Work limitation rates are crucial indicators of the health status of working people. If related to work productivity, work limitation rates may also supply important information about the economic burden of illness. Our objective was to assess the productivity impact of on-the-job work limitations due to employees' physical or mental health problems. Subjects were asked to complete a self-administered survey on the job during 3 consecutive months. Using robust regression analysis, we tested the relationship of objectively-measured work productivity to employee-reported work limitations. Each survey included a validated self-report instrument, the Work Limitations Questionnaire (WLQ). The firm provided objective, employee-level work productivity data. In adjusted regression analyses (n=1,827), employee work productivity (measured as the log of units produced/hour) was significantly associated with 3 dimensions of work limitations: limitations handling the job's time and scheduling demands, physical job demands, and output demands. For every 10% increase in on-the-job work limitations reported on each of the 3 WLQ scales, work productivity declined approximately 4 to 5%. Employee work limitations have a negative impact on work productivity. (PsycINFO Database Record (c) 2009 APA, all rights reserved)

Lerner, D., B. C. Amick, III, et al. (2001). "The Work Limitations Questionnaire." Medical Care **39**(1): 72-85.

> Developed and assessed psychometric properties of a questionnaire for measuring on-the-job impact of chronic health problems and/or treatment (work limitations). Three pilot studies (focus groups, cognitive interviews, and an alternate forms test) generated candidate items, dimensions, and response scales. Two field trials (Studies 1 and 2) tested test recall error and construct validity of the questionnaire. Ss were employed individuals (aged 18-64 yrs) from several chronic condition (e.g., arthritis, headache, epilepsy) groups (48 in Study 1, 121 in Study 2) and 14 healthy controls (Study 1). With 25 items, 4 dimensions (limitations handling time, physical, mental-interpersonal, and output demands), and a 2-wk reporting period, the Work Limitations Questionnaire demonstrated high reliability and validity. (PsycINFO Database Record (c) 2009 APA, all rights reserved)

MacDonald-Wilson, K., E. S. Rogers, et al. (2001). "Unique issues in assessing work function among individuals with psychiatric disabilities." Journal of Occupational Rehabilitation **11**(3): 217-232.

> With the admission of people who experience psychiatric disabilities in the state-federal vocational rehabilitation system and the Social Security disability rolls in the 1960s, assessment of their capacity to work has been a major concern. Given the rising rates of claims for psychiatric disability in both the public and the private sectors, and the disappointing employment outcomes of people with psychiatric disabilities compared to those with other disabilities, there have been numerous initiatives to accurately assess their employment

potential. Historically, such assessment within the Social Security Administration has relied upon evaluation of a person's medical impairment, but numerous studies suggest a weak relationship between measures of psychiatric diagnosis or symptoms and work outcome. Efforts have been undertaken to identify valid and reliable methods of assessing the ability of people with psychiatric disabilities to work. The authors review (a) methods of assessing work function for this population, and (b) the literature on predictors of work functioning and the nature of psychiatric disability, and suggest implications for disability determination policies and for future research. (PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

MacDonald-Wilson, K. L., E. S. Rogers, et al. (2003). "Identifying relationships between functional limitations, job accommodations, and demographic characteristics of persons with psychiatric disabilities." Journal of Vocational Rehabilitation **18**(1): 15-24.

> Years after the passage of the Americans with Disabilities Act, little empirical information exists about the relationship between the functional limitations experienced by individuals with psychiatric disabilities, and related reasonable accommodations provided on the job. A multi-site, longitudinal study was conducted with 191 employees in 22 supported employment programs across 3 states during a 1-year study period. Data were gathered prospectively in a structured, narrative form designed to describe both the functional limitations and accommodations of participants. The most frequent functional limitations among this group of employed persons with psychiatric disabilities were cognitive in nature, followed by social, physical, and emotional/other. There was a significant relationship between the type of functional limitation and the number and type of accommodations received. There was a marginally significant relationship between type of functional limitation and a diagnosis of schizophrenia. There were no significant relationships between any other clinical or demographic factors, functional limitations or reasonable accommodations. Cognitive limitations were the most prevalent in this sample and the best predictor of the number of accommodations provided. (PsycINFO Database Record (c) 2009 APA, all rights reserved)

MacDonald-Wilson, K. L., E. S. Rogers, et al. (2002). "An investigation of reasonable workplace accommodations for people with psychiatric disabilities: quantitative findings from a multi-site study." Community Mental Health Journal **38**(1): 35-50.

> Despite the requirement of many employers to provide accommodations in the workplace for individuals with disabilities under Section 504 of the Rehabilitation Act of 1973, the preponderance of accommodations that have been described in the literature concern physical rather than psychiatric disabilities. This study was an exploratory, descriptive, longitudinal, multi-site investigation of reasonable workplace accommodations for individuals with psychiatric disabilities involved in supported employment programs. We discuss the functional limitations and reasonable accommodations provided to 191 participants and the characteristics of 204 employers and 22 service provider organizations participating in the study. Implications for service providers and administrators in supported employment programs are discussed.

Mak, D. C. S., H. W. H. Tsang, et al. (2006). "Job Termination Among Individuals with Severe Mental Illness Participating in a Supported Employment Program." Psychiatry: Interpersonal and Biological Processes **69**(3): 239-248.

This study, which explored job terminations among 60 individuals with severe mental illness participating in a supported employment program in Hong Kong, used the Chinese Job Termination Interview that was validated and translated from the Job Termination Interview (JTI; Becker, Drake, Bond et al., 1988). More than half of the job terminations (53%) were unsatisfactory which included dissatisfaction with job (44%) and lack of interest (22%). Modification of work schedules and provision of adequate supervision and coaching at the workplace were identified as necessary job accommodations. Similarities and differences of findings were compared with overseas studies. Possible improvement of current supported employment program was discussed. (PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Massel, H. K., R. P. Liberman, et al. (1990). "Evaluating the capacity to work of the mentally ill." Psychiatry: Journal for the Study of Interpersonal Processes **53**(1): 31-43.
    Ss were grouped into categories of psychotic (n = 79) or nonpsychotic (n = 64), and disabled or nondisabled, in regard to adjudication for mental impairment from the Social Security Administration (SSA). Ss were evaluated for their work capacity in either a 3- or 15-day vocational assessment. There were significant relationships between disability status and work capacity, in the direction of better performance for nondisabled Ss. Ss who were adjudicated appeared to be more work incapacitated than Ss who were not so adjudicated. Findings reflected concordance between the evaluation procedure and the SSA's disability determination process. (PsycINFO Database Record (c) 2009 APA, all rights reserved)

Matheson, L. N. (2001). "Disability methodology redesign: considerations for a new approach to disability determination." J Occup Rehabil **11**(3): 135-42.
    Disability determination meets important societal needs, involving billions of dollars and millions of people every year. However, disability determination decisions often are incorrect, and the high proportion of decision appeals and reversals creates additional administrative expense and difficulty for the people that the disability determination system is intended to support. Projects funded by the United States Social Security Administration explored these issues and developed new conceptual models and tools to improve the accuracy and fairness of disability determination. This paper provides an introduction to the projects and the papers in this special issue of the Journal of Occupational Rehabilitation.

Matheson, L. N., M. Kane, et al. (2001). "Development of new methods to determine work disability in the United States." J Occup Rehabil **11**(3): 143-54.
    The development of new methods to determine work disability for the United States Social Security Administration is described, including the fiscal and administrative background to the current and proposed methods. An introduction to the current disability determination process and description of its status is followed by a description of the original proposed plan for redesign of the process. In response to this plan, the authors participated in several research projects. An overview of some of the key research projects performed to improve the Social Security Administration disability determination process is provided.

Matheson, L. N., V. Kaskutas, et al. (2001). "Development of a database of Functional Assessment Measures related to work disability." Journal of Occupational Rehabilitation **11**(3): 177-199.

The development of the Functional Assessment Measures Database is described. The database provides a method to organize and search for measures that are used to assess the functional abilities of people with medical impairments to determine work disability. Although there are several large collections of information about tests, questionnaires, structured interviews, and other measures used in medicine, psychology, and education, there is no central repository of information about the functional assessment measures that are used in rehabilitation. A team of experts in functional assessment, psychology, medicine, occupational therapy, and physical therapy was composed. The project identified 4,200 different measures that are used in the functional assessment of persons with disability across the life span, 812 of which are used to evaluate adults in terms of work disability. The database has 3,033 scales that are found in 633 measures. In the database, each measure is described and is linked to at least one functional assessment construct. The use of the database in the Social Security Administration Redesign Project is described. Other possible uses for the database are presented. (PsycINFO Database Record (c) 2009 APA, all rights reserved)

McGuire, A. B., G. R. Bond, et al. (2007). "Situational assessment in psychiatric rehabilitation: A reappraisal." Journal of Vocational Rehabilitation **27**(1): 49-55.
> Background: One widely-used approach in the vocational rehabilitation field is the situational work assessment, in which staff rate general worker behaviors relevant to any employment setting. The Work Behavioral Inventory (WBI) is a standardized situational assessment developed specifically for individuals with severe mental illness (SMI). Originally developed in a sheltered workshop environment, its application in community settings has not been studied. We examined the predictive validity for the WBI in a range of community and agency settings. Methods: Using a prospective longitudinal study, we assessed 52 clients with schizophrenia spectrum disorders newly enrolled in a vocational program at a psychiatric rehabilitation agency. Participants were followed for nine months and assessed every two months on the WBI. Findings: WBI ratings were unrelated to employment outcomes in the full sample at nine months. However, among participants who obtained paid employment at some time during follow-up, WBI ratings were positively associated with total wages earned, weeks worked, and paid hours worked. Conclusions: Situational assessment is a useful method for predicting employment outcomes for individuals with schizophrenia who obtain work. However, its utility in predicting initial job acquisition is uncertain. In addition, the limitations in the use of situation assessments in community employment settings raise questions about how it would be best adapted in programs implementing evidence-based supported employment. (PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

McGurk, S. R. and H. Y. Meltzer (2000). "The role of cognition in vocational functioning in schizophrenia." Schizophr Res **45**(3): 175-84.
> Schizophrenia is associated with long-term unemployment. Cognitive dysfunction, rather than clinical symptoms, may be the most important factor in the ability to work for patients with this disorder. To evaluate the relationship of clinical symptoms and cognitive functioning to work status, thirty patients with schizophrenia, who were participants in a vocational rehabilitation program, were evaluated with a comprehensive neuropsychological battery and assessment of psychopathology. Subjects were classified as being in stable full-time, part-time or unemployed work status for at least a year. Univariate analysis indicated that patients who were working full-time were significantly better educated, more likely to be treatment-resistant, more likely to be

treated with an atypical antipsychotic medication, had more positive symptoms, and were engaged in work tasks which were more cognitively complex than the part-time employed and unemployed work groups. An ANCOVA controlling for education demonstrated that the full-time employed group performed significantly better than the unemployed group on measures of executive functioning, working memory and vigilance; and significantly better than the part-time group on measures of vigilance and executive functioning. Although negative symptoms did not significantly relate to work status in the univariate analysis, a multiple regression indicated that negative symptoms, level of education, and executive functioning differentiated the work groups. These results suggest that poor premorbid function, negative symptoms and cognitive dysfunction are significantly associated with unemployment in schizophrenia.

McGurk, S. R. and K. i. T. Mueser (2006). "Strategies for coping with cognitive impairments of clients in supported employment." Psychiatric Services **57**(10): 1421-1429.

Objective: This study evaluated the strategies used by employment specialists to help clients in supported employment programs manage cognitive impairments that interfered with obtaining and keeping jobs. Methods: Twenty-five supported employment specialists were surveyed to identify strategies they used to help their clients cope with cognitive problems in the domains of attention, psychomotor speed, memory, and problem solving. Then, 50 employment specialists were surveyed to determine whether they used each of the different coping strategies generated in the first part of the study. For each strategy used, they rated how effective it was. Results: Employment specialists reported using a total of 76 different strategies for helping their clients cope with cognitive difficulties. The specialists reported using an average of 48 different coping strategies, which they rated on average as just below effective. Strategies for dealing with attention problems were rated as more effective than strategies used in the other three domains. The number of coping strategies that they reported using was significantly correlated with the perceived effectiveness of the strategies and the proportion of clients in their caseload who were working. Conclusions: Supported employment specialists were actively involved in helping clients cope with their cognitive impairments. Use of more strategies was correlated with specialists' greater perceived effectiveness of the strategies and with higher rates of working clients on their caseloads, although the reasons for these associations are unclear. Further research is needed to evaluate whether employment specialists' use of more strategies to help clients cope with cognitive problems contributes to better work outcomes. (PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

McGurk, S. R. and K. T. Mueser (2004). "Cognitive functioning, symptoms, and work in supported employment: a review and heuristic model." Schizophr Res **70**(2-3): 147-73.

OBJECTIVE: Supported employment has been shown to improve the employment outcomes of clients with severe mental illness (SMI), but many clients who receive this service still fail to achieve their vocational goals. There is a need to better understand how illness-related impairments interfere with work, and how supported employment services deal with those impairments in order to improve the employment outcomes of clients with SMI. METHOD: We conducted a review of research on the relationship between cognitive functioning, symptoms, and competitive employment in clients with SMI. Based on this review, we developed a heuristic model of supported employment that proposes specific interactions between cognitive factors, symptoms, vocational services, and employment outcomes. RESULTS: The review indicated that cognitive functioning and symptoms were strongly related to work in studies of general

psychiatric samples. In studies of clients participating in vocational rehabilitation programs, associations between cognitive functioning, symptoms, and work were also present, but were attenuated, suggesting that vocational rehabilitation compensates for the effects of some cognitive impairments and symptoms on work. We describe a heuristic model of supported employment that posits specific and testable effects of cognitive domains and symptoms on vocational services and employment outcomes. CONCLUSIONS: Supported employment appears to work by compensating for the effects of cognitive impairment and symptoms on work. The model may serve as a guide for research aimed at understanding how supported employment works, and for developing supplementary strategies designed to improve the effectiveness and cost-effectiveness of supported employment services.

McGurk, S. R. and K. T. Mueser (2006). "Cognitive and clinical predictors of work outcomes in clients with schizophrenia receiving supported employment services: 4-year follow-up." Adm Policy Ment Health **33**(5): 598-606.

In a prior study we showed that cognitive functioning was a modest predictor of work and supported employment services over 2-years in 30 clients with schizophrenia, whereas symptoms were not (McGurk et al. (2003). Psychiatric Services, 58, 1129-1135). In order to evaluate whether the long-term provision of supported employment services reduced the impact of cognitive functioning on work, we examined the relationships between cognitive functioning and symptoms assessed after the initial 2 years of the program, and work and vocational services over the following 2 years (3-4 years after joining the program). Cognitive functioning was more predictive of work during the latter 2 years of the study than the first 2 years, and a similar but weaker pattern was present for the prediction of employment services. Symptoms remained weak predictors for both time periods. In addition, learning and memory and executive functions were strongly correlated with job task complexity during the 3-4 year follow-up, but not the 1-2 year follow-up, suggesting that employment specialists were able to improve their ability to match clients to jobs based on their cognitive skills. Furthermore, the specific associations between cognitive functioning, services, and work outcomes changed from years 1-2 to years 3-4, suggesting a dynamic interplay between these factors over the long-term, rather than static and unchanging relationships. The findings indicate that rather than supported employment services reducing the impact of cognitive functioning on long-term competitive work, the impact actually increases over time, suggesting that efforts to improve cognitive functioning (e.g., cognitive rehabilitation) may optimize employment outcomes in schizophrenia.

Penn, D. L., L. J. Sanna, et al. (2008). "Social cognition in schizophrenia: An overview." Schizophrenia Bulletin **34**(3): 408-411.

The purpose of this column is to provide an overview of social cognition in schizophrenia. The column begins with a short introduction to social cognition. Then, we describe the application of social cognition to the study of schizophrenia, with an emphasis on key domains (i.e., emotion perception, Theory of Mind, and attributional style). We conclude the column by discussing the relationship of social cognition to neurocognition, negative symptoms, and functioning, with an eye toward strategies for improving social cognition in schizophrenia. (PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

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Rogers, E. S., K. Sciarappa, et al. (1991). "Development and evaluation of situational assessment instruments and procedures for persons with psychiatric disability." Vocational Evaluation & Work Adjustment Bulletin **24**(2): 61-67.

> Developed 2 instruments, a work adjustment skills scale and an interpersonal skills scale. Staff in 2 psychosocial programs were trained in the situational assessment procedures and in observation techniques. 50-63 yr old clients (with schizophrenia, schizo-affective, or depressive disorder) were selected to examine the psychometric properties of the instruments. Interrater reliability, test-retest reliability, internal consistency, and split-half reliability statistics were computed from the data collected. Results suggest high levels of reliability for the 2 instruments. Predictive validity and concurrent validity of the instruments were examined by following the clients for 1 yr postassessment. A discriminant analysis was performed to determine if the situational assessment predicted vocational outcome. Concurrent validity was determined by correlating Ss' scores on the 2 scales with the Griffiths' Work Behavior Scale. (PsycINFO Database Record (c) 2009 APA, all rights reserved)

Salyers, M. P., A. B. McGuire, et al. (2008). "What makes the difference? Practitioner views of success and failure in two effective psychiatric rehabilitation approaches." Journal of Vocational Rehabilitation **28**(2): 105-114.

> The current study examined success in two vocational programs by interviewing practitioners in two philosophically different employment programs at a psychosocial rehabilitation agency. Practitioners' views of what constitutes success and factors facilitating success were analyzed using both qualitative and quantitative means. In general, practitioners viewed success as more than just obtaining a job, but maintaining employment over time and making life changes. Success was most often attributed to consumer motivation, and lack of success was attributed to mental health symptoms. Furthermore, practitioners from each program tended to view success in a manner consistent with their program's philosophy. (PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Schultheis, A. M. and G. R. Bond (1993). "Situational assessment ratings of work behaviors: Changes across time and between settings." Psychosocial Rehabilitation Journal **17**(2): 107-119.

> Evaluated staff ratings of work behaviors for 52 clients with serious mental illness participating in a community mental health center vocational program. There were 2 sites for job training: in-house work crews and a "handyman work crew" providing temporary, paid employment in the community. Contrary to expectations, clients declined significantly in their work performance over a 3-mo period. Moreover, when observed in the community work crews, clients were rated significantly higher than when observed in in-house crews. Findings are interpreted as reflecting a "demoralization effect" among clients working in the in-house setting after previously working in a paid community placement. (PsycINFO Database Record (c) 2009 APA, all rights reserved)

Tsang, H., B. Ng, et al. (2000). "Predictors of post-hospital employment status for psychiatric patients in Hong Kong: From perceptions of rehabilitation professionals to empirical evidence." International Journal of Social Psychiatry **46**(4): 306-312.

> Compared the social vocational competence and psychosocial support of employed and unemployed psychiatric patients following discharge. 50 mental hospital patients (aged 17-55 yrs) were assessed concerning social vocational competence and psychosocial support. Results show that 3 mo following discharge employed Ss exhibited better psychosocial support and

social vocational competence than did unemployed Ss. Employed and unemployed Ss did not differ in their medical history, work history, or demographic variables. (PsycINFO Database Record (c) 2009 APA, all rights reserved)

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Appendices

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Appendix A

Biographic Sketches of Subcommittee Members

David J. Schretlen, Ph.D., Chair

David J. Schretlen, Ph.D. is as an Associate Professor of Psychiatry and Behavioral Sciences, as well as an Associate Professor of Radiology at the Johns Hopkins University School of Medicine. He is board-certified in clinical neuropsychology, and works at the Johns Hopkins Hospital, where he sees patients, teaches, and conducts research.

Dr. Schretlen completed his doctorate in clinical psychology at the University of Arizona in 1986, an internship at McLean Hospital, Harvard Medical School, and a post-doctoral residency in neuropsychology and rehabilitation at the UCLA Neuropsychiatric Institute. While at UCLA, Dr. Schretlen was awarded a Mary E. Switzer fellowship by the National Institute of Disability and Rehabilitation Research.

Dr. Schretlen has served as a grant reviewer for the National Institutes of Health and the Veterans Administration Medical Center. He serves on the editorial boards of several scientific journals. A prolific researcher, he has authored over 175 articles, monographs, book chapters, and abstracts. His research interests include the use of quantitative brain imaging to investigate cognitive and emotional aspects of human behavior. He has received federal and private research funding to study determinants of work disability in traumatic brain injury and bipolar disorder. He currently is analyzing predictors of functional disability in schizophrenia and bipolar disorder. Related to this is another program of research in which Dr. Schretlen is investigating strategies to increase the diagnostic sensitivity and specificity of neurocognitive measures for persons of diverse socioeconomic background.

In addition to research and teaching, Dr. Schretlen is actively engaged in clinical work that primarily involves neuropsychological assessment. He consults to physicians about treatment planning and attorneys about matters involving such matters as vocational aptitude and work disability resulting from brain injuries.

Mary Barros-Bailey, Ph.D.

Mary Barros-Bailey, PhD, CRC, NCC is a bilingual rehabilitation counselor, vocational expert, and life care planner in Boise, Idaho. She is the immediate past Chair (2007-2008) of the Commission on Rehabilitation Counselor Certification (CRCC) and served as the Ethics Committee Chair from 2005-2007. Mary was one of the founding members of the Inter-organizational O*NET Task Force (IOTF) that in the early 2000s collaborated with the US Social Security Administration and the US Department of Labor on the use of occupational data within the disability context. She is a reviewer or on the Editorial Boards of several peer-review journals such as the Journal of Counseling & Development (American Counseling Association), the Journal of Forensic

Vocational Analysis (American Board of Vocational Experts), and the Journal of Mixed Methods Research (SAGE Publications). Mary has a doctorate in Counseling with a cognate in Rehabilitation Counseling from the University of Idaho. Her research and presentation interests include professional issues in rehabilitation counseling (ethics, methodological, aging, multicultural, and international). She has presented and published nationally and internationally.

Robert T. Fraser, Ph.D.

Robert T. Fraser, Ph.D. is a professor in the University of Washington's Department of Rehabilitation Medicine, jointly with the Departments of Neurological Surgery and Neurology and consultant with Associates in Rehabilitation and Neuropsychology. He is an active counseling and rehabilitation psychologist, a certified rehabilitation counselor and a certified life care planner who directs Neurological Vocational Services within Rehabilitation Medicine. Within neurological rehabilitation, he has specialized in epilepsy, brain injury, and multiple sclerosis.

Dr. Fraser is author or co-author of more than one hundred publications and co-editor on four texts to include Traumatic Brain Injury Rehabilitation (CRC Press,1999), Multiple Sclerosis Workbook (New Harbinger, 2006), and Comprehensive Care in Epilepsy (John Libbey, 2001). He has been awarded numerous Federal grants by the Department of Education (NIDRR and RSA) - four of which have been specific to traumatic brain injury rehabilitation, and, more recently, in epilepsy self-management by the Center for Disease Control (CDC). He was awarded two World Rehabilitation Fund fellowships to review, respectively, the post-acute traumatic brain injury programs in Israel and epilepsy rehabilitation advances in Scandinavia and Holland. He lectures nationally on TBI rehabilitation. Research emphases have included evaluation of innovative psychosocial rehabilitation strategies and prediction of vocational rehabilitation outcome across different neurological disabilities. He is the recipient of two American Rehabilitation Counseling Association Research Awards, and an Epilepsy Foundation of America Career Achievement Award. Dr. Fraser is a past-president of Rehabilitation Psychology, Div. 22 of the American Psychological Association and a Fellow in the Division, a former Board member of the Epilepsy Foundation of America (EFA), a current board member of the Epilepsy Foundation Northwest, and was recently elected to the Board of Governors for the International Consortium of Multiple Sclerosis Centers.

Dr. Fraser has received master's degrees in rehabilitation counseling (University of Southern California) and public administration (Seattle University). His doctorate is in rehabilitation psychology from the University of Wisconsin–Madison, with a dissertation focused on the use of task analysis in the national classification and utilization of state agency vocational rehabilitation personnel.

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<u>Sylvia E. Karman</u>

As Director for Social Security Administration's (SSA's) Occupational Information Development Project in the Office of Program Development and Research, Sylvia E. Karman oversees the research and development of occupational information tailored to SSA's disability programs. She directs the investigations and developmental work to replace the *Dictionary of Occupational Titles*, as well as studies to inform disability policy development. She also chairs the SSA Occupational Information System Development Workgroup.

Ms. Karman serves as an expert for SSA executive management and for numerous private and public sector entities on medical-vocational assessment and occupational information issues critical to disability evaluation. As the former Chief of the Vocational Policy Branch in SSA's Office of Disability Programs and, before that, the lead senior policy analyst and project manager for occupational information analysis and policy issues related to SSA's use of the Dictionary, she has long held a leadership role for the agency in these subject areas.

Ms. Karman began her career with SSA in 1979 as a college intern. After graduating in 1982 with a bachelors of arts degree from Towson University in Maryland, her work involved policy and legislative development and program evaluation for the Supplemental Security Income program under title XVI and for the agency's disability programs under both titles II and XVI. Ms. Karman has presented and published papers in the areas of SSA's use of the *Dictionary of Occupational Titles* for disability adjudication, medical-vocational assessment, and the role of vocational factors and occupational information in disability evaluation, including transferable skills analysis. She is a frequent speaker at conferences and seminars throughout the US and Canada.

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Appendix B

Biographic Sketches of Mental Cognitive Roundtable Participants

David J. Schretlen, PhD, ABPP

See Appendix A

Mary Barros-Bailey, PhD, CRC

See Appendix A

Robert T. Fraser, PhD

See Appendix A

Sylvia E. Karman, BA

See Appendix A

Shannon Gwaltney-Gibson, PhD

Education

B.A., Liberal Arts, magna cum laude, Armstrong Atlantic State University

M.S., Industrial and Organizational Psychology, Virginia Polytechnic Institute & State University

Ph.D., Industrial and Organizational Psychology, Virginia Polytechnic Institute & State University

Areas of Expertise

Professor Gibson's expertise is in issues related to human resources management & organizational behavior in organizations. Her research includes more than 35 published conference proceedings and 19 peer-reviewed journal articles on topics relevant to human resources and organizational development including job analysis, technology acceptance in organizations, and entrepreneurship. Her research can be seen in the Journal of Small Business Strategy, Business Education Forum, Small Business Institute Forum, and Management Research News, among others.

Professional Activities

Professor Gibson is an Associate Professor of Management at East Carolina University, where she has been a member of the College of Business since 2003. She has extensive experience teaching issues related to occupational analysis; in addition to currently teaching graduate level Human Resources, she previously spent two years teaching Industrial and Organizational Psychology at ECU, as well as courses at Radford University and Texas A&M Corpus Christi. She was awarded the 2009 Robert L. Jones University Alumni Award for Outstanding Teaching and the 2009 Max Ray Joyner Award for Faculty Service Through Continuing Education. In addition to her university responsibilities, she currently acts as a consultant to State Farm Insurance on issues related to human resources management and leadership development. She is a member of The Academy of Management, the Society for the Advancement of Management, the Society for Industrial & Organizational Psychology, the Southeast Decision Sciences Institute, and the Southeast Institute for Operations Research and the Management Sciences.

<u>Mark Wilson, PhD</u>

Dr. Mark A. Wilson, Associate Professor of Psychology, NC State University, joined the faculty in 1992. He received a B.A. in Psychology from Wartburg College (1975), an M.A. in Experimental Psychology from the University of Missouri-Kansas City (1978), and a Ph.D. in Industrial/ Organizational Psychology from Ohio State University (1983).

While completing the Ph.D., he served as Project Coordinator, Technical Director, and Senior Research Associate for Organizational Research and Development Inc. on a comprehensive human-resource research project involving human-resource planning, job analysis, selection (managerial assessment centers), performance appraisal, and compensation for a market-leading insurance company. The experience drastically altered his view of the field and his research interests. It was while working on the project that he developed his interest in the integration of human-resource systems, comprehensive job analysis, his dedication to the scientist-practitioner model and the problems of practitioners, and his love for fieldwork.

He has always been interested in work measurement issues, models of human job performance in organizations, and research methods. He has consulted and conducted research extensively with numerous large organizations in both the private and public sectors. He has taught graduate and undergraduate management courses as an Assistant Professor at both Texas Tech University (1981-1985) and Iowa State University of Science and Technology (1985-1992). In 1999, he was made an honorary member of the United States Army Special Forces. In 2006, he was appointed editor of Ergometrika (The Journal of Work Measurement Research).

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Gary R. Bond, PhD

Education

B.S., Mathematics, Michigan State University

M.A., Psychology, University of Chicago

Ph.D., Psychology, University of Chicago

Areas of Expertise

Professor Bond is an expert in effective rehabilitation approaches for people with severe mental illness. His research has focused on two particular areas: assertive community treatment, which is a comprehensive, intensive case management approach for people with severe mental illness who also have other challenging problems, and supported employment, which is an individualized approach to helping people attain competitive employment. He has published 139 peer-reviewed journal articles, 32 book chapters, and has taken part in 20 international presentations.

Professional Activities

Professor Bond is the Chancellor's Professor of Psychology at Indiana University Purdue University, Indianapolis. He served as the Director of the Clinical Rehabilitation Psychology Program at IUPUI for 14 years and also served as the Director of the Illinois Psychiatric Rehabilitation Training Institute from 2002-2003. Professor Bond has twice held the Research Scientist Development Award from the National Institute of Mental Health (1989-1994, 1996-2001) and has received national awards from the American Psychological Association, the American Rehabilitation Counseling Association, the International Association of Psychosocial Rehabilitation Services, and the National Association of Case Management. He is currently involved as a co-investigator or consultant on five grants.

Susanne Bruyère, PhD

Education

B.A., Psychology and Special Education, D'Youville College

M.S. Ed., Rehabilitation Counseling, University of Southern California

M.A., Adult Education, Seattle University

M.P.A, Public Administration, Seattle University

Ph.D, Rehabilitation Counseling, University of Wisconsin, Madison

Areas of Expertise

Professor Bruyère is an expert in the fields of disability, disability and rehabilitation, disability and law, and diversity and inclusion. She has focused on other relevant topics including: primary and secondary prevention of workplace disability, disability management, non-discrimination for persons with disabilities in employment, the Americans with Disabilities ACT (ADA), and the interplay between the ADA, human resource practices, and labor relations. She has contributed to 13 publications and her work can be found in journals such as the Journal of Rehabilitation Psychology and American Rehabilitation.

Professional Activities

Professor Bruyère is the Associate Dean of Outreach and the Director of the Employment and Disability Institute at Cornell University in the School of Industrial and Labor Relations – Extension Division. A fellow in the American Psychological Association, she has served as the past President of the Division of Rehabilitation Psychology of the American Psychological Association and the National Council on Rehabilitation Education. She currently serves on the boards of the National Association of Rehabilitation Research and Training Centers and of CARF (the Rehabilitation Accreditation Commission). She is currently the Project Director and Principal Investigator of numerous research efforts. Three are funded by the U.S. Department of Education, National Institute on Disability and Rehabilitation Research (NIDRR). One of the projects she is currently working on is a four-year research and demonstration project in collaboration with the Society for Human Resource Management, the Washington Business Group on Health, and the Lewin Group to address ways to improve the employment practices covered under the Americans with Disabilities Act (ADA).

Lynda Payne, PhD

Education

A.A., Nursing, Middle Tennessee State University, Murfreesboro, TN

B.S., Psychology, Idaho State University, Pocatello, ID

M.S., Marriage & Family Therapy, University of Maryland, College Park, MD

Ph.D., Applied Developmental Psychology, University of Maryland, Baltimore County, MD

Personal Activities and Interests

Lynda Payne, PhD, is a Consulting Psychologist for the State of Maryland's Disability Determination Services. In addition to her role as a consulting psychologist, she works

as a Psychometrician for the Kennedy Krieger Institute in Baltimore, Maryland. From 1995-2004, she was involved in a research study for the Department of the Environment / HUD in which she investigated the treatment of lead-exposed children through a multi-site, clinical trial of an oral chelating agent. From 2001-2005, she examined the target capacity for expansion for adolescent outpatient substance abuse treatment.

She has presented at the International Conference on Infant Studies and has been published in the American Journal of Mental Retardation and the Encyclopedia of Human Behavior.

E. Sally Rogers, ScD

Education

B.A., Temple University

M.A., Seton Hall University

ScD, Boston University

Personal Activities and Interests

Professor Rogers is an Associate Professor of Occupational Therapy at the Sargent College of Health and Rehabilitation Sciences, Boston University. She also serves as the Director of Research at the Center for Psychiatric Rehabilitations. Her interests include the evaluating the effectiveness and cost effectiveness of psychiatric rehabilitations, measuring outcomes, and assisting psychological rehabilitation programs to evaluate the effectiveness of their services. She has contributed to 24 publications and is currently the principle investigator on three grants, two of which are funded by the National Institute on Disability and Rehabilitation Research (NIDRR).

Pamela A. Warren, PhD

Education

B.A., Psychology, Southern Illinois University, Carbondale, Illinois

M.A., Behavior Analysis and Therapy, Southern Illinois University, Carbondale, Illinois

Ph.D., Psychology, Southern Illinois University, Carbondale, Illinois

Professional Activities

Dr. Warren is a faculty member in the Department of Counseling as well as the Department of Psychiatry at the University of Illinois, Urbana, Illinois. She has worked as a Clinical Psychologist for the Carle Clinic Association in Urbana, Illinois since 1991.

She continues to be an advisor for the American College of Occupational and Environmental Medicine's (ACOEM) Practice Guidelines newsletter, and is a psychological disability evaluator for the Illinois State Universities Retirement System. She conducts independent psychological evaluations and complete file & peer reviews for several national insurance companies and employers, such as Blue Cross Blue Shield, Claim Care, CountryWide, CompCare, American Airlines, Behavioral Medical Interventions, and Army Corp of Engineers, and others. She is a psychological consultant to Health Care Services Corporation and served as a consultant to the Social Security Administration's Ticket To Work program. She has served on a number of expert panels, such as the expert panels for ACOEM's Chronic Pain Practice Guidelines and Psychiatric Guidelines revision as well as the Social Security Administration's Functional and Vocational Expertise Panel. She has been co-investigator on a number of studies, including research on the evaluation of psychological concerns that occur in women with breast cancer and the EUMASS (European Union of Medicine in Assurance and Social Security) study of the Psychosocial Aspects of Disability and Healthcare. She has served as a reviewer for the American Medical Association Guide to the Evaluation of Permanent Impairment, 6th edition as well as for PsyBar, Inc. She has served on a number of committees and boards, including the Disability Research Institute Advisory Board Reed Group Medical Disability Advisory (MDA) Board, the International Board of Directors for the International Association of Rehabilitation Professionals Case Management Division, the Disability Management Employers Coalition Conference Selection Committee, and the Health Services Council, American Psychological Association, Division 38 (Health Psychology). She has conducted over 300 professional seminars on psychological issues related to disability, identification of psychological issues in the workplace, evidence-based treatments of psychological concerns in the workplace, chronic pain, illness issues, and appropriate forensic psychological evaluation to public and professional groups. These presentations have been conducted both locally and nationally. In addition to these presentations, Dr. Warren has written five publications.

Professional Associations

Dr. Warren is a member of the American Psychological Association (Clinical, Health, Occupational Health, and Consulting Psychology Divisions), the American College of Occupational & Environmental Medicine, the Association for Applied Psychophysiology and Biofeedback, the Prescribing Psychologists Register, the International Association for Rehabilitation Professionals, the Disability Management Employers Coalition, and the Association for the Scientific Advancement of Psychological Injury and Law.

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Appendix C – 1

Mental Cognitive Roundtable – Instructions to Participants

General Meeting Information

The meeting will be held at the Hyatt Regency McCormick Place, 2233 South Martin L. King Drive, Chicago, Illinois, USA 60616-9985, in Conference Center Room CC22C on Monday, June 8, 2009, from 8:30 am to 4:30 pm (CDT).

For Roundtable participants, your travel arrangements will be handled by A-S-K Associates, as you were notified in an email from Debra Tidwell-Peters.

For Panel members, if you have any questions about travel, please contact Elaina Wise at 410-965-9863.

If you need directions or information from the hotel, please see the hotel website at http://www.mccormickplace.hyatt.com/hyatt/hotels/index.jsp or contact the hotel at (312) 567-1234.

Roundtable Discussion Materials and Assignments

The attached document, "Purpose and Scope of Roundtable," will provide you with detailed information on the research questions that we are investigating, as well as background information on Social Security's disability programs. The latter will provide the context for this discussion.

Before the Roundtable, we ask that you:

1. Read the "Purpose and Scope" document and any pertinent sections of the Appendices,

2. Complete the brief (two pages or less) writing assignment described in the "Purpose and Scope" document, bringing this with you to the Roundtable, and

3. Send a brief (one page or less) biography to Shirleen Roth, SSA staff, at shirleen.roth@ssa.gov.

After the Roundtable, we will ask you to send us your original writing assignment, described in bullet 2 above. In addition, we will ask you to revise your responses (or not) in light of the Roundtable discussion and send that to us as well. Your "pre" and "post" meeting responses will be used to document the outcome of the Roundtable.

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Appendix C – 2

SOCIAL SECURITY ADMINISTRATION

Occupational Information Development Advisory Panel

Mental Cognitive Subcommittee Roundtable

Agenda - Monday, June 8, 2009

8:30 am to 8:45 am   OPENING COMMENTS AND INTRODUCTIONS

> Sylvia E. Karman
> Project Director, Occupational Information System
>   Project, Social Security Administration
> Panel Member, Occupational Information
>   Development Advisory Panel

8:45 am to 9:00 am   OPENING COMMENTS

> David J. Schretlen, Ph.D.
> Panel Member, Occupational Information
>   Development Advisory Panel
> Chair, Mental Cognitive Subcommittee

9:00 am to 10:00 am   DISCUSSION

> Discuss the existing categories of psychological and
> interpersonal functioning on SSA's Mental Residual
> Functional Capacity (MRFC) Assessment form.

10:00 am to 10:15 am   BREAK

10:15 am to 11:30 pm   DISCUSSION

> Discuss categories of psychological and interpersonal
> functioning which, if impaired by disease or injury,
> might impede an individual's ability to work.

11:30 am to 12:45 pm   LUNCH ON YOUR OWN

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12:45 pm to 1:45 pm   DISCUSSION (continued from morning session)

> Discuss categories of psychological and interpersonal functioning which, if impaired by disease or injury, might impede an individual's ability to work.

1:45 pm to 2:00 pm   BREAK

2:00 pm to 3:00 pm   DISCUSSION

> Discuss the empirical studies that identify the psychological or interpersonal deficits that decrease the likelihood that an affected individual would be able to do competitive work.

3:00 pm to 3:15 pm   BREAK

3:15 pm to 4:15 pm   DISCUSSION

> Discuss the best approach(es) for assessing the categories of psychological and interpersonal functioning described earlier in the day.

4:15 pm to 4:30 pm   REVIEW OF DISCUSSION AND ACTION ITEMS

> David J. Schretlen, Ph.D., Chair

4:30 pm   ADJOURN

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Appendix C – 3

Mental Cognitive Roundtable – Purpose and Scope of the Roundtable

Occupational Information Development Advisory Panel

Mental/Cognitive Subcommittee

On June 8, 2009, the Mental/Cognitive Subcommittee (the Subcommittee) of the Occupational Information Development Advisory Panel (the Panel) will be conducting a Roundtable to obtain the opinions and facilitate a discussion by experts in the field of mental and cognitive functional limitations resulting from impairments. The information gathered at this Roundtable will assist the Subcommittee in making recommendations to the Panel on the mental, cognitive, and psychosocial requirements of work.

The task of this subcommittee is to identify the most important dimensions of psychological and interpersonal functioning that are impaired by diseases or medical conditions and, as a result, disable a person from working. The task is not to identify diseases or injuries that cause the functional deficits, nor is it to determine how best to assess or remediate the deficits. Rather, the task is to develop a parsimonious list of essential psychological and interpersonal capacities that, when disrupted by illness or injury, prevent affected individuals from engaging in substantial gainful activity (i.e., competitive work).

We ask each participant to write a brief response to each of the following questions, after considering SSA's current Mental Residual Functional Capacity (MRFC) Assessment, and be prepared to discuss your views of each at the Roundtable. Please try to limit your response to these questions to two pages or less (total).

5. If you think the current MRFC Assessment does not need revision, or that improving it is not feasible, explain why.

6. If you think the existing MRFC Assessment could be improved, then nominate up to 10 dimensions of psychological and interpersonal functioning that, when impaired by disease or injury, impede one's ability to work. [2]

7. Do you know of any well-designed empirical studies that have identified psychological or interpersonal deficits that decrease the likelihood an affected individual will be able to do competitive work?

8. While the goal of this Roundtable is not to devise measures of the person characteristics you nominate in response to Question 2, please comment on

---

[2] For purposes of calibrating the level of specificity that we are looking for, a capacity such as "the ability to reason" is too global and nonspecific. Conversely, a capacity such as "the ability to tolerate occasional brusque remarks from co-workers without losing one's temper" might be too specific. Because our aim is to develop a list of candidate abilities that is comprehensive but parsimonious, we ask that you limit your list to about 10 functional capacities. Based on SSA requirements, these dimensions or factors must be observable and measurable.

what you deem to be the best approach (informant-rating, self-rating, direct observation, testing) to assess the characteristics you enumerated. (These might vary across functions.)

We have attached background materials to assist participants in preparing for the Roundtable and in becoming familiar with the legal framework within which the Social Security Administration (SSA) adjudicates disability claims. We do not intend that participants will become experts on SSA's disability programs or policy but, rather, that participants will understand the context in which we ask these questions and the necessary limitations to the scope of the Roundtable discussion. To some extent, this scope will also be described in this paper.

While we have provided policy statements as context for the discussion, the discussion will focus on the four research questions cited above, not SSA policy.

The Social Security Act (the Act) and the Definition of Disability

The Act defines disability as an inability to do substantial gainful work because of a "medically determinable physical or mental impairment." A physical or mental impairment (impairment) is "an impairment that results from anatomical, physiological, or psychological abnormalities which are demonstrable by medically acceptable clinical and laboratory diagnostic techniques." The Act stipulates that "an individual shall not be considered to be disabled … if alcoholism or drug addiction would … be a contributing factor material to the … determination that the individual is disabled." (See *Appendix A*.)

Appendix A is provided as a reference and is not required reading.

Use of the Dictionary of Occupational Titles in SSA's Disability Programs

The background paper by this title, located in *Appendix B*, provides an overview of the history of SSA's disability programs and SSA's occupational information needs. It explains, in particular, the three criteria that any occupational reference used by SSA (or created by SSA) must meet (*pages 3 – 4*). We ask that all participants read this background paper.

Listed Impairments

Some impairments are so severe that, based on medical considerations only, SSA will determine that an individual with one of these listed impairments is unable to work and therefore disabled, without comparing his or her functioning to the requirements of the world of work. To adjudicate these claims, SSA does not need occupational

information. For your information, we have included, in *Appendix C*, a copy of the listed impairments for mental disorders.

Appendix C is provided as a reference and is not required reading. However, we believe that it would be helpful for all participants to have an understanding of the level of severity reflected in these listed impairments. In the Roundtable discussion, you do not need to consider requirements of work that reflect mental impairments so severe that an individual with that impairment would be considered disabled without considering the world of work.

Residual Functional Capacity

Because of the definition of disability contained in the Act and similar language in the Regulations, SSA considers only the physically or mentally limiting effects of an impairment(s) when assessing the functional capacity that the individual retains. That is, SSA does not consider, for example, the individual's age, body habitus, level of conditioning or deconditioning, personality, aptitudes, basic talents and abilities, and so on, when it assesses an individual's functional capacity. It considers only the limiting effects of the impairment(s). (See 20 CFR 404.1545 in *Appendix D*.)

For your reference, we have attached the form that SSA uses to document its assessment of a claimant's "mental residual functional capacity" (*the last Appendix*) and SSA instructions to adjudicators on how to complete this form (*Appendix E*). As you will see, SSA currently identifies four categories, or domains, of functioning:

- Understanding and Memory,

- Sustained Concentration and Persistence,

- Social Interaction, and

- Adaptation.

Other potential categories of functioning that might be considered include, for example, Applying Information, Interacting with Others, Maintaining Pace, and Managing Oneself.

These categories of functioning are the focus of this Roundtable. As such, we ask that all participants read 20 CFR 404.1545 ("Residual Functional Capacity" only) in *Appendix D* and the form, "Mental Residual Functional Capacity Assessment" (SSA-4734-SUP), in the *last Appendix. Appendix E* is intended to answer any questions you may have about completion of the form, "Mental Residual Functional Assessment," for example, questions about the definition of the term "moderately limited," so that these questions do not distract from the Roundtable discussion. Reading of *Appendix E* is not otherwise required.

Evaluation of the Claimant's Ability to do Past Work or Other Work

When comparing an individual's functional capacity with the jobs that exist in the national economy and the demands of those jobs, SSA currently uses the Dictionary of Occupational Titles as a primary reference of how work is performed in the national economy. In making this comparison, SSA does not consider whether work exists in the immediate area in which the claimant lives, whether a specific job vacancy exists for him or her, or whether the claimant would be hired if he or she applied for work. (See 20 CFR 404.1566(a) in *Appendix D*). In addition, if an individual is able to do work, given his or her functional capacity and vocational profile, SSA does not consider if he or she remains unemployed because of:

- His or her inability to get work;

- Lack of work in his or her local area;

- The hiring practices of employers;

- Technological changes in the industry in which he or she has worked;

- Cyclical economic conditions;

- No job openings for him or her;

- The claimant would not actually be hired to do work he or she could otherwise do; or

- The claimant does not wish to do a particular type of work.

(See 20 CFR 404.1566(c) in *Appendix D.*)

Lastly, the Act and Regulations proscribe consideration of any element other than that mentioned in the citations. As a result, in determining disability, SSA does not consider elements that vocational rehabilitation specialists might consider in developing an intervention for a client. For example, SSA does not consider placement and employability issues, the potential for supported employment, accommodations (other than those actually provided by a previous employer), and increased vocational potential through training.

For "Residual Functional Capacity," we asked that you read 20 CFR 404.1545 ("Residual Functional Capacity" only) in *Appendix D.*   The remaining sections of *Appendix D* are provided as a reference and are not required reading.

EXCERPT FROM THE SOCIAL SECURITY ACT, AS AMENDED,

AND RELATED ENACTMENTS THROUGH JANUARY 1, 2009

Disability Insurance Benefits

Sec. 223. **[**42 U.S.C. 423**]**

Definition of Disability

(d)(1) The term "disability" means … inability to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than 12 months …

 (2) … (A) An individual shall be determined to be under a disability only if his physical or mental impairment or impairments are of such severity that he is not only unable to do his previous work but cannot, considering his age, education, and work experience, engage in any other kind of substantial gainful work which exists in the national economy, regardless of whether such work exists in the immediate area in which he lives, or whether a specific job vacancy exists for him, or whether he would be hired if he applied for work. For purposes of the preceding sentence (with respect to any individual), "work which exists in the national economy" means work which exists in significant numbers either in the region where such individual lives or in several regions of the country.

(B) ***

(C) An individual shall not be considered to be disabled for purposes of this title if alcoholism or drug addiction would (but for this subparagraph) be a contributing factor material to the Commissioner's determination that the individual is disabled.

(3) For purposes of this subsection, a "physical or mental impairment" is an impairment that results from anatomical, physiological, or psychological abnormalities which are demonstrable by medically acceptable clinical and laboratory diagnostic techniques.

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Appendix C – 5

Mental Cognitive Roundtable – Background Paper:

Use of the Dictionary of Occupational Titles

in SSA's Disability Program

Background

How SSA Came to Consider Vocational Factors to Evaluate Disability

When Social Security was established in 1935, the Social Security Board discussed the prospects of creating a national program designed to protect workers in the event of disability. Even early discussions among Social Security Board members in the mid-1930s acknowledged that an assessment of disability would require the consideration of vocational aspects in addition to medical factors. [3] Still, when the Social Security Administration's (SSA's) disability insurance program for cash benefits was enacted in 1956, the law did not specifically require consideration of the factors of age, education, and work experience. The Social Security Act defined disability as the "inability to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or be of long-continued and indefinite duration".[4]

However, it soon became apparent that disability could not always be decided on medical facts alone. In 1957, Arthur E. Hess, Assistant Director for the Division of Disability Operations, met with staff to give them guidance about borderline cases, that is, those cases that could not be decided on medical facts alone. He told them that they need to view the whole person, medically and vocationally.[5] At that time, SSA used vocational factors to rebut or overcome the presumption that the individual is not disabled. By the late 1950s and early 1960s, SSA encountered numerous judicial and Congressional challenges involving cases in which SSA was unable to make a disability decision on medical facts alone and had denied disability on the basis that an individual was able to work despite his impairment.[6] Congress investigated the new disability

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[3] Hess, Arthur E. (1993). *The Disability Program: Its Origin, Our Heritage, Its Future, Our Challenge*. Presented at the Social Security Administration Disability Symposium in Atlanta, GA on January 21. Baltimore: Social Security Administration.

[4] Social Security Advisory Board (October 2003). *The Social Security Definition of Disability*, p. 3.

[5] Hess, A.E. (1957) Staff paper: *Adjudicative Climate in Evaluation of Borderline Cases*. Presented at Bureau of Old-Age and Survivors Insurance, Division of Disability Operations staff meeting on March 29.

[6] See, for example, *Kerner v. Fleming* (2nd Circuit, 1960) and *Rinaldi v. Ribicoff* (2nd Circuit, 1962).

insurance program and its medical-vocational decision process in 1959.[7] A number of the court cases in the early 1960s cases also focused attention on SSA's medical-vocational decisions. These cases involved a concept regarding "substantial evidence," in that once the claimant had proven that he was unable to do his previous work because of his impairment and that he did not have the skills and functioning to do other work, the burden of proof fell to SSA to show that he was "actually—not theoretically—capable of doing some type of work."[8] SSA addressed these challenges through statutory changes and routine consultation of government occupational resources. SSA introduced a legislative proposal to include, among other changes, the consideration of vocational factors. Congress incorporated SSA's proposal and passed the 1967 Amendments which added the consideration of vocational factors to SSA's definition of disability. Since 1967, SSA and others interpret the definition of disability in section 223(d) of the Social Security Act to require SSA to look to the world of work to determine if an adult's impairment(s) is disabling when the individual's claim cannot be decided by medical facts alone. The following language was added to the law in 1967 and remains in effect today:

"An individual shall be determined to be under a disability only if his physical or mental impairment or impairments are of such severity that he is not only unable to do his previous work but cannot, considering his age, education, and work experience, engage in any other kind of substantial gainful activity which exists in the national economy, regardless of whether such work exists in the immediate area in which he lives, or whether he would be hired if he applied for work. For purposes of the preceding sentence (with respect to any individual), 'work which exists in the national economy' means work which exists in significant numbers either in the region where such individual lives or in several regions of the country."[9]

Consequently, SSA has referred to government labor market and occupational data since the court challenges of the early 1960s. SSA needed the data to arrive at and support its decisions regarding whether an individual's impairment is of such severity that it prevents him/her from doing not only his or her past work, but any other work in the U.S. economy.

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[7] See Harrison Subcommittee Report, *Preliminary Report to the Committee on Ways and Means* (U.S. House of Representatives, 1960).

[8] U.S. House of Representatives, Committee on Ways and Means (1974), Subcommittee Staff Report on the Disability Insurance Program. Washington, D.C.: U.S. Government Printing Office, p. 46.

[9] See Social Security Act, Section 223(d)(2)(A)

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What is the Dictionary of Occupational Titles?

Over the years, SSA has come to rely on the Department of Labor's (DOL's) Dictionary of Occupational Titles (DOT) as its main occupational resource to evaluate disability claims when the decision cannot be made based on medical facts alone. The DOT is an occupational classification system of jobs in the U.S. economy. The DOL first developed the classification in 1939, and it produced several updates throughout the decades. Following its last major revision in 1977, and minor revisions in 1991, the DOT contains over 12,000 occupations. Arranged by industry, the DOT occupation descriptions reflect the main tasks, strength level requirements, and skill level of the occupation. In the 1970s, SSA contracted with DOL to produce a companion volume to the DOT entitled the Selected Characteristics of Occupations (SCO) that provides measures for additional physical demands of work for DOT occupations, such as climbing, balancing, reaching, handling, special senses requirements (visual acuity, hearing, etc.), and environmental requirements (noise levels, exposure to cold, etc.). The DOL last updated the SCO in 1993.

The DOT and SCO provide measurable ratings for physical demands of work for each of the 12,000+ occupations. These ratings have been crucial to SSA's evaluation of how much an individual can do despite his impairment (residual functional capacity or RFC) and whether this level of functioning enables the individual to do his past work or any other work.

What Compels SSA to Use the Dictionary of Occupational Titles?

Any occupational resource that SSA uses must meet at least three criteria. To date, the DOT is the only occupational resource produced publicly or privately that accomplishes this. The three criteria are as follows:

1. Must Reflect Work Requirements

The need for an occupational resource to enable SSA to compare human function with work requirements is by far the largest hurdle SSA must overcome regarding its reliance on the DOT. This criterion involves the need to **assess an individual's RFC in terms of the ability to work.** The need for demands of work that can be walked back to an individual's medical evidence to assess functioning is crucial because work is the yardstick used in the statutory definition of disability. Despite active research on the

subject,[10] SSA has not been successful in finding an effective alternative that is also operationally feasible to an RFC assessment and comparison with job demands. The Social Security Act states…

That **disability is defined as the "inability to engage in substantial gainful activity by reason of** a medically determinable physical or mental **impairment**…" (Section 223(d)(1)(A).

That SSA shall find **an individual to be disabled only if his/her impairment(s) is so severe that he/she "is not only unable to do…previous work, but cannot considering age, education, and work experience, engage in any other substantial gainful activit**y" (Section 223(d)(2)(A)).

It does not matter "whether such work exists in the immediate area in which [the claimant] lives, **whether a specific job vacancy exists…or whether [the claimant] would be hired if** [he/she] applied for work" (Section 223(d)(2)(A)).

Therefore, an occupational resource must enable SSA to evaluate the claimant's ability to *perform* work (residual functional capacity) rather than to *obtain* work (employability). As such, the resource must reflect information that is aggregated, described, and rated in a manner that enables SSA adjudicators to compare an individual's RFC to work requirements to determine the individual's ability to perform work despite a severe impairment(s).

So far, the DOT is the only resource of occupations existing nationwide that provides the measures needed to assess function in terms of ability to work.[11]

2. Must Reflect National Existence and Incidence of Work

The Act states…

That SSA must consider the claimant's age, education, and **work experience** to determine if he/she can "engage in **any other substantial gainful activity**" that "**exists in the national economy.**"(Section 223(d)(2)(A)).

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[10] Institute of Medicine (1999). *Measuring Functional Capacity and Work Requirements: Summary of a Workshop*;
American Institutes for Research (1999). *Synthesis, Integration, and Completion of Research into a New Disability Decision Making Process and Development of Initial Prototype of that Process*; Disability Research Institute (2002). *Job Demands Project*.
[11] While at least one private sector update of DOT data exists, it only updates DOT data and does not represent a new or different classification system.

That "'**work which exists in the national economy' means work which exists in significant numbers** either in the region where the individual lives or in several other regions of the country." (Section 223(d)(2)(A)).

Therefore, any occupational resource that SSA uses must reflect work that actually exists in "significant numbers" throughout the nation (or throughout at least several regions of the nation). To meet this requirement of the law, SSA regulations take administrative notice of the reliable job information from various government sources, including the DOT.[12] More information about SSA vocational rules is discussed below.

3. Must Meet the Burden of Proof in a Legally Defensible Way

Section 223(d)(2)(A) was added to the Social Security Act in 1967 to address judicial[13] and legislative[14] concerns regarding SSA's burden of proof and consistency in making disability determinations or decisions in cases for which both medical and non-medical factors must be considered. This section of the Act has long been construed to mean that SSA has a burden of proof regarding its determination or decision that a claimant has the ability to work despite a severe medical impairment. SSA must show "what the claimant can do"[15] and that the claimant is "actually—not theoretically—capable of doing some kind of work."[16]

Therefore, any alternative occupational resource SSA uses must be legally defensible for SSA to meet its burden of proof.[17] This means that the alternative resource should be validated by an objective third party for use in SSA's disability process. While the DOT is imperfect, SSA's use of it has been upheld in the Supreme Court.[18] It has face validity that has been tested judicially.

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[12] 20 CFR 404.1566(d) and 416.966(d)

[13] See *Kerner v. Fleming* (2nd Circuit, 1960) and *Rinaldi v. Ribicoff* (2nd Circuit, 1962).

[14] See Harrison Subcommittee Report, *Preliminary Report to the Committee on Ways and Means* (U.S. House of Representatives, 1960), pp. 17-20.

[15] SSA's need to show "what the claimant can do" is one of the main points of the Kerner Doctrine that formed the basis for SSA's vocational policy in the early 1960's and led to the 1967 Amendments' addition of vocational factors to the Statute. See *Kerner v. Fleming* (2nd Circuit, 1960).

[16] Committee on the Ways and Means, *Staff Report on the Disability Insurance Program* (U.S. House of Representatives, 1974), p. 45.

[17] Courts require expert testimony (and the data and methods used) to meet specific standards. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), and *Kuomo Tire Co. v. Carmichael*, ___ U.S. ___, No. 97-1709, Slip op. at 11, 67 USLW 4179, 4183 (March 23, 1999).

[18] See *Taylor v. Schweiker* (SSR 82-47c) and *Campbell vs. Heckler* (SSR 83-46c).

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Use of the Dictionary of Occupational Titles for SSA Disability Evaluation

As outlined above, the Social Security Act defines disability as follows:

"inability to engage in any substantial gainful activity by reason of a medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than 12 months..[a]n individual shall be determined to be under a disability only if his physical or mental impairment or impairments are of such severity that he is not only unable to do his previous work but cannot, considering his age, education, and work experience, engage in any other kind of substantial gainful activity which exists in the national economy[19]

An important point is that SSA's definition of disability embodies a medical-vocational concept. It requires a medical cause (i.e., a "medically determinable physical or mental impairment") and a directly related vocational consequence (i.e., the "inability to engage in any substantial gainful activity"). So, SSA's disability evaluation process relies, fundamentally, on a comparison between what a person can do and what jobs require.

Sequential Evaluation Process

To decide whether an individual is disabled under this definition, SSA has established an evaluation process that all adjudicators at all levels must follow.[20] We consider the following questions, sequentially, and stop as soon we reach a decision:

Step 1:   Is the individual currently working and performing "substantial gainful activity" (SGA)? If yes, the person is not disabled. Otherwise, go to step 2.

Step 2:   Does the individual have an impairment that is severe and meets duration requirements? If no, the person is not disabled. Otherwise, go to step 3.

Step 3:   Does the individual's impairment(s) meet (or equal) the criteria in the Listing of Impairments? If yes, the person is disabled. Otherwise, go to step 4.

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[19] §223(d)(1)(A) and 223(d)(2)(A) of the Social Security Act. The Statute provides a different definition of disability for children under the age of 18 applying for benefits under Title XVI.
[20] See 20 CFR 404.1520 and 416.920. If an individual already qualifies for benefits and SSA must determine whether his/her disability continues, SSA uses a different sequential evaluation process that includes a medical improvement review standard. See §§404.1594 and 416.994 of our regulations.

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Step 4:   Is the individual still able to perform past work? If yes, the person is not disabled. Otherwise, go to step 5.

Step 5:   Is the individual able to do other work, given his/her residual functional capacity, age, education, and work experience? If yes, the person is not disabled. If no, he/she is disabled.

The First Three Steps

While the first three steps of the five-step sequential evaluation process do not require adjudicators to consult an occupational reference, each of the three steps has a connection to the world of work. At step 1, we determine whether the individual is working (doing "substantial gainful activity"). At step 2, we consider the medical severity and duration of the individual's impairment(s). Regarding severity, we determine whether the impairment(s) prevents the individual from doing basic work activities. SSA regulations define these activities as "abilities and aptitudes necessary to do most jobs," and the regulations provide examples:

Physical functions such as walking, standing, sitting, lifting, carrying, reaching, handling, etc.

Capacities for seeing, hearing, and speaking.

Understanding, carrying out, and remembering simple instructions.

Use of judgment.

Responding appropriately to supervision, co-workers, etc.

Dealing with changes in a routine work setting.[21]

At step 3, we consider whether the individual's impairment(s) meets or equals the criteria cited in the Listing of Impairments.[22] SSA does not consider the vocational factors of age, education, and work experience at this step. The Listing of Impairments describes impairments that SSA considers to be severe enough to prevent an individual from doing any gainful activity, a stricter standard than "substantial gainful activity" that is applied at steps 1, 4 and 5.

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[21] See §§ 404.1520 and 416.920.
[22] See §§ 404.1520 (d) and 416.920(d). For the purpose of the Listing of Impairments, see §§ 404.1525(a) and 416.925(a). Listing of Impairments can be found in Appendix 1, Part 404, Subpart P.

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<u>Assessment of Residual Functional Capacity</u>

If we cannot determine at step 3 whether an individual is disabled, we must proceed to step 4. But before we go to step 4, we must assess the individual's RFC. The RFC is the most an individual can do despite the limitations of his or her impairment(s). We assess RFC based on all relevant medical and other evidence that is in the individual's case record.

Assessment of human function is one side of the disability evaluation equation, and the assessment of what is required to do work forms the other side of the equation. The DOT and the SCO classify what is physically required, including ratings and measures, for over 12,000 occupations nationwide. To be able to make use of the DOT's descriptions of work as proxies for the ability to function, SSA's RFC assessment process is based on DOT/SCO definitions, ratings, and measures. As such, the form SSA uses to assess physical RFC (SSA-4734-BK) describes a person's ability to do work-related physical activity **in terms of the rating categories cited in the DOT and SCO**, e.g., physical demands related to strength (walking, standing, lifting, carrying, etc.) or other physical functions, including postural and manipulative functions (stooping, crouching, reaching, handling, etc.).[23]

Connections between the DOT definitions, ratings, and measures of physical demands of work and SSA's RFC are evident in how SSA assesses physical function, such as strength. For example, the DOT classifies work into five strength levels, with "sedentary" being the lowest and "very heavy" being the highest. SSA's physical RFC enables SSA adjudicators and medical consultants to rate the most the individual can do in terms of strength (e.g., lifting, carrying, standing, walking) and other physical functions so that the individual's RFC can be compared to his or her past work or other work as defined in the DOT. Figure 1 on the next page displays an example of case information and how the RFC and DOT definitions mesh to enable an adjudicator to evaluate the individual's RFC, and ability to do past or other work.

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[23] See §§ 404.1545 and 416.945. For individuals with mental disorders, we also rate their ability to meet other job demands that are not captured in the DOT, such as the ability to understand, remember and carry out instructions, and the ability to respond appropriately to supervision, co-workers, and work pressures in a work setting. See §§ 404.1545(c) and 416.945(c).

Some Information from Evidence In Joe Smith's File
Herniated disc at L4 & L5; pain radiating down both legs;
Insufficient findings to meet or equal listing 1.04;
Unable to stand/walk more than 2 hours daily without
needing bed rest to recuperate; cannot lift more than 10 lbs.
Age: 55; Education: 11th grade

Portion of Joe Smith's RFC Assessment

1. Stand and/or walk (with normal breaks) total of:
   ☐ Less than 2 hours in an 8-hour workday
   ☒ At least 2 hours in an 8-hour workday
   ☐ About 6 hours in an 8-hour workday

2. **Occasionally** lift and/or carry:
   ☐ Less than 10 pounds
   ☒ 10 pounds
   ☐ 20 pounds
   ☐ 50 pounds
   ☐ 100 pounds

DOT Frequency Definitions

Code	Frequency	Definition
N	Not Present	Activity or condition does not exist.
O	Occasionally	Activity or condition exists up to 1/3 of the time.
F	Frequently	Activity or condition exists from 1/3 to 2/3 of the time.
C	Constantly	Activity or condition exists 2/3 or more of the time.

DOT Strength Ratings and Measures

Rating	Occasionally	Frequently	Constantly
Sedentary	*—10	*	N/A
Light	*—20	*—10	*
Medium	20—50	10—25	*—10
Heavy	50—100	25—50	10—20
Very Heavy	100+	50+	20+

* = negligible weight; N/A = Not Applicable

DOT Strength Definition: Sedentary
Sedentary Work involves exerting up to 10 pounds of force
occasionally or a negligible amount of force frequently to
lift, carry, push, pull…involves sitting most of the time,
but may involve walking or standing for brief periods of
time. Jobs may be defined as Sedentary when walking and
standing are required only occasionally.

DOT Description: Joe Smith's Job Done Nationally
821.684-018 Wirer, Street Light
Connects electric street lights to power circuit: Pulls
wires leading from underground conduit, and wires
leading from lamppost light socket, outside opening
in lamppost base. **Skill Level 3:** Semi-skilled work
Strength: Light Work

Table No. 1—Residual Functional Capacity: Maximum Sustained Work Capability Limited to Sedentary Work as a Result of Severe Medically Determinable Impairment(s)

| Rule	Age	Education	Previous work experience	Decision
201.01	Advanced age	Limited or less	Unskilled or none	Disabled
201.02	......do	......do	Skilled or semiskilled—skills not transferable	Do.

Figure 1: Illustration of How DOT Definitions are Reflected in Evaluation of RFC and Steps 4 and 5.

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Figure 1 shows how evidence from the individual's (Joe Smith's) case record is used to evaluate his RFC. Also, Figure 1 illustrates that the RFC questions are based on definitions, measures, and ratings from the DOT. Figure 1 indicates that Joe Smith has an RFC that limits him to work involving the lowest strength level, sedentary work. That means that Joe cannot do his past work as a Street Light Wirer, either as he did it or as it is done in the economy generally, because the limitations of his back impairment prevent him from doing key tasks. Also, we see that the job requires a higher strength level (light) than his RFC permits. Furthermore, given his age (55), education (11th grade), work experience (semi-skilled and cannot be transferred to other work), and RFC (sedentary), we would find he is disabled as directed by rule 201.02. Figure 1 features a portion of Table 1 of the Grid, which includes rules for cases in which the individual in limited to sedentary work, and the relevant rule and vocational factors are circled.

Step 4

At step 4, we compare the individual's RFC to the demands of his or her past work. If the individual cannot do his/her past work as the individual describes it, then we must determine if he or she has the RFC to do his or her past work as it is done generally in the economy. When we do this, we often rely on the DOT/SCO for information about the job demands that are relevant to the individual's RFC.

Step 5

If the individual cannot do his/her past work, we move on to step 5. At this point, we use the same RFC assessment to decide whether there are other jobs the individual can do, considering his/her age, education and work experience. To make this judgment, we use the DOT and SCO for information about other jobs that may be within the person's abilities and to help assess the potential vocational advantages/disadvantages of the person's education and work experience (i.e., acquired skills). We use the DOT to cite jobs in certain situations when we determine that an individual can do other work. SSA's regulations also permit the use of vocational experts or other specialists,[24] and these experts frequently rely on occupational resources that are also tied to the DOT.

Using the Grid at Step 5

SSA's regulations take administrative notice of "reliable job information available from various governmental and other publications," including the DOT.[25] At step 5, SSA

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[24] See 20 CFR 404.1566(e) and 416.966(e)
[25] See 20 CFR 404.1566(d) and 416.966(d)

adjudicators must consult a set of tables in Appendix 2 of Part 404, Subpart P, known as the vocational rules or the Grid, to arrive at a decision. The Grid combines certain medical-vocational fact patterns into "rules" that direct a decisional outcome (i.e., either "disabled" or "not disabled"). The four basic factors that are combined in the Grid involve strength level (based on RFC assessment and DOT ratings), age, education, and work experience (no work, unskilled, semi-skilled, or skilled). The existence of jobs in the national economy is reflected in the "Decisions" shown in the vocational rules.[26]

Below are excerpts of the Grid displaying a few rules in each of the tables. Note that each table reflects a distinct strength level: sedentary, light, medium:

Table No. 1—Residual Functional Capacity: Maximum Sustained Work Capability Limited to Sedentary Work as a Result of Severe Medically Determinable Impairment(s)

Rule	Age	Education	Previous work experience	Decision
201.01	Advanced age	Limited or less	Unskilled or none	Disabled
201.02	......do	......do	Skilled or semiskilled—skills not transferable	Do.

*Table 1 contains 29 rules: 201.01-201.29

Table No. 2—Residual Functional Capacity: Maximum Sustained Work Capability Limited to Light Work as a Result of Severe Medically Determinable Impairment(s)

Rule	Age	Education	Previous work experience	Decision
202.01	Advanced age	Limited or less	Unskilled or none	Disabled.
202.05	......do	High school graduate or more—provides for direct entry into skilled work[2]	......do	Not disabled.

*Table 2 contains 22 rules: 202.01 through 202.22.

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[26] See Part 404, Subpart P, Appendix 2, Section 200.00(b).

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Table No. 3—Residual Functional Capacity: Maximum Sustained Work Capability Limited to Medium Work as a Result of Severe Medically Determinable Impairment(s)

Rule	Age	Education	Previous work experience	Decision
203.01	Closely approaching retirement age	Marginal or none	Unskilled or none	Disabled.
203.03	......do	Limited	Unskilled	Not disabled.
203.05	......do	......do	Skilled or semiskilled— skills transferable	Do.

*Table 3 contains 31 rules: 203.01 through 203.31

Section 204.00 of Appendix 2, Part 404, Subpart P, represents work that is heavy or very heavy. There is no table for section 204.00, and it is most often used when the individual has a severe impairment(s) that affects mental or cognitive functions or other non-strength physical functions, but there are no strength limitations. Therefore, adjudicators use this rule when evaluating an impairment that does not preclude heavy work (or very heavy work), considering also age, education, and skill level of prior work experience.

All disability decisions made at step 5 are based on the Grid. If the facts of the case coincide directly with a Grid rule, we use the rule to direct the decision. However, if the facts of the case do not coincide exactly with the factors of a particular rule, we use the rule as guidance for decision-making, that is, we use the rule as a "framework." For example, if the individual has both strength and non-strength limitations, the adjudicator must select the Grid rule that comes closest to facts of the case and use this rule as a framework. This is because the Grid reflects strength-related ratings, and it does not reflect non-strength physical limitations or mental/cognitive limitations. SSA regulations and rulings provide adjudicators guidance on how to assess limitations that are not reflected in the Grid to arrive at "framework" decisions.[27]

The Grid matters for two main reasons:

- It takes "administrative notice" of the total number of unskilled jobs in the nation at three physical strength levels as classified in the DOT. This enables SSA to

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[27] See §§ 404.1545(b) and (c), as well as 416.945(b) and (c). See also Part 404, Subpart P, Appendix 2, §§ 200.00(a)-(e). See also SSR 83-12, SSR 83-14, SSR 85-15, SSR 96-4p, SSR 96-8p, and SSR 96-9p.

meet its burden of proof at step 5 when an adjudicator finds that an individual is capable of doing other work, considering the individual's RFC, age, education, and work experience (skill level).

- It provides consistent "rulemaking" or application of case fact patterns regarding RFC and vocational factors to ensure that SSA's decisions are uniform, not arbitrary and capricious.[28]

In summary, the five steps of sequential evaluation described above are derived from the definition of disability in the Social Security Act. This brief overview describes the importance of occupational information to SSA's disability programs. For more than 50 years, SSA has been considering occupational information in disability determinations after reaching the conclusion that disability eligibility could not always be decided on medical factors alone. Over the years, SSA has come to rely on the Department of Labor's DOT as the main source of this occupational information. Although the DOT was not designed specifically for SSA's disability programs, it comes closer to meeting SSA's legal and programmatic requirements than any other existing occupational information resource. Any occupational information system designed for SSA's disability programs would need to replace the DOT, and meet three requirements: 1) It must reflect the requirements of work, 2) It must reflect the national existence and incidence of work, and 3) It must meet SSA's "Burden of Proof" in a legally defensible way.

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[28] See SSR 83-46c, *Heckler v. Campbell.*

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Appendix C – 6

Mental Cognitive Roundtable – Listed Impairments for Mental Disorders

Disability Evaluation under Social Security

(Blue Book- September 2008)

12.00 Mental Disorders

A. *Introduction*: The evaluation of disability on the basis of mental disorders requires documentation of a medically determinable impairment(s), consideration of the degree of limitation such impairment(s) may impose on the individual's ability to work, and consideration of whether these limitations have lasted or are expected to last for a continuous period of at least 12 months. The listings for mental disorders are arranged in nine diagnostic categories: Organic mental disorders (12.02); schizophrenic, paranoid and other psychotic disorders (12.03); affective disorders (12.04); mental retardation (12.05); anxiety-related disorders (12.06); somatoform disorders (12.07); personality disorders (12.08); substance addiction disorders (12.09); and autistic disorder and other pervasive developmental disorders (12.10). Each listing, except 12.05 and 12.09, consists of a statement describing the disorder(s) addressed by the listing, paragraph A criteria (a set of medical findings), and paragraph B criteria (a set of impairment-related functional limitations). There are additional functional criteria (paragraph C criteria) in 12.02, 12.03, 12.04, and 12.06, discussed herein. We will assess the paragraph B criteria before we apply the paragraph C criteria. We will assess the paragraph C criteria only if we find that the paragraph B criteria are not satisfied. We will find that you have a listed impairment if the diagnostic description in the introductory paragraph and the criteria of both paragraphs A and B (or A and C, when appropriate) of the listed impairment are satisfied.

The criteria in paragraph A substantiate medically the presence of a particular mental disorder. Specific symptoms, signs, and laboratory findings in the paragraph A criteria of any of the listings in this section cannot be considered in isolation from the description of the mental disorder contained at the beginning of each listing category. Impairments should be analyzed or reviewed under the mental category(ies) indicated by the medical findings. However, we may also consider mental impairments under physical body system listings, using the concept of medical equivalence, when the mental disorder results in physical dysfunction. (See, for instance, 12.00D12 regarding the evaluation of anorexia nervosa and other eating disorders.)

The criteria in paragraphs B and C describe impairment-related functional limitations that are incompatible with the ability to do any gainful activity. The functional limitations in paragraphs B and C must be the result of the mental disorder described in the diagnostic description, that is manifested by the medical findings in paragraph A.

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The structure of the listing for mental retardation (12.05) is different from that of the other mental disorders listings. Listing 12.05 contains an introductory paragraph with the diagnostic description for mental retardation. It also contains four sets of criteria (paragraphs A through D). If your impairment satisfies the diagnostic description in the introductory paragraph and any one of the four sets of criteria, we will find that your impairment meets the listing. Paragraphs A and B contain criteria that describe disorders we consider severe enough to prevent your doing any gainful activity without any additional assessment of functional limitations. For paragraph C, we will assess the degree of functional limitation the additional impairment(s) imposes to determine if it significantly limits your physical or mental ability to do basic work activities, i.e., is a "severe" impairment(s), as defined in §§ 404.1520(c) and 416.920(c). If the additional impairment(s) does not cause limitations that are "severe" as defined in §§ 404.1520(c) and 416.920(c), we will not find that the additional impairment(s) imposes "an additional and significant work-related limitation of function," even if you are unable to do your past work because of the unique features of that work. Paragraph D contains the same functional criteria that are required under paragraph B of the other mental disorders listings.

The structure of the listing for substance addiction disorders, 12.09, is also different from that for the other mental disorder listings. Listing 12.09 is structured as a reference listing; that is, it will only serve to indicate which of the other listed mental or physical impairments must be used to evaluate the behavioral or physical changes resulting from regular use of addictive substances.

The listings are so constructed that an individual with an impairment(s) that meets or is equivalent in severity to the criteria of a listing could not reasonably be expected to do any gainful activity. These listings are only examples of common mental disorders that are considered severe enough to prevent an individual from doing any gainful activity. When you have a medically determinable severe mental impairment that does not satisfy the diagnostic description or the requirements of the paragraph A criteria of the relevant listing, the assessment of the paragraph B and C criteria is critical to a determination of equivalence.

If your impairment(s) does not meet or is not equivalent in severity to the criteria of any listing, you may or may not have the residual functional capacity (RFC) to do substantial gainful activity (SGA). The determination of mental RFC is crucial to the evaluation of your capacity to do SGA when your impairment(s) does not meet or equal the criteria of the listings, but is nevertheless severe.

RFC is a multidimensional description of the work-related abilities you retain in spite of your medical impairments. An assessment of your RFC complements the functional evaluation necessary for paragraphs B and C of the listings by requiring consideration of an expanded list of work-related capacities that may be affected by mental disorders when your impairment(s) is severe but neither meets nor is equivalent in severity to a listed mental disorder.

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B. *Need for medical evidence*: We must establish the existence of a medically determinable impairment(s) of the required duration by medical evidence consisting of symptoms, signs, and laboratory findings (including psychological test findings). Symptoms are your own description of your physical or mental impairment(s). Psychiatric signs are medically demonstrable phenomena that indicate specific psychological abnormalities, e.g., abnormalities of behavior, mood, thought, memory, orientation, development, or perception, as described by an appropriate medical source. Symptoms and signs generally cluster together to constitute recognizable mental disorders described in the listings. The symptoms and signs may be intermittent or continuous depending on the nature of the disorder.

C. *Assessment of severity*: We measure severity according to the functional limitations imposed by your medically determinable mental impairment(s). We assess functional limitations using the four criteria in paragraph B of the listings: Activities of daily living; social functioning; concentration, persistence, or pace; and episodes of decompensation. Where we use "marked" as a standard for measuring the degree of limitation, it means more than moderate but less than extreme. A marked limitation may arise when several activities or functions are impaired, or even when only one is impaired, as long as the degree of limitation is such as to interfere seriously with your ability to function independently, appropriately, effectively, and on a sustained basis. See §§ 404.1520a and 416.920a.

1. *Activities of daily living* include adaptive activities such as cleaning, shopping, cooking, taking public transportation, paying bills, maintaining a residence, caring appropriately for your grooming and hygiene, using telephones and directories, and using a post office. In the context of your overall situation, we assess the quality of these activities by their independence, appropriateness, effectiveness, and sustainability. We will determine the extent to which you are capable of initiating and participating in activities independent of supervision or direction.

We do not define "marked" by a specific number of activities of daily living in which functioning is impaired, but by the nature and overall degree of interference with function. For example, if you do a wide range of activities of daily living, we may still find that you have a marked limitation in your daily activities if you have serious difficulty performing them without direct supervision, or in a suitable manner, or on a consistent, useful, routine basis, or without undue interruptions or distractions.

2. *Social functioning* refers to your capacity to interact independently, appropriately, effectively, and on a sustained basis with other individuals. Social functioning includes the ability to get along with others, such as family members, friends, neighbors, grocery clerks, landlords, or bus drivers. You may demonstrate impaired social functioning by, for example, a history of altercations, evictions, firings, fear of strangers, avoidance of interpersonal relationships, or social isolation. You may exhibit strength in social functioning by such things as your ability to initiate social contacts with others, communicate clearly with others, or interact and actively participate in group activities. We also need to consider cooperative behaviors, consideration for others, awareness of

others' feelings, and social maturity. Social functioning in work situations may involve interactions with the public, responding appropriately to persons in authority (e.g., supervisors), or cooperative behaviors involving coworkers.

We do not define "marked" by a specific number of different behaviors in which social functioning is impaired, but by the nature and overall degree of interference with function. For example, if you are highly antagonistic, uncooperative, or hostile but are tolerated by local storekeepers, we may nevertheless find that you have a marked limitation in social functioning because that behavior is not acceptable in other social contexts.

3. *Concentration, persistence or pace* refers to the ability to sustain focused attention and concentration sufficiently long to permit the timely and appropriate completion of tasks commonly found in work settings. Limitations in concentration, persistence, or pace are best observed in work settings, but may also be reflected by limitations in other settings. In addition, major limitations in this area can often be assessed through clinical examination or psychological testing. Wherever possible, however, a mental status examination or psychological test data should be supplemented by other available evidence.

On mental status examinations, concentration is assessed by tasks such as having you subtract serial sevens or serial threes from 100. In psychological tests of intelligence or memory, concentration is assessed through tasks requiring short-term memory or through tasks that must be completed within established time limits.

In work evaluations, concentration, persistence, or pace is assessed by testing your ability to sustain work using appropriate production standards, in either real or simulated work tasks (e.g., filing index cards, locating telephone numbers, or disassembling and reassembling objects). Strengths and weaknesses in areas of concentration and attention can be discussed in terms of your ability to work at a consistent pace for acceptable periods of time and until a task is completed, and your ability to repeat sequences of action to achieve a goal or an objective.

We must exercise great care in reaching conclusions about your ability or inability to complete tasks under the stresses of employment during a normal workday or workweek based on a time-limited mental status examination or psychological testing by a clinician, or based on your ability to complete tasks in other settings that are less demanding, highly structured, or more supportive. We must assess your ability to complete tasks by evaluating all the evidence, with an emphasis on how independently, appropriately, and effectively you are able to complete tasks on a sustained basis.

We do not define "marked" by a specific number of tasks that you are unable to complete, but by the nature and overall degree of interference with function. You may be able to sustain attention and persist at simple tasks but may still have difficulty with complicated tasks. Deficiencies that are apparent only in performing complex procedures or tasks would not satisfy the intent of this paragraph B criterion. However, if you can complete many simple tasks, we may nevertheless find that you have a marked

limitation in concentration, persistence, or pace if you cannot complete these tasks without extra supervision or assistance, or in accordance with quality and accuracy standards, or at a consistent pace without an unreasonable number and length of rest periods, or without undue interruptions or distractions.

4. *Episodes of decompensation* are exacerbations or temporary increases in symptoms or signs accompanied by a loss of adaptive functioning, as manifested by difficulties in performing activities of daily living, maintaining social relationships, or maintaining concentration, persistence, or pace. Episodes of decompensation may be demonstrated by an exacerbation in symptoms or signs that would ordinarily require increased treatment or a less stressful situation (or a combination of the two). Episodes of decompensation may be inferred from medical records showing significant alteration in medication; or documentation of the need for a more structured psychological support system (e.g., hospitalizations, placement in a halfway house, or a highly structured and directing household); or other relevant information in the record about the existence, severity, and duration of the episode.

The term *repeated episodes of decompensation, each of extended duration* in these listings means three episodes within 1 year, or an average of once every 4 months, each lasting for at least 2 weeks. If you have experienced more frequent episodes of shorter duration or less frequent episodes of longer duration, we must use judgment to determine if the duration and functional effects of the episodes are of equal severity and may be used to substitute for the listed finding in a determination of equivalence.

D. *Documentation*: The evaluation of disability on the basis of a mental disorder requires sufficient evidence to (1) establish the presence of a medically determinable mental impairment(s), (2) assess the degree of functional limitation the impairment(s) imposes, and (3) project the probable duration of the impairment(s). See §§ 404.1512 and 416.912 for a discussion of what we mean by "evidence" and how we will assist you in developing your claim. Medical evidence must be sufficiently complete and detailed as to symptoms, signs, and laboratory findings to permit an independent determination. In addition, we will consider information from other sources when we determine how the established impairment(s) affects your ability to function. We will consider all relevant evidence in your case record.

1. *Sources of evidence.*

a. *Medical evidence.* There must be evidence from an acceptable medical source showing that you have a medically determinable mental impairment. See §§ 404.1508, 404.1513, 416.908, and 416.913. We will make every reasonable effort to obtain all relevant and available medical evidence about your mental impairment(s), including its history, and any records of mental status examination, psychological testing, and hospitalizations and treatment. Whenever possible, and appropriate, medical source evidence should reflect the medical source's considerations of information from you and other concerned persons who are aware of your activities of daily living; social functioning; concentration, persistence, or pace; or episodes of decompensation. Also,

in accordance with standard clinical practice, any medical source assessment of your mental functioning should take into account any sensory, motor, or communication abnormalities, as well as your cultural and ethnic background.

b. *Information from the individual.* Individuals with mental impairments can often provide accurate descriptions of their limitations. The presence of a mental impairment does not automatically rule you out as a reliable source of information about your own functional limitations. When you have a mental impairment and are willing and able to describe your limitations, we will try to obtain such information from you. However, you may not be willing or able to fully or accurately describe the limitations resulting from your impairment(s). Thus, we will carefully examine the statements you provide to determine if they are consistent with the information about, or general pattern of, the impairment as described by the medical and other evidence, and to determine whether additional information about your functioning is needed from you or other sources.

c. *Other information.* Other professional health care providers (e.g., psychiatric nurse, psychiatric social worker) can normally provide valuable functional information, which should be obtained when available and needed. If necessary, information should also be obtained from nonmedical sources, such as family members and others who know you, to supplement the record of your functioning in order to establish the consistency of the medical evidence and longitudinality of impairment severity, as discussed in 12.00D2. Other sources of information about functioning include, but are not limited to, records from work evaluations and rehabilitation progress notes.

2. *Need for longitudinal evidence.* Your level of functioning may vary considerably over time. The level of your functioning at a specific time may seem relatively adequate or, conversely, rather poor. Proper evaluation of your impairment(s) must take into account any variations in the level of your functioning in arriving at a determination of severity over time. Thus, it is vital to obtain evidence from relevant sources over a sufficiently long period prior to the date of adjudication to establish your impairment severity.

3. *Work attempts.* You may have attempted to work or may actually have worked during the period of time pertinent to the determination of disability. This may have been an independent attempt at work or it may have been in conjunction with a community mental health or sheltered program, and it may have been of either short or long duration. Information concerning your behavior during any attempt to work and the circumstances surrounding termination of your work effort are particularly useful in determining your ability or inability to function in a work setting. In addition, we should also examine the degree to which you require special supports (such as those provided through supported employment or transitional employment programs) in order to work.

4. *Mental status examination.* The mental status examination is performed in the course of a clinical interview and is often partly assessed while the history is being obtained. A comprehensive mental status examination generally includes a narrative description of your appearance, behavior, and speech; thought process (e.g., loosening of associations); thought content (e.g., delusions); perceptual abnormalities (e.g.,

hallucinations); mood and affect (e.g., depression, mania); sensorium and cognition (e.g., orientation, recall, memory, concentration, fund of information, and intelligence); and judgment and insight. The individual case facts determine the specific areas of mental status that need to be emphasized during the examination.

5. *Psychological testing.*

a. Reference to a "standardized psychological test" indicates the use of a psychological test measure that has appropriate validity, reliability, and norms, and is individually administered by a qualified specialist. By "qualified," we mean the specialist must be currently licensed or certified in the State to administer, score, and interpret psychological tests and have the training and experience to perform the test.

b. Psychological tests are best considered as standardized sets of tasks or questions designed to elicit a range of responses. Psychological testing can also provide other useful data, such as the specialist's observations regarding your ability to sustain attention and concentration, relate appropriately to the specialist, and perform tasks independently (without prompts or reminders). Therefore, a report of test results should include both the objective data and any clinical observations.

c. The salient characteristics of a good test are: (1) Validity, i.e., the test measures what it is supposed to measure; (2) reliability, i.e., the consistency of results obtained over time with the same test and the same individual; (3) appropriate normative data, i.e., individual test scores can be compared to test data from other individuals or groups of a similar nature, representative of that population; and (4) wide scope of measurement, i.e., the test should measure a broad range of facets/aspects of the domain being assessed. In considering the validity of a test result, we should note and resolve any discrepancies between formal test results and the individual's customary behavior and daily activities.

6. *Intelligence tests.*

a. The results of standardized intelligence tests may provide data that help verify the presence of mental retardation or organic mental disorder, as well as the extent of any compromise in cognitive functioning. However, since the results of intelligence tests are only part of the overall assessment, the narrative report that accompanies the test results should comment on whether the IQ scores are considered valid and consistent with the developmental history and the degree of functional limitation.

b. Standardized intelligence test results are essential to the adjudication of all cases of mental retardation that are not covered under the provisions of 12.05A. Listing 12.05A may be the basis for adjudicating cases where the results of standardized intelligence tests are unavailable, e.g., where your condition precludes formal standardized testing.

c. Due to such factors as differing means and standard deviations, identical IQ scores obtained from different tests do not always reflect a similar degree of intellectual functioning. The IQ scores in 12.05 reflect values from tests of general intelligence that

have a mean of 100 and a standard deviation of 15; e.g., the Wechsler series. IQs obtained from standardized tests that deviate from a mean of 100 and a standard deviation of 15 require conversion to a percentile rank so that we can determine the actual degree of limitation reflected by the IQ scores. In cases where more than one IQ is customarily derived from the test administered, e.g., where verbal, performance, and full scale IQs are provided in the Wechsler series, we use the lowest of these in conjunction with 12.05.

d. Generally, it is preferable to use IQ measures that are wide in scope and include items that test both verbal and performance abilities. However, in special circumstances, such as the assessment of individuals with sensory, motor, or communication abnormalities, or those whose culture and background are not principally English-speaking, measures such as the Test of Nonverbal Intelligence, Third Edition (TONI-3), Leiter International Performance Scale-Revised (Leiter-R), or Peabody Picture Vocabulary Test-Third Edition (PPVT-III) may be used.

e. We may consider exceptions to formal standardized psychological testing when an individual qualified by training and experience to perform such an evaluation is not available, or in cases where appropriate standardized measures for your social, linguistic, and cultural background are not available. In these cases, the best indicator of severity is often the level of adaptive functioning and how you perform activities of daily living and social functioning.

7. *Personality measures and projective testing techniques*. Results from standardized personality measures, such as the Minnesota Multiphasic Personality Inventory-Revised (MMPI-II), or from projective types of techniques, such as the Rorschach and the Thematic Apperception Test (TAT), may provide useful data for evaluating several types of mental disorders. Such test results may be useful for disability evaluation when corroborated by other evidence, including results from other psychological tests and information obtained in the course of the clinical evaluation, from treating and other medical sources, other professional health care providers, and nonmedical sources. Any inconsistency between test results and clinical history and observation should be explained in the narrative description.

8. *Neuropsychological assessments*. Comprehensive neuropsychological examinations may be used to establish the existence and extent of compromise of brain function, particularly in cases involving organic mental disorders. Normally, these examinations include assessment of cerebral dominance, basic sensation and perception, motor speed and coordination, attention and concentration, visual-motor function, memory across verbal and visual modalities, receptive and expressive speech, higher-order linguistic operations, problem-solving, abstraction ability, and general intelligence. In addition, there should be a clinical interview geared toward evaluating pathological features known to occur frequently in neurological disease and trauma; e.g., emotional lability, abnormality of mood, impaired impulse control, passivity and apathy, or inappropriate social behavior. The specialist performing the examination may administer one of the commercially available comprehensive neuropsychological batteries, such as

the Luria-Nebraska or the Halstead-Reitan, or a battery of tests selected as relevant to the suspected brain dysfunction. The specialist performing the examination must be properly trained in this area of neuroscience.

9. *Screening tests.* In conjunction with clinical examinations, sources may report the results of screening tests; i.e., tests used for gross determination of level of functioning. Screening instruments may be useful in uncovering potentially serious impairments, but often must be supplemented by other data. However, in some cases the results of screening tests may show such obvious abnormalities that further testing will clearly be unnecessary.

10. *Traumatic brain injury (TBI).* In cases involving TBI, follow the documentation and evaluation guidelines in 11.00F.

11. *Anxiety disorders.* In cases involving agoraphobia and other phobic disorders, panic disorders, and posttraumatic stress disorders, documentation of the anxiety reaction is essential. At least one detailed description of your typical reaction is required. The description should include the nature, frequency, and duration of any panic attacks or other reactions, the precipitating and exacerbating factors, and the functional effects. If the description is provided by a medical source, the reporting physician or psychologist should indicate the extent to which the description reflects his or her own observations and the source of any ancillary information. Statements of other persons who have observed you may be used for this description if professional observation is not available.

12. *Eating disorders.* In cases involving anorexia nervosa and other eating disorders, the primary manifestations may be mental or physical, depending upon the nature and extent of the disorder. When the primary functional limitation is physical; e.g., when severe weight loss and associated clinical findings are the chief cause of inability to work, we may evaluate the impairment under the appropriate physical body system listing. Of course, we must also consider any mental aspects of the impairment, unless we can make a fully favorable determination or decision based on the physical impairment(s) alone.

E. *Chronic mental impairments*. Particular problems are often involved in evaluating mental impairments in individuals who have long histories of repeated hospitalizations or prolonged outpatient care with supportive therapy and medication. For instance, if you have chronic organic, psychotic, and affective disorders, you may commonly have your life structured in such a way as to minimize your stress and reduce your symptoms and signs. In such a case, you may be much more impaired for work than your symptoms and signs would indicate. The results of a single examination may not adequately describe your sustained ability to function. It is, therefore, vital that we review all pertinent information relative to your condition, especially at times of increased stress. We will attempt to obtain adequate descriptive information from all sources that have treated you in the time period relevant to the determination or decision.

F. *Effects of structured settings*. Particularly in cases involving chronic mental disorders, overt symptomatology may be controlled or attenuated by psychosocial factors such as placement in a hospital, halfway house, board and care facility, or other environment that provides similar structure. Highly structured and supportive settings may also be found your home. Such settings may greatly reduce the mental demands placed on you. With lowered mental demands, overt symptoms and signs of the underlying mental disorder may be minimized. At the same time, however, your ability to function outside of such a structured or supportive setting may not have changed. If your symptomatology is controlled or attenuated by psychosocial factors, we must consider your ability to function outside of such highly structured settings. For these reasons, identical paragraph C criteria are included in 12.02, 12.03, and 12.04. The paragraph C criterion of 12.06 reflects the uniqueness of agoraphobia, an anxiety disorder manifested by an overwhelming fear of leaving the home.

G. *Effects of medication*. We must give attention to the effects of medication on your symptoms, signs, and ability to function. While drugs used to modify psychological functions and mental states may control certain primary manifestations of a mental disorder, e.g., hallucinations, impaired attention, restlessness, or hyperactivity, such treatment may not affect all functional limitations imposed by the mental disorder. In cases where overt symptomatology is attenuated by the use of such drugs, particular attention must be focused on the functional limitations that may persist. We will consider these functional limitations in assessing impairment severity. See the paragraph C criteria in 12.02, 12.03, 12.04, and 12.06.

Drugs used in the treatment of some mental illnesses may cause drowsiness, blunted affect, or other side effects involving other body systems. We will consider such side effects when we evaluate the overall severity of your impairment. Where adverse effects of medications contribute to the impairment severity and the impairment(s) neither meets nor is equivalent in severity to any listing but is nonetheless severe, we will consider such adverse effects in the RFC assessment.

H. *Effects of treatment*. With adequate treatment some individuals with chronic mental disorders not only have their symptoms and signs ameliorated, but they also return to a level of function close to the level of function they had before they developed symptoms or signs of their mental disorders. Treatment may or may not assist in the achievement of a level of adaptation adequate to perform sustained SGA. See the paragraph C criteria in 12.02, 12.03, 12.04, and 12.06.

I. *Technique for reviewing evidence in mental disorders claims to determine the level of impairment severity*. We have developed a special technique to ensure that we obtain, consider, and properly evaluate all the evidence we need to evaluate impairment severity in claims involving mental impairment(s). We explain this technique in §§ 404.1520a and 416.920a.

12.01 Category of Impairments, Mental

12.02 *Organic mental disorders*: Psychological or behavioral abnormalities associated with a dysfunction of the brain. History and physical examination or laboratory tests demonstrate the presence of a specific organic factor judged to be etiologically related to the abnormal mental state and loss of previously acquired functional abilities.

The required level of severity for these disorders is met when the requirements in both A and B are satisfied, or when the requirements in C are satisfied.

A. Demonstration of a loss of specific cognitive abilities or affective changes and the medically documented persistence of at least one of the following:

1. Disorientation to time and place; or

2. Memory impairment, either short-term (inability to learn new information), intermediate, or long-term (inability to remember information that was known sometime in the past); or

3. Perceptual or thinking disturbances (e.g., hallucinations, delusions); or

4. Change in personality; or

5. Disturbance in mood; or

6. Emotional lability (e.g., explosive temper outbursts, sudden crying, etc.) and impairment in impulse control; or

7. Loss of measured intellectual ability of at least 15 I.Q. points from premorbid levels or overall impairment index clearly within the severely impaired range on neuropsychological testing, e.g., Luria-Nebraska, Halstead-Reitan, etc;

AND

B. Resulting in at least two of the following:

1. Marked restriction of activities of daily living; or

2. Marked difficulties in maintaining social functioning; or

3. Marked difficulties in maintaining concentration, persistence, or pace; or

4. Repeated episodes of decompensation, each of extended duration;

OR

C. Medically documented history of a chronic organic mental disorder of at least 2 years' duration that has caused more than a minimal limitation of ability to do basic work

activities, with symptoms or signs currently attenuated by medication or psychosocial support, and one of the following:

1. Repeated episodes of decompensation, each of extended duration; or

2. A residual disease process that has resulted in such marginal adjustment that even a minimal increase in mental demands or change in the environment would be predicted to cause the individual to decompensate; or

3. Current history of 1 or more years' inability to function outside a highly supportive living arrangement, with an indication of continued need for such an arrangement.

12.03 *Schizophrenic, paranoid and other psychotic disorders***:** Characterized by the onset of psychotic features with deterioration from a previous level of functioning.

The required level of severity for these disorders is met when the requirements in both A and B are satisfied, or when the requirements in C are satisfied.

A. Medically documented persistence, either continuous or intermittent, of one or more of the following:

1. Delusions or hallucinations; or

2. Catatonic or other grossly disorganized behavior; or

3. Incoherence, loosening of associations, illogical thinking, or poverty of content of speech if associated with one of the following:

a. Blunt affect; or

b. Flat affect; or

c. Inappropriate affect;

or

4. Emotional withdrawal and/or isolation;

AND

B. Resulting in at least two of the following:

1. Marked restriction of activities of daily living; or

2. Marked difficulties in maintaining social functioning; or

3. Marked difficulties in maintaining concentration, persistence, or pace; or

4. Repeated episodes of decompensation, each of extended duration;

OR

C. Medically documented history of a chronic schizophrenic, paranoid, or other psychotic disorder of at least 2 years' duration that has caused more than a minimal limitation of ability to do basic work activities, with symptoms or signs currently attenuated by medication or psychosocial support, and one of the following:

1. Repeated episodes of decompensation, each of extended duration; or

2. A residual disease process that has resulted in such marginal adjustment that even a minimal increase in mental demands or change in the environment would be predicted to cause the individual to decompensate; or

3. Current history of 1 or more years' inability to function outside a highly supportive living arrangement, with an indication of continued need for such an arrangement.

12.04 *Affective disorders*: Characterized by a disturbance of mood, accompanied by a full or partial manic or depressive syndrome. Mood refers to a prolonged emotion that colors the whole psychic life; it generally involves either depression or elation.

The required level of severity for these disorders is met when the requirements in both A and B are satisfied, or when the requirements in C are satisfied.

A. Medically documented persistence, either continuous or intermittent, of one of the following:

1. Depressive syndrome characterized by at least four of the following:

a. Anhedonia or pervasive loss of interest in almost all activities; or

b. Appetite disturbance with change in weight; or

c. Sleep disturbance; or

d. Psychomotor agitation or retardation; or

e. Decreased energy; or

f. Feelings of guilt or worthlessness; or

g. Difficulty concentrating or thinking; or

h. Thoughts of suicide; or

i. Hallucinations, delusions, or paranoid thinking; or

2. Manic syndrome characterized by at least three of the following:

a. Hyperactivity; or

b. Pressure of speech; or

c. Flight of ideas; or

d. Inflated self-esteem; or

e. Decreased need for sleep; or

f. Easy distractibility; or

g. Involvement in activities that have a high probability of painful consequences which are not recognized; or

h. Hallucinations, delusions or paranoid thinking; or

3. Bipolar syndrome with a history of episodic periods manifested by the full symptomatic picture of both manic and depressive syndromes (and currently characterized by either or both syndromes);

AND

B. Resulting in at least two of the following:

1. Marked restriction of activities of daily living; or

2. Marked difficulties in maintaining social functioning; or

3. Marked difficulties in maintaining concentration, persistence, or pace; or

4. Repeated episodes of decompensation, each of extended duration;

OR

C. Medically documented history of a chronic affective disorder of at least 2 years' duration that has caused more than a minimal limitation of ability to do basic work activities, with symptoms or signs currently attenuated by medication or psychosocial support, and one of the following:

1. Repeated episodes of decompensation, each of extended duration; or

2. A residual disease process that has resulted in such marginal adjustment that even a minimal increase in mental demands or change in the environment would be predicted to cause the individual to decompensate; or

3. Current history of 1 or more years' inability to function outside a highly supportive living arrangement, with an indication of continued need for such an arrangement.

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12.05 *Mental retardation*: Mental retardation refers to significantly subaverage general intellectual functioning with deficits in adaptive functioning initially manifested during the developmental period; i.e., the evidence demonstrates or supports onset of the impairment before age 22.

The required level of severity for this disorder is met when the requirements in A, B, C, or D are satisfied.

A. Mental incapacity evidenced by dependence upon others for personal needs (e.g., toileting, eating, dressing, or bathing) and inability to follow directions, such that the use of standardized measures of intellectual functioning is precluded;

OR

B. A valid verbal, performance, or full scale IQ of 59 or less;

OR

C. A valid verbal, performance, or full scale IQ of 60 through 70 and a physical or other mental impairment imposing an additional and significant work-related limitation of function;

OR

D. A valid verbal, performance, or full scale IQ of 60 through 70, resulting in at least two of the following:

1. Marked restriction of activities of daily living; or

2. Marked difficulties in maintaining social functioning; or

3. Marked difficulties in maintaining concentration, persistence, or pace; or

4. Repeated episodes of decompensation, each of extended duration.

12.06 *Anxiety-related disorders*: In these disorders anxiety is either the predominant disturbance or it is experienced if the individual attempts to master symptoms; for example, confronting the dreaded object or situation in a phobic disorder or resisting the obsessions or compulsions in obsessive compulsive disorders.

The required level of severity for these disorders is met when the requirements in both A and B are satisfied, or when the requirements in both A and C are satisfied.

A. Medically documented findings of at least one of the following:

1. Generalized persistent anxiety accompanied by three out of four of the following signs or symptoms:

a. Motor tension; or

b. Autonomic hyperactivity; or

c. Apprehensive expectation; or

d. Vigilance and scanning; or

2. A persistent irrational fear of a specific object, activity, or situation which results in a compelling desire to avoid the dreaded object, activity, or situation; or

3. Recurrent severe panic attacks manifested by a sudden unpredictable onset of intense apprehension, fear, terror and sense of impending doom occurring on the average of at least once a week; or

4. Recurrent obsessions or compulsions which are a source of marked distress; or

5. Recurrent and intrusive recollections of a traumatic experience, which are a source of marked distress;

AND

B. Resulting in at least two of the following:

1. Marked restriction of activities of daily living; or

2. Marked difficulties in maintaining social functioning; or

3. Marked difficulties in maintaining concentration, persistence, or pace; or

4. Repeated episodes of decompensation, each of extended duration.

OR

C. Resulting in complete inability to function independently outside the area of one's home.

12.07 *Somatoform disorders*: Physical symptoms for which there are no demonstrable organic findings or known physiological mechanisms.

The required level of severity for these disorders is met when the requirements in both A and B are satisfied.

A. Medically documented by evidence of one of the following:

1. A history of multiple physical symptoms of several years duration, beginning before age 30, that have caused the individual to take medicine frequently, see a physician often and alter life patterns significantly; or

2. Persistent nonorganic disturbance of one of the following:

a. Vision, or

b. Speech; or

c. Hearing; or

d. Use of a limb; or

e. Movement and its control (e.g., coordination disturbance, psychogenic seizures, akinesia, dyskinesia; or

f. Sensation (e.g., diminished or heightened).

3. Unrealistic interpretation of physical signs or sensations associated with the preoccupation or belief that one has a serious disease or injury;

AND

B. Resulting in at least two of the following:

1. Marked restriction of activities of daily living; or

2. Marked difficulties in maintaining social functioning; or

3. Marked difficulties in maintaining concentration, persistence, or pace; or

4. Repeated episodes of decompensation, each of extended duration.

12.08 *Personality disorders*: A personality disorder exists when personality traits are inflexible and maladaptive and cause either significant impairment in social or occupational functioning or subjective distress. Characteristic features are typical of the individual's long-term functioning and are not limited to discrete episodes of illness.

The required level of severity for these disorders is met when the requirements in both A and B are satisfied.

A. Deeply ingrained, maladaptive patterns of behavior associated with one of the following:

1. Seclusiveness or autistic thinking; or

2. Pathologically inappropriate suspiciousness or hostility; or

3. Oddities of thought, perception, speech and behavior; or

4. Persistent disturbances of mood or affect; or

5. Pathological dependence, passivity, or aggressivity; or

6. Intense and unstable interpersonal relationships and impulsive and damaging behavior;

AND

B. Resulting in at least two of the following:

1. Marked restriction of activities of daily living; or

2. Marked difficulties in maintaining social functioning; or

3. Marked difficulties in maintaining concentration, persistence, or pace; or

4. Repeated episodes of decompensation, each of extended duration.

12.09 *Substance addiction disorders*: Behavioral changes or physical changes associated with the regular use of substances that affect the central nervous system.

The required level of severity for these disorders is met when the requirements in any of the following (A through I) are satisfied.

A. Organic mental disorders. Evaluate under 12.02.

B. Depressive syndrome. Evaluate under 12.04.

C. Anxiety disorders. Evaluate under 12.06.

D. Personality disorders. Evaluate under 12.08.

E. Peripheral neuropathies. Evaluate under 11.14.

F. Liver damage. Evaluate under 5.05.

G. Gastritis. Evaluate under 5.00.

H. Pancreatitis. Evaluate under 5.08.

I. Seizures. Evaluate under 11.02 or 11.03.

12.10 *Autistic disorder and other pervasive developmental disorders*: Characterized by qualitative deficits in the development of reciprocal social interaction, in the development of verbal and nonverbal communication skills, and in imaginative activity. Often, there is a markedly restricted repertoire of activities and interests, which frequently are stereotyped and repetitive.

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The required level of severity for these disorders is met when the requirements in both A and B are satisfied.

A. Medically documented findings of the following:

1. For autistic disorder, all of the following:

a. Qualitative deficits in reciprocal social interaction; and

b. Qualitative deficits in verbal and nonverbal communication and in imaginative activity; and

c. Markedly restricted repertoire of activities and interests;

OR

2. For other pervasive developmental disorders, both of the following:

a. Qualitative deficits in reciprocal social interaction; and

b. Qualitative deficits in verbal and nonverbal communication and in imaginative activity;

AND

B. Resulting in at least two of the following:

1. Marked restriction of activities of daily living; or

2. Marked difficulties in maintaining social functioning; or

3. Marked difficulties in maintaining concentration, persistence, or pace; or

4. Repeated episodes of decompensation, each of extended duration.

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Appendix C – 7

Mental Cognitive Roundtable –

Excerpts from the Code of Federal Regulations (CFR)

Residual Functional Capacity

§404.1545 [and 416.945] Your residual functional capacity.

(a) *General*—(1) *Residual functional capacity assessment*. Your impairment(s), and any related symptoms, such as pain, may cause physical and mental limitations that affect what you can do in a work setting. Your residual functional capacity is the most you can still do despite your limitations. We will assess your residual functional capacity based on all the relevant evidence in your case record. (See §404.1546.)

(2) *If you have more than one impairment*. We will consider all of your medically determinable impairments of which we are aware, including your medically determinable impairments that are not "severe," as explained in §§404.1520(c), 404.1521, and 404.1523, when we assess your residual functional capacity. (See paragraph (e) of this section.)

(3) *Evidence we use to assess your residual functional capacity*. We will assess your residual functional capacity based on all of the relevant medical and other evidence. In general, you are responsible for providing the evidence we will use to make a finding about your residual functional capacity. (See §404.1512(c).) However, before we make a determination that you are not disabled, we are responsible for developing your complete medical history, including arranging for a consultative examination(s) if necessary, and making every reasonable effort to help you get medical reports from your own medical sources. (See §§404.1512(d) through (f).) We will consider any statements about what you can still do that have been provided by medical sources, whether or not they are based on formal medical examinations. (See §404.1513.) We will also consider descriptions and observations of your limitations from your impairment(s), including limitations that result from your symptoms, such as pain, provided by you, your family, neighbors, friends, or other persons. (See paragraph (e) of this section and §404.1529.)

(4) *What we will consider in assessing residual functional capacity*. When we assess your residual functional capacity, we will consider your ability to meet the physical, mental, sensory, and other requirements of work, as described in paragraphs (b), (c), and (d) of this section.

(5) *How we will use our residual functional capacity assessment*. (i) We will first use our residual functional capacity assessment at step four of the sequential evaluation process to decide if you can do your past relevant work. (See §§404.1520(f) and 404.1560(b).)

(ii) If we find that you cannot do your past relevant work (or you do not have any past relevant work), we will use the same assessment of your residual functional capacity at step five of the sequential evaluation process to decide if you can make an adjustment to any other work that exists in the national economy. (See §§404.1520(g) and 404.1566.) At this step, we will not use our assessment of your residual functional capacity alone to decide if you are disabled. We will use the guidelines in §§404.1560 through 404.1569a, and consider our residual functional capacity assessment together with the information about your vocational background to make our disability determination or decision. For our rules on residual functional capacity assessment in deciding whether your disability continues or ends, see §404.1594.

(b) *Physical abilities.* When we assess your physical abilities, we first assess the nature and extent of your physical limitations and then determine your residual functional capacity for work activity on a regular and continuing basis. A limited ability to perform certain physical demands of work activity, such as sitting, standing, walking, lifting, carrying, pushing, pulling, or other physical functions (including manipulative or postural functions, such as reaching, handling, stooping or crouching), may reduce your ability to do past work and other work.

(c) *Mental abilities.* When we assess your mental abilities, we first assess the nature and extent of your mental limitations and restrictions and then determine your residual functional capacity for work activity on a regular and continuing basis. A limited ability to carry out certain mental activities, such as limitations in understanding, remembering, and carrying out instructions, and in responding appropriately to supervision, co-workers, and work pressures in a work setting, may reduce your ability to do past work and other work.

(d) *Other abilities affected by impairment(s).* Some medically determinable impairment(s), such as skin impairment(s), epilepsy, impairment(s) of vision, hearing or other senses, and impairment(s) which impose environmental restrictions, may cause limitations and restrictions which affect other work-related abilities. If you have this type of impairment(s), we consider any resulting limitations and restrictions which may reduce your ability to do past work and other work in deciding your residual functional capacity.

(e) *Total limiting effects.* When you have a severe impairment(s), but your symptoms, signs, and laboratory findings do not meet or equal those of a listed impairment in appendix 1 of this subpart, we will consider the limiting effects of all your impairment(s), even those that are not severe, in determining your residual functional capacity. Pain or other symptoms may cause a limitation of function beyond that which can be determined on the basis of the anatomical, physiological or psychological abnormalities considered alone; e.g., someone with a low back disorder may be fully capable of the physical demands consistent with those of sustained medium work activity, but another person with the same disorder, because of pain, may not be capable of more than the physical demands consistent with those of light work activity on a sustained basis. In assessing the total limiting effects of your impairment(s) and any related symptoms, we

will consider all of the medical and nonmedical evidence, including the information described in §404.1529(c).

Vocational Considerations

§404.1560 When we will consider your vocational background.

(a) *General*. If you are applying for a period of disability, or disability insurance benefits as a disabled worker, or child's insurance benefits based on disability which began before age 22, or widow's or widower's benefits based on disability for months after December 1990, and we cannot decide whether you are disabled at one of the first three steps of the sequential evaluation process (see §404.1520), we will consider your residual functional capacity together with your vocational background, as discussed in paragraphs (b) and (c) of this section.

(b) *Past relevant work*. We will first compare our assessment of your residual functional capacity with the physical and mental demands of your past relevant work.

(1) *Definition of past relevant work*. Past relevant work is work that you have done within the past 15 years, that was substantial gainful activity, and that lasted long enough for you to learn to do it. (See §404.1565(a).)

(2) *Determining whether you can do your past relevant work*. We will ask you for information about work you have done in the past. We may also ask other people who know about your work. (See §404.1565(b).) We may use the services of vocational experts or vocational specialists, or other resources, such as the "Dictionary of Occupational Titles" and its companion volumes and supplements, published by the Department of Labor, to obtain evidence we need to help us determine whether you can do your past relevant work, given your residual functional capacity. A vocational expert or specialist may offer relevant evidence within his or her expertise or knowledge concerning the physical and mental demands of a claimant's past relevant work, either as the claimant actually performed it or as generally performed in the national economy. Such evidence may be helpful in supplementing or evaluating the accuracy of the claimant's description of his past work. In addition, a vocational expert or specialist may offer expert opinion testimony in response to a hypothetical question about whether a person with the physical and mental limitations imposed by the claimant's medical impairment(s) can meet the demands of the claimant's previous work, either as the claimant actually performed it or as generally performed in the national economy.

(3) *If you can do your past relevant work*. If we find that you have the residual functional capacity to do your past relevant work, we will determine that you can still do your past work and are not disabled. We will not consider your vocational factors of age, education, and work experience or whether your past relevant work exists in significant numbers in the national economy.

(c) *Other work.* (1) If we find that your residual functional capacity is not enough to enable you to do any of your past relevant work, we will use the same residual functional capacity assessment we used to decide if you could do your past relevant work when we decide if you can adjust to any other work. We will look at your ability to adjust to other work by considering your residual functional capacity and your vocational factors of age, education, and work experience. Any other work (jobs) that you can adjust to must exist in significant numbers in the national economy (either in the region where you live or in several regions in the country).

(2) In order to support a finding that you are not disabled at this fifth step of the sequential evaluation process, we are responsible for providing evidence that demonstrates that other work exists in significant numbers in the national economy that you can do, given your residual functional capacity and vocational factors. We are not responsible for providing additional evidence about your residual functional capacity because we will use the same residual functional capacity assessment that we used to determine if you can do your past relevant work.

§404.1563 Your age as a vocational factor.

(a) *General.* "Age" means your chronological age. When we decide whether you are disabled under §404.1520(g)(1), we will consider your chronological age in combination with your residual functional capacity, education, and work experience. We will not consider your ability to adjust to other work on the basis of your age alone. In determining the extent to which age affects a person's ability to adjust to other work, we consider advancing age to be an increasingly limiting factor in the person's ability to make such an adjustment, as we explain in paragraphs (c) through (e) of this section. If you are unemployed but you still have the ability to adjust to other work, we will find that you are not disabled. In paragraphs (b) through (e) of this section and in appendix 2 to this subpart, we explain in more detail how we consider your age as a vocational factor.

(b) *How we apply the age categories.* When we make a finding about your ability to do other work under §404.1520(f)(1), we will use the age categories in paragraphs (c) through (e) of this section. We will use each of the age categories that applies to you during the period for which we must determine if you are disabled. We will not apply the age categories mechanically in a borderline situation. If you are within a few days to a few months of reaching an older age category, and using the older age category would result in a determination or decision that you are disabled, we will consider whether to use the older age category after evaluating the overall impact of all the factors of your case.

(c) *Younger person.* If you are a younger person (under age 50), we generally do not consider that your age will seriously affect your ability to adjust to other work. However, in some circumstances, we consider that persons age 45-49 are more limited in their ability to adjust to other work than persons who have not attained age 45. See Rule 201.17 in appendix 2.

(d) *Person closely approaching advanced age.* If you are closely approaching advanced age (age 50-54), we will consider that your age along with a severe impairment(s) and limited work experience may seriously affect your ability to adjust to other work.

(e) *Person of advanced age.* We consider that at advanced age (age 55 or older) age significantly affects a person's ability to adjust to other work. We have special rules for persons of advanced age and for persons in this category who are closely approaching retirement age (age 60-64). See §404.1568(d)(4).

(f) *Information about your age.* We will usually not ask you to prove your age. However, if we need to know your exact age to determine whether you get disability benefits or if the amount of your benefit will be affected, we will ask you for evidence of your age.

§404.1564 Your education as a vocational factor.

(a) *General.* Education is primarily used to mean formal schooling or other training which contributes to your ability to meet vocational requirements, for example, reasoning ability, communication skills, and arithmetical ability. However, if you do not have formal schooling, this does not necessarily mean that you are uneducated or lack these abilities. Past work experience and the kinds of responsibilities you had when you were working may show that you have intellectual abilities, although you may have little formal education. Your daily activities, hobbies, or the results of testing may also show that you have significant intellectual ability that can be used to work.

(b) *How we evaluate your education.* The importance of your educational background may depend upon how much time has passed between the completion of your formal education and the beginning of your physical or mental impairment(s) and by what you have done with your education in a work or other setting. Formal education that you completed many years before your impairment began, or unused skills and knowledge that were a part of your formal education, may no longer be useful or meaningful in terms of your ability to work. Therefore, the numerical grade level that you completed in school may not represent your actual educational abilities. These may be higher or lower. However, if there is no other evidence to contradict it, we will use your numerical grade level to determine your educational abilities. The term *education* also includes how well you are able to communicate in English since this ability is often acquired or improved by education. In evaluating your educational level, we use the following categories:

(1) *Illiteracy.* Illiteracy means the inability to read or write. We consider someone illiterate if the person cannot read or write a simple message such as instructions or inventory lists even though the person can sign his or her name. Generally, an illiterate person has had little or no formal schooling.

(2) *Marginal education.* Marginal education means ability in reasoning, arithmetic, and language skills which are needed to do simple, unskilled types of jobs. We generally consider that formal schooling at a 6th grade level or less is a marginal education.

(3) *Limited education.* Limited education means ability in reasoning, arithmetic, and language skills, but not enough to allow a person with these educational qualifications to do most of the more complex job duties needed in semi-skilled or skilled jobs. We generally consider that a 7th grade through the 11th grade level of formal education is a limited education.

(4) *High school education and above.* High school education and above means abilities in reasoning, arithmetic, and language skills acquired through formal schooling at a 12th grade level or above. We generally consider that someone with these educational abilities can do semi-skilled through skilled work.

(5) *Inability to communicate in English.* Since the ability to speak, read and understand English is generally learned or increased at school, we may consider this an educational factor. Because English is the dominant language of the country, it may be difficult for someone who doesn't speak and understand English to do a job, regardless of the amount of education the person may have in another language. Therefore, we consider a person's ability to communicate in English when we evaluate what work, if any, he or she can do. It generally doesn't matter what other language a person may be fluent in.

(6) *Information about your education.* We will ask you how long you attended school and whether you are able to speak, understand, read and write in English and do at least simple calculations in arithmetic. We will also consider other information about how much formal or informal education you may have had through your previous work, community projects, hobbies, and any other activities which might help you to work.

§404.1565 Your work experience as a vocational factor.

(a) *General. Work experience* means skills and abilities you have acquired through work you have done which show the type of work you may be expected to do. Work you have already been able to do shows the kind of work that you may be expected to do. We consider that your work experience applies when it was done within the last 15 years, lasted long enough for you to learn to do it, and was substantial gainful activity. We do not usually consider that work you did 15 years or more before the time we are deciding whether you are disabled (or when the disability insured status requirement was last met, if earlier) applies. A gradual change occurs in most jobs so that after 15 years it is no longer realistic to expect that skills and abilities acquired in a job done then continue to apply. The 15-year guide is intended to insure that remote work experience is not currently applied. If you have no work experience or worked only "off-and-on" or for brief periods of time during the 15-year period, we generally consider that these do not apply. If you have acquired skills through your past work, we consider you to have these work skills unless you cannot use them in other skilled or semi-skilled work that you can now

do. If you cannot use your skills in other skilled or semi-skilled work, we will consider your work background the same as unskilled. However, even if you have no work experience, we may consider that you are able to do unskilled work because it requires little or no judgment and can be learned in a short period of time.

(b) *Information about your work.* Under certain circumstances, we will ask you about the work you have done in the past. If you cannot give us all of the information we need, we will try, with your permission, to get it from your employer or other person who knows about your work, such as a member of your family or a co-worker. When we need to consider your work experience to decide whether you are able to do work that is different from what you have done in the past, we will ask you to tell us about all of the jobs you have had in the last 15 years. You must tell us the dates you worked, all of the duties you did, and any tools, machinery, and equipment you used. We will need to know about the amount of walking, standing, sitting, lifting and carrying you did during the work day, as well as any other physical or mental duties of your job. If all of your work in the past 15 years has been arduous and unskilled, and you have very little education, we will ask you to tell us about all of your work from the time you first began working. This information could help you to get disability benefits.

§404.1566 Work which exists in the national economy.

(a) *General.* We consider that work exists in the national economy when it exists in significant numbers either in the region where you live or in several other regions of the country. It does not matter whether—

(1) Work exists in the immediate area in which you live;

(2) A specific job vacancy exists for you; or

(3) You would be hired if you applied for work.

(b) *How we determine the existence of work.* Work exists in the national economy when there is a significant number of jobs (in one or more occupations) having requirements which you are able to meet with your physical or mental abilities and vocational qualifications. Isolated jobs that exist only in very limited numbers in relatively few locations outside of the region where you live are not considered "work which exists in the national economy". We will not deny you disability benefits on the basis of the existence of these kinds of jobs. If work that you can do does not exist in the national economy, we will determine that you are disabled. However, if work that you can do does exist in the national economy, we will determine that you are not disabled.

(c) *Inability to obtain work.* We will determine that you are not disabled if your residual functional capacity and vocational abilities make it possible for you to do work which exists in the national economy, but you remain unemployed because of—

(1) Your inability to get work;

(2) Lack of work in your local area;

(3) The hiring practices of employers;

(4) Technological changes in the industry in which you have worked;

(5) Cyclical economic conditions;

(6) No job openings for you;

(7) You would not actually be hired to do work you could otherwise do; or

(8) You do not wish to do a particular type of work.

(d) *Administrative notice of job data*. When we determine that unskilled, sedentary, light, and medium jobs exist in the national economy (in significant numbers either in the region where you live or in several regions of the country), we will take administrative notice of reliable job information available from various governmental and other publications. For example, we will take notice of—

(1) *Dictionary of Occupational Titles*, published by the Department of Labor;

(2) *County Business Patterns*, published by the Bureau of the Census;

(3) *Census Reports*, also published by the Bureau of the Census;

(4) *Occupational Analyses*, prepared for the Social Security Administration by various State employment agencies; and

(5) *Occupational Outlook Handbook*, published by the Bureau of Labor Statistics.

(e) *Use of vocational experts and other specialists*. If the issue in determining whether you are disabled is whether your work skills can be used in other work and the specific occupations in which they can be used, or there is a similarly complex issue, we may use the services of a vocational expert or other specialist. We will decide whether to use a vocational expert or other specialist.

§404.1568 Skill requirements.

In order to evaluate your skills and to help determine the existence in the national economy of work you are able to do, occupations are classified as unskilled, semi-skilled, and skilled. In classifying these occupations, we use materials published by the Department of Labor. When we make disability determinations under this subpart, we use the following definitions:

(a) *Unskilled work*. Unskilled work is work which needs little or no judgment to do simple duties that can be learned on the job in a short period of time. The job may or may not require considerable strength. For example, we consider jobs unskilled if the primary

work duties are handling, feeding and offbearing (that is, placing or removing materials from machines which are automatic or operated by others), or machine tending, and a person can usually learn to do the job in 30 days, and little specific vocational preparation and judgment are needed. A person does not gain work skills by doing unskilled jobs.

(b) *Semi-skilled work.* Semi-skilled work is work which needs some skills but does not require doing the more complex work duties. Semi-skilled jobs may require alertness and close attention to watching machine processes; or inspecting, testing or otherwise looking for irregularities; or tending or guarding equipment, property, materials, or persons against loss, damage or injury; or other types of activities which are similarly less complex than skilled work, but more complex than unskilled work. A job may be classified as semi-skilled where coordination and dexterity are necessary, as when hands or feet must be moved quickly to do repetitive tasks.

(c) *Skilled work.* Skilled work requires qualifications in which a person uses judgment to determine the machine and manual operations to be performed in order to obtain the proper form, quality, or quantity of material to be produced. Skilled work may require laying out work, estimating quality, determining the suitability and needed quantities of materials, making precise measurements, reading blueprints or other specifications, or making necessary computations or mechanical adjustments to control or regulate the work. Other skilled jobs may require dealing with people, facts, or figures or abstract ideas at a high level of complexity.

(d) *Skills that can be used in other work (transferability)*—(1) *What we mean by transferable skills.* We consider you to have skills that can be used in other jobs, when the skilled or semi-skilled work activities you did in past work can be used to meet the requirements of skilled or semi-skilled work activities of other jobs or kinds of work. This depends largely on the similarity of occupationally significant work activities among different jobs.

(2) *How we determine skills that can be transferred to other jobs.* Transferability is most probable and meaningful among jobs in which—

(i) The same or a lesser degree of skill is required;

(ii) The same or similar tools and machines are used; and

(iii) The same or similar raw materials, products, processes, or services are involved.

(3) *Degrees of transferability.* There are degrees of transferability of skills ranging from very close similarities to remote and incidental similarities among jobs. A complete similarity of all three factors is not necessary for transferability. However, when skills are so specialized or have been acquired in such an isolated vocational setting (like many jobs in mining, agriculture, or fishing) that they are not readily usable in other industries, jobs, and work settings, we consider that they are not transferable.

(4) *Transferability of skills for individuals of advanced age*. If you are of advanced age (age 55 or older), and you have a severe impairment(s) that limits you to *sedentary* or *light* work, we will find that you cannot make an adjustment to other work unless you have skills that you can transfer to other skilled or semiskilled work (or you have recently completed education which provides for direct entry into skilled work) that you can do despite your impairment(s). We will decide if you have transferable skills as follows. If you are of advanced age and you have a severe impairment(s) that limits you to no more than *sedentary* work, we will find that you have skills that are transferable to skilled or semiskilled sedentary work only if the sedentary work is so similar to your previous work that you would need to make very little, if any, vocational adjustment in terms of tools, work processes, work settings, or the industry. (See §404.1567(a) and §201.00(f) of appendix 2.) If you are of advanced age but have not attained age 60, and you have a severe impairment(s) that limits you to no more than *light* work, we will apply the rules in paragraphs (d)(1) through (d)(3) of this section to decide if you have skills that are transferable to skilled or semiskilled light work (see §404.1567(b)). If you are *closely approaching retirement age* (age 60-64) and you have a severe impairment(s) that limits you to no more than *light* work, we will find that you have skills that are transferable to skilled or semiskilled light work only if the light work is so similar to your previous work that you would need to make very little, if any, vocational adjustment in terms of tools, work processes, work settings, or the industry. (See §404.1567(b) and Rule 202.00(f) of appendix 2 to this subpart.)

<p style="text-align:center; color:blue; font-weight:bold;">Mental Cognitive Subcommittee</p>

<p style="text-align:center; color:blue; font-weight:bold;">Content Model and Classification Recommendations</p>

<p style="text-align:center; font-weight:bold;">Appendix C – 8</p>

<p style="text-align:center; font-weight:bold;">Mental Cognitive Roundtable – Agency Instructions</p>

<p style="text-align:center; font-weight:bold;">for Completing the Mental Residual Functional Capacity Assessment (MRFC)</p>

<p style="text-align:center; font-weight:bold;">Relevant Program Operating Manual System (POMS) Instructions for</p>

<p style="text-align:center; font-weight:bold;">Completion of the Mental Residual Functional Assessment Form</p>

<p style="text-align:center; font-weight:bold;">DI 24510.060 Mental Residual Functional Capacity Assessment</p>

A. Operating Policy

1. SPECIAL FORM

Because of the complexity of mental disorder evaluation, a **special Form SSA-4734-F4-SUP** is to be used to document the mental residual functional capacity (RFC) decision, i.e., what an individual can do despite his /her impairment.

2. MEDICAL CONSULTANT COMPLETION

a. Unfavorable and Partially Favorable Decisions

In decisions that are not fully favorable, only a psychiatrist or psychologist is to perform the analysis and decide the mental functional capacity.

b. Fully Favorable Decisions

In fully favorable determinations, the medical consultant (MC) who completes the mental RFC assessment, to the extent possible, should be a psychiatrist or psychologist.

c. When Physical Impairment Involved

Refer the claim to a physician of the appropriate medical specialty after all mental RFC considerations have been accomplished.

B. Description of Form SSA-4734-F4-SUP

Form SSA-4734-F4-SUP is divided into four sections:

- Heading,

- Section I, Summary Conclusions,

- Section II, Remarks,

- Section III, Functional Capacity Assessment and MC signature.

1. HEADING

The **Heading** provides space to record claimant and claim identification data.

2. SECTION I

Section I—Summary Conclusions is designed to record the MC's analysis of the evidence and his/her conclusions about:

- The presence and degree of specific functional limitations, and the adequacy of documentation.

  a. **Section I is merely a worksheet** to aid in deciding the presence and degree of functional limitations and the adequacy of documentation and **does not constitute the RFC assessment.**

  b. **Twenty mental function items** are grouped under **four main categories:**

    - Understanding and Memory,

    - Sustained Concentration and Persistence,

    - Social Interaction, and

    - Adaptation

  c. **To the right of each of the items** is a series of **decision checkblocks** under the headings:

    - Not Significantly Limited

    - Moderately Limited

    - Markedly Limited

    - No Evidence of Limitation in This Category, and

    - Not Ratable on Available Evidence

3. SECTION II

Section II – Remarks provides for discussion of evidence needed to rate particular items in section I.

4. SECTION III

a. **Section III—Functional Capacity Assessment** is for recording the mental RFC determination. It is in this section that the **actual mental RFC assessment is recorded,** explaining the conclusions indicated in section I, in terms of the extent to which these mental capacities or functions could or could not be performed in work settings.

b. The **discussion** of all mental capacities and limitations in this section **must be in narrative format.**

   The MC must also include any other information that he/she believes is necessary to present a complete picture of mental RFC.

c. The **Narrative must not** present estimates of capacities for mental functions that **could not be rated** because of insufficient evidence. Such would represent speculation.

d. The completed SSA-4734-F4-SUP must be signed by the MC who conducted the analysis and prepared the mental RFC assessment.

<p style="color:blue">Mental Cognitive Subcommittee</p>

<p style="color:blue">Content Model and Classification Recommendations</p>

DI 24510.061 Summary Conclusions and Narrative Statement of Mental RFC

A. Introduction

To assure a comprehensive assessment of mental RFC, the SSA-4734-F4-SUP requires the MC **first** to record preliminary conclusions about the effect of the impairment(s) on **each** of **four** general areas of mental function (described in B.1-4 below), **then** to prepare a narrative statement of mental RFC.

B. Operating Policy

The MC is to **analyze each** of the **mental activities** within the following four general mental functional areas and to indicate on the SSA-4734-F4-SUP:

- **Whether** the **evidence** is **sufficient** to permit assessment or, if not, the evidence needed.

- The **extent** to which the individual **can** still **perform** and **sustain** specific mental activities and mental functions.

1. UNDERSTANDING AND MEMORY

a. **Understanding and memory** can be evaluated through evidence from the mental status examination(s) or from elements of standardized psychological tests (such as IQ tests) that assess the ability to understand and remember, as well as evidence available from other medical and nonmedical sources, e.g., reports of prior work attempts or work evaluations.

b. The ability to understand and remember may be at least partially assessed through answers to some of the following questions:

   o Is the individual able to complete forms, respond to two or three-step instructions for filling out applications, or follow instructions given by someone?

   o Did the individual have difficulty in the process of filing for disability, going for examinations, or remembering appointments?

   o Is there any **history of work or school failures** due to inability to remember and understand?

   o Was the individual involved in **special education** or **training programs**? (These might indicate some impairment of the ability to understand and remember.)

   o Is there any evidence that the claimant **requires supervision** or **assistance** to perform activities of daily living because of problems with understanding or remembering?

- Did the individual **come to appointments without supervision,** finding his/her own way without unusual supervision?

2. SUSTAINED CONCENTRATION AND PERSISTENCE

a. The individual's ability to sustain ongoing mental performance for a full workday is essential. **These may be evaluated through:**

- Medical history and reports, and

- Reports of performance at past work, recent work attempts, recreational or volunteer activities, or vocational evaluations.

b. **Limitations** in these areas may be **demonstrated** in typically **less demanding settings,** such as sheltered work, vocational training, or school (i.e., in any situation demanding performance of tasks requiring concentration or task persistence).

c. **Use care in inferring** an individual's **ability to sustain** the mental demands of work in a competitive setting from his/her performance in a less demanding setting, such as sheltered work.

NOTE: Discussion with the disability examiner of the performance required in competitive work environments may clarify this distinction.

3. SOCIAL INTERACTION

The items in this subsection deal with socially acceptable behavior and the individual's capacity to relate to others in a work setting. To assess these factors, important considerations are:

- Historical information about interpersonal interactions with others, particularly in an employment or work-like setting.

- Indications, on mental status examinations or psychological testing, of withdrawal, bizarre or unusual behavior, emotional lability, paranoid ideas, or faulty insight and judgment.

- Observed behavior, in terms of how the individual relates to various interviewers or behaves when exposed to a stressful circumstance or situation.

4. ADAPTATION

Adaptive functions reflect the individual's ability to integrate other areas of functioning.

a. **The items in this section pertain to the individual's ability** to:

- plan,

- respond to changes,

- deal appropriately with mental demands (stress),

- avoid hazards and maintain safe behavior,

- follow rules,

- adhere to schedules and to time constraints, and

- travel.

b. **The area of mental demands of work**("stress") is difficult to assess. Some mentally impaired individuals may be unusually sensitive to changes in their environment and may become anxious, depressed, confused, or even psychotic when confronted with seemingly slight mental demands.

   "Stress" is a highly individualized phenomenon and **can only be assessed** with regard to **each individual's experiences** and **limitations.** Even work activities usually considered to entail low stress may produce adverse responses in some individuals.

c. **Data in the medical file may demonstrate sensitivity to change**, e.g., resistance to try a new activity, treatment or medication, or exacerbation of symptoms when a therapist leaves, changes schedule, or goes on vacation.

d. Most health care settings have rules, schedules, and hazards. Limitations in conforming to acceptable behavior may sometimes emerge in the reports from hospital, or clinics.

Mental Cognitive Subcommittee
Content Model and Classification Recommendations

DI 24510.063 Completion of Section I of SSA-4734-F4-SUP

A. Operating Policy

For each of the items under the four headings, A through D, **one** of the five boxes to the right of each item **must** be checked.

B. Operating Procedure

Complete Section I by checking the appropriate boxes.

1. CHECK BOX 1

"Not Significantly Limited," when the effects of the mental disorder **do not prevent** the individual from consistently and usefully performing the activity.

2. CHECK BOX 2

"Moderately Limited," when the evidence supports the conclusion that the individual's **capacity to perform** the activity is **impaired.**

NOTE: The **degree and extent** of the capacity or **limitation** must be described in narrative format in Section III.

3. CHECK BOX 3

"Markedly Limited," when the evidence supports the conclusion that the individual cannot usefully perform or sustain the activity.

4. CHECK BOX 4

When there is **no allegation of limitation** of this activity, or the **medical evidence does not indicate limitations** in a particular area and no limitation would be expected, based on the nature of the illness and the rater's clinical experience.

5. CHECK BOX 5

When there is **insufficient evidence** and either a problem in this aspect of work function has been alleged, the evidence suggests a problem, or the MC's clinical judgment suggests the likelihood of a problem.

NOTE: Absence of a rating (i.e., checking blocks 1, 2, or 3) for one or more items in a subsection in section I **does not automatically preclude** a narrative RFC statement for that subsection. **Other items** in the subsection **may be ratable** and may indicate such a level of functional loss that the disability examiner can conclude that the individual's capacity for work is severely compromised, in spite of the absence of a rating for other items.

Discussion with the disability examiner will resolve whether additional information about a subsection is necessary for a useful assessment of mental RFC.

Mental Cognitive Subcommittee

Content Model and Classification Recommendations

DI 24510.064 Completion of Section II of SSA-4734-F4-SUP - Remarks

A. Introduction

This section is for the identification of any **deficiencies** of evidence, the **type of evidence** needed, and any recommendations of the **source(s)** from which the evidence is to be obtained.

B. Operating Procedure

1. BOX 5 IS CHECKED

    a. **When box 5 is checked** for several items within a subsection, **consider** the **possibility** that the **record is inadequate** to permit an RFC statement for that subsection.

    b. **When this is the case, do not write a functional assessment** for that subsection in section III. Instead, **write a rationale in section II** , explaining why the narrative assessment is missing for that subsection.

2. ADDITIONAL MEDICAL DEVELOPMENT

    a. **Current evidence is insufficient.**

    When the evidence in file is insufficient to permit the MC to make assessments of critical mental functional capacities, the MC will **record the medical development to be undertaken** in section II of the SSA-4734-F4-SUP.

    NOTE: In addition to permitting new judgments on items that were not initially ratable, the **new evidence may cause the MC to reconsider judgments on other items.**

    b. **Additional evidence Obtained.**

        o When **additional medical evidence is obtained,** a **new** SSA-4734-F4-SUP **must be prepared** to replace the preliminary SSA-4734-F4-SUP.

        o **The new, signed SSA-4734-F4-SUP** is to be **filed on the left** side of the folder.

        o **Clearly mark** the preliminary SSA-4734-F4-SUP "PRELIMINARY ONLY" on the first page, then **file** on the **right** side of the folder.

        o **Do not file** preliminary SSA-4734-F4-SUP's on the **left** side of the folder.

Mental Cognitive Subcommittee
Content Model and Classification Recommendations

DI 24510.065 Section III of SSA-4734-F4-SUP - Functional Capacity Assessment

A. INTRODUCTION

Section III is for recording the formal narrative mental RFC assessment and **provides** for the MC to prepare a **narrative statement** for **each** of the subsections (A through D) in section I.

B. OPERATING PROCEDURE

In preparing the formal narrative statement, the MC is to address each of the four mental categories (Understanding and Memory, Concentration and Persistence, Social Interaction, and Adaptation) by:

- Identifying each mental category in turn; and

- Providing a narrative discussion of the individual's capacities and limitations.

1. Writing the Narrative Statement

a. **Identify** the subsection (e.g., Understanding and Memory), then **discuss** the **functions** that the individual has demonstrated that he/she **can do,** as well as any **limitations** of those functions.

- o **Describe,** in detail, the mental capacities, limitations, and any other information that is important in the comprehensive expression of mental RFC.

- o **Indicate** the extent to which the individual could be **expected to perform and sustain** the activity.

- o **Include** any additional information or consideration that is necessary to give a **clear description** of the individual's mental functional capacity.

Examples:

- o The claimant can understand, remember, and carry out a two-step command involving simple instructions.

- o The claimant can understand complex instructions but can only recall at a span of two-step commands. The claimant, therefore, would be limited to this span.

- o The claimant can understand and remember a four-step command, but the disruption of executive functions is such that he can carry out only a single step before confusing the order.

b. **Record conclusions of functional capacity** provided by examining physicians that are **appropriate** and **consistent** with the documented medical and

nonmedical evidence, along with the supporting findings. (See DI 24510.030C(III).)

c. **Confine** discussion to the **effects** of the impairment(s) on function.

d. **Include no severity ratings** or **nonspecific** qualifying **terms** (e.g., moderate, moderately severe) to describe limitations. Such terms do not describe function and do not usefully convey the extent of capacity limitation.

e. **Offer no opinion** as to whether the individual is **disabled** or whether the individual **can** or might perform or **qualify** for **levels** of work (e.g., unskilled) or **specific jobs** (e.g., truck driver).

2. Signature and Date

a. **After completing** the narrative statement in section III, sign and date the SSA-4734-F4-SUP in the spaces provided.

b. The MC's name is to be typed or stamped below the signature.

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Appendix C – 9

Mental Cognitive Roundtable –

Mental Residual Functional Capacity Assessment Form

MENTAL RESIDUAL FUNCTIONAL CAPACITY ASSESSMENT

NAME	SOCIAL SECURITY NUMBER
	— —

CATEGORIES *(From 1C of the PRTF)*	ASSESSMENT IS FOR:
	☐ Current Evaluation ☐ 12 Months After Onset: _____ *(Date)*
	☐ Date Last Insured: _____ *(Date)*
	☐ Other: _____ *(Date)* to _____ *(Date)*

I. SUMMARY CONCLUSIONS

This section is for recording summary conclusions derived from the evidence in file. Each mental activity is to be evaluated within the context of the individual's capacity to sustain that activity over a normal workday and workweek, on an ongoing basis. Detailed explanation of the degree of limitation for each category (A through D), as well as any other assessment information you deem appropriate, is to be recorded in Section III (Functional Capacity Assessment).

If rating category 5 is checked for any of the following items, you <u>MUST</u> specify in Section II the evidence that is needed to make the assessment. If you conclude that the record is so inadequately documented that no accurate functional capacity assessment can be made, indicate in Section II what development is necessary, but <u>DO NOT COMPLETE SECTION III</u>.

	Not Significantly Limited	Moderately Limited	Markedly Limited	No Evidence of Limitation in this Category	Not Ratable on Available Evidence
A. UNDERSTANDING AND MEMORY					
1. The ability to remember locations and work-like procedures.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐
2. The ability to understand and remember very short and simple instructions.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐
3. The ability to understand and remember detailed instructions.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐
B. SUSTAINED CONCENTRATION AND PERSISTENCE					
4. The ability to carry out very short and simple instructions.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐
5. The ability to carry out detailed instructions.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐
6. The ability to maintain attention and concentration for extended periods.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐
7. The ability to perform activities within a schedule, maintain regular attendance, and be punctual within customary tolerances.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐
8. The ability to sustain an ordinary routine without special supervision.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐
9. The ability to work in coordination with or proximity to others without being distracted by them.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐
10. The ability to make simple work-related decisions.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐

	Not Significantly Limited	Moderately Limited	Markedly Limited	No Evidence of Limitation in this Category	Not Ratable on Available Evidence

Continued — <u>SUSTAINED CONCENTRATION AND PERSISTENCE</u>

11. The ability to complete a normal work-day and workweek without interruptions from psychologically based symptoms and to perform at a consistent pace without an unreasonable number and length of rest periods.
1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

C. <u>SOCIAL INTERACTION</u>

12. The ability to interact appropriately with the general public.
1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

13. The ability to ask simple questions or request assistance.
1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

14. The ability to accept instructions and respond appropriately to criticism from supervisors.
1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

15. The ability to get along with coworkers or peers without distracting them or exhibiting behavioral extremes.
1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

16. The ability to maintain socially appropriate behavior and to adhere to basic standards of neatness and cleanliness.
1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

D. <u>ADAPTATION</u>

17. The ability to respond appropriately to changes in the work setting.
1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

18. The ability to be aware of normal hazards and take appropriate precautions.
1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

19. The ability to travel in unfamiliar places or use public transportation.
1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

20. The ability to set realistic goals or make plans independently of others.
1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

II. REMARKS: If you checked box 5 for any of the preceding items or if any other documentation deficiencies were identified, you MUST specify what additional documentation is needed. Cite the item number(s), as well as any other specific deficiency, and indicate the development to be undertaken.

☐ Continued on Page 4

III. FUNCTIONAL CAPACITY ASSESSMENT
Record the elaborations on the preceding capacities in this section. Complete this section ONLY after the SUMMARY CONCLUSIONS section has been completed. Explain your summary conclusions in narrative form. Include any information which clarifies limitation or function. Be especially careful to explain conclusions that differ from those of treating medical sources or from the individual's allegations.

☐ THESE FINDINGS COMPLETE THE MEDICAL PORTION OF THE DISABILITY DETERMINATION.

MEDICAL CONSULTANT'S SIGNATURE | DATE:

Form SSA-4734-F4-SUP (02-2008) ef (02-2008)   3

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Continuation Sheet – Indicate section(s) being continued.

Privacy Act Notice: The information requested on this form is authorized by Section 223 and Section 1633 of the Social Security Act. The information provided will be used in making a decision on this claim. Failure to complete this form may result in a delay in processing the claim. Information furnished on this form may be disclosed by the Social Security Administration to another person or governmental agency only with respect to Social Security programs and to comply with federal laws requiring the exchange of information between Social Security and other agencies.

Paperwork Reduction Act: This information collection meets the requirements of 44 U.S.C. § 3507, as amended by Section 2 of the Paperwork Reduction Act of 1995. You do not need to answer these questions unless we display a valid Office of Management and Budget control number. We estimate that it will take about 20 minutes to read the instructions, gather the facts, and answer the questions. *You may send comments on our time estimate above to: SSA, 6401 Security Blvd., Baltimore, MD 21235-6401.* **Send only comments relating to our time estimate to this address, not the completed form.**

Form SSA-4734-F4-SUP (02-2008) ef (02-2008)   4

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Appendix D

First Mental Cognitive Subcommittee Presentation

Cognitive Asessment for the Determination of Mental Residual Functional Capacity

David J. Schretlen, PhD
OIDAP Meeting
April 29, 2009
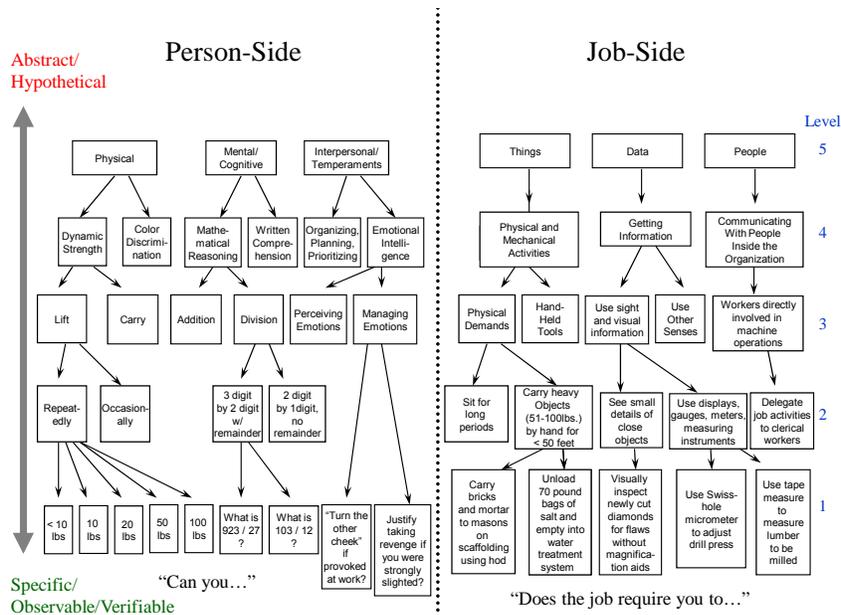
JOHNS HOPKINS
MEDICINE
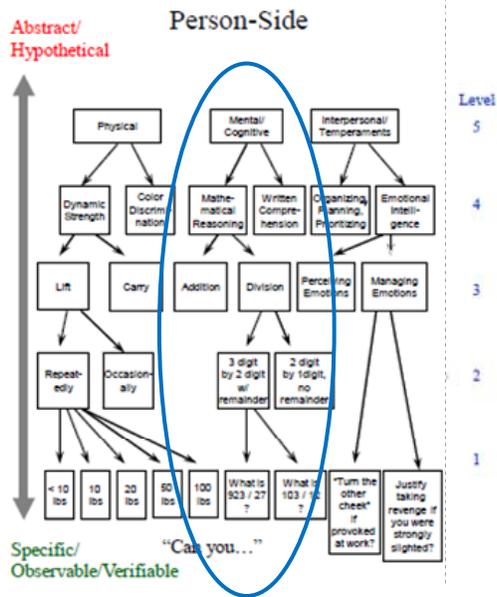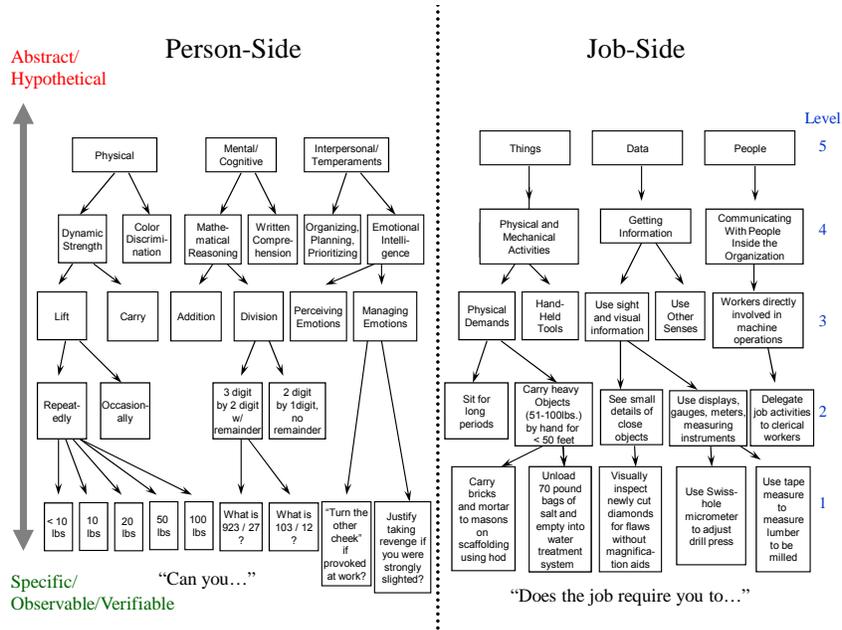
Mental Cognitive Subcommittee

Content Model and Classification Recommendations

Mental/Cognitive

- Individual differences in cognitive test performance predict occupational attainment in healthy and clinical populations

- Often predicts work outcome better than primary symptom severity (eg, TBI, MS, Schizophrenia, etc.)

- This makes cognitive function a "final common pathway" of work disability in many diseases and conditions

- Thus, it is essential to include cognition in mental RFC

- Two ways to approach this
  - Performance-based measures (IQ, memory, attention testing)
  - Ratings (self- or informant-repot)

We must first decide what abilities to assess before we decide how to assess them

Clinical approach: A view from the the perspective of what goes wrong

Domain affected	Disease/condition	Manifestation
Intelligence	Fragile X	Intellectual disability
Language	Stroke	Aphasia
Attention	Traumatic brain injury	Distractibility/ADD
Learning/memory	Korsakoff	Amnesia
Processing speed	Parkinson	Bradyphrenia/bradykinesia
Visual-spatial abilities	Lewy body	Agnosia
Executive functioning	Schizophrenia	Dysexecutive & abulia
Arithmetical abilities	Developmental	Acalculia
Skilled movement	Brain tumor	Apraxia
Wakefulness	Narcolepsy	Drowsiness

Psychometric approach: A view from the perspective of factor analyses

- EFA (exploratory factor analysis) is used to elucidate an underlying factor structure

- CFA (confirmatory factor analysis) is used to test *a priori* hypotheses

  – Based on a conceptual model or previous findings

  – Evaluate a model and compare it to specific alternatives

  – Test how well hypothesized models fit the observed data

    - Compare "nested" models (in which some models combine factors from preceding ones)

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FACTOR ANALYSES	CFA: Confirmatory Factor Analysis, EFA: Exploratory factor analysis, BCPA: block principal component analysis, RCA: Reliable Components Analysis, PCA: Prin Components Analysis; SCFA: Single Confirmatory Factor Analysis, PAF: Prin Axis Factoring			
HEALTHY SAMPLES	Sample / Tests in Domain	Analysis	# Vars	# Factors
Gomez et al., 2006				
	521 Spanish-speaking Normal Control	EFA	27	6
1. Attentional-executive	category formation test, visual search, semantic verbal fluency, phonological verbal fluency, design fluency			
2. Contextual-exec memory	LMI, LMD, Verbal paired associates Immediate, & Delayed, motor functions			
3. Verbal memory	word list encoding, free recall, cued recall, recognition			
4. Sustained attention	time orientation, digit detection, mental control, faces immediate, faces delayed recall			
5. Atten - working memory	digit span forward, & backward, spatial span forward, & backward			
6. Orientation	place orientation, person orientation			
Tulsky et al., 2003				
	1,250 Normal Control (healthy adults aged 16 - 89)	CFA	26	6
1. Verbal comprehension	Vocabulary, Information, Similarities, Comprehension (Verbal Comp of WAIS-III)			
2. Perceptual organization	Matrix Reasoning, Block Design, Picture Completion (WAIS-III): Picture Arrangement (WMS-III)			
3. Auditory memory	Logical Mem I, Logical Mem II, Verbal Paired I, Verbal Paired II, Word List I, Word List II			
4. Visual memory	Faces I, Faces II, Family Picture I, Family Pictures II, Visual Reproduction I, Visual Reproduction II			
5. Working memory	Letter Number Sequencing, Digit Span, Arithmetic, Spatial Span			
6. Processing speed	Symbol Search, Digit Symbol			
Rowe et al., 2007				
	1,316 Normal Controls (mean age = 33, range 6-16)	PCA	19	7
1. Info processing & speed	Verbal Interference Test Part I, and II, Switching of Attention Test Parts I, and II, Choice Reaction Time test			
2. Verbal memory	Verbal Learning and Recall Test: delayed, recognition, immediate recall			
3. Viligance/sustained atten	CPT Reaction Time, CPT Errors			
4. Working memory	Digit Span forward, Digit Span backward, Span of Visual Memory Test			
5. Sensori-motor function	average pause between taps on tapping test for dominant and non-dominant hands			
6. Verbal processing	Letter Fluency, Category Fluency			
7. Executive function	Maze complettion time, Maze overrun errors, Span of Visual Memory Test			
Salthouse, 1998				
	Three healthy groups: children (age 5-17) n = 3,155 ; college students (age 18-22) n = 735; nonstudents (age 18-94) n = 1580			
1. General higher-order factor	concept formation, calculation, app probs, science, social studies, humanities, incomplete words, visual closure, sound blending, memory for names, Visual-Auditory learning, memory for sentances, memory for words, visual matching, cross out	SCFA	16	1
Colom et al., 2009				
1. g (General Intelligence)	Adv Progressive Matrices (APM), Induct reason (PMA-R), abs reason (DAT-AR), vocab (PMA-V), verbal reason (DAT-VR)			

1. Gf (fluid intelligence)	Advanced Progressive Matrices (APM), Inductive reasoning subtest (PMA-R), abstract reasoning (DAT-AR)			
2. Gc (crystallized intelligence)	vocabulary (PMA-V), verbal reasoning (DAT-VR), numerical reasoning (DAT-NR)			
3. Gv (verbal intelligence)	Solid Figures, mental rotation (PMA-S), spatial relations (DAT-SR)			
Visser et al., 2006				
	200 Normal Controls (age range = 17-66, M = 22.7 (6.1))			
1. g (General intelligence)	Nec Arith Operations, Diagramming Relationships, Opposites, Paper Folding, Social Translations, Vocab, Map Planning, Subtraction and Multiplication, Consistency, Cartoon Predictions, Stork Stand, Mark Making, Tonal Accuracy	PAF	15	1
MIXED/MULTIPLE GRPS				
Dickinson et al., 2004				
	97 Schizophrenia & 87 Normal Conrols			
1. Common Factor	Vocab, Sim, Info, PC, BD, MR, LNS, Spatial Span, DSym, Sym Search, LM I, LM II, VP I, VP II, Fac Rec I, II, Famly Pict I, II	SCFA	18	1
Dickinson et al., 2006				
	157 Normal Control	CFA	17	6
	148 Schizophrenia	CFA	17	6
1. Verbal comprehension	Vocab (WAIS-R), Visual Naming (MAE)			
2. Perceptual organization	Block Design (WAIS-R), Line Orientation (Benton)			
3. Verbal learning/memory	Trials 1-5 & Delayed Free Recall (CVLT), Logical Mem immediate & delayed (WMS-R)			
4. Visual learning/memory	Figural Memory immediate & delayed (WMS-R)			
5. Info processing speed	Symbol Cancellation Test, Trls A, Animal Naming (BDAE)			
6. Exec/Working memory	Digit Span (WAIS-R), Trls B, Categories & Persev. Erros (WCST)			
Genderson et al., 2007				
	125 NC (-5 due to kurtosis)	CFA*	21	7
	162 probands (-5 due to kurtosis)	CFA*	21	7
	94 SZ (-5 due to kurtosis)	CFA*	21	7
	382 full sample (-15 due to kurtosis)	CFA*	21	7
1. Speed	Trls A, Trls B, Let. Fluency, Cat. Fluency			
2. Target detection	CPT distraction, CPT viligance, Zero-back			
3. N back updating/ exec	One Back, Two Back, Three Back			
4. Verbal episodic memory	CVLT Trails 1-5, WM Log Memory, WM Pair Assoc I, Pair Assoc II			
5. Visual processing/memory	WM Visual Reprod I, Visual Reprod II, Benton Line,			
6. WCST executive function	WCST Persev Errors, WCST Categories			
7. Digit span	WMSR Forward, WMSR Backward			

Gladsjo et al., 2004				
	209 Psychotic Disorder	CFA	21	6
	131 Normal Control	CFA	21	6
1. Verbal crystalized	WAIS-R Vocab, Info, Similarities; Boston Naming			
2. Attention/working mem	WAIS-R Arith, Digit Span			
3. Verbal episodic	CVLT Monday Total, Story Learning, CVLT Long-Deay Free Recall			
4. Speed of info processing	WAIS-R Digit Symbol, Trls A, Trls B, GPB, Digit Viligance, Let. Fluency			
5. Visual episodic	Figure Learning, Figure Delay			
6. Reasoning/problem solving	Block Design, Category, WCST			
Johnson et al., 2009				
	191 Normal Controls (mean age = 75)	CFA	12	4
	115 autopsy confirmed AD (mean age = 80)	CFA	12	4
1. General (all measures)	** all of the tests are included in this factor			
2. Verbal memory	Information, Paired Associates Learning, BNT, Logical Memory			
3. Visuospatial	BVRT (Benton Visual Rec. Test), Digit Symbol, Trls A, Block Design			
4. Working memory	Word Fluency, Mental Control, Digit Span Backward, Digit Span Forward			
Schretlen et al., 2009				
	340 Normal Control	CFA	15	6
	126 Bipolar Disorder	CFA	15	6
	110 Schizophrenia	CFA	15	6
1. Attention	BTA-L, BTA-N, CPT-II			
2. Speed	TMT-A, TMT-B, GPT			
3. Fluency	Letter, Category, Design			
4. Visual memory	BVMT 1-3, BVMT Del			
5. Verbal memory	HVLT 1-3, HVLT Del			
6. Executive function	WCST Cat, WCST Err			
Siedlecki et al., 2008				
	322 Normal Control	CFA	15	5
	878 Questionable Dementia	CFA	15	5
	639 Alzheimer Disease	CFA	15	5

1. Processing speed	Shape Time (shapes) and TMX Time (letters) of Cancellation Task			
2. Memory	SRT (Selective Reminding Task) Total Recall, Delayed Recall, Delayed Recog, BVRT (Benton Visual) Recog			
3. Language	Naming (BNT), Repitition, Comprehension, Letter Fluency, Category Fluency			
4. Reasoning visual/spatial	WAIS Similarities, Identities/Oddities (MDRS), Rosen (drawing test), BVRT Matching (Benton Visual)			
5. Attention	TMX Omits (Letters)& Shape Omits of Cancellation Test,			
CLINICAL SAMPLES				
Frazier et al., 2004				
	1,364 mixed patient sample	RCA	21	4
1. Memory	WMS-III Auditory Immediate, Visual Immediate, Auditory Delayed, Visual Delayed, Auditory Recognition			
2. Visual motor	Trls A, Trls B, WAIS-III PSI, WAIS-III POI, Finger Tapping Dominant, Finger Tapping Non-Dominant, GBP Dom, GPB Ndom			
3. Language	WAIS-III VCI, WAIS-III POI, WRAT-3 Reading, BNT, Verbal Fluency			
4. Executive	WCST Perseverative Errors, WCST Categories			
Friis et al., 2002				
	219 Schizophrenia	EFA	17	5
1. Working memory	Controlled Oral Word Association Task (COWA), Digit Span w/distractor, Digit Span w/out distractor (Digit Span Distractability Test), CPT hits			
2. Executive function	WCST Categories, WCST Perseverative Responses, WCST # attempts to first category			
3. Verbal learning	CVLT immediate recall, CVLT delayed free recall, CVLT errors			
4. Impulsivity	CPT false alarms (comissions), CPT Reation Time			
5. Motor speed	Finger Tapping			
Jaeger et al., 2003				
	156 Schizophrenia	BPCA	44	6
1. Attention	Concen Endurance (Letters -Errors), Stroop-Words, Stroop-Colors, Trls A, WMS-R Visual Mem, WAIS-R Digit Symbol			
2. Working memory	Concentration Endurance Test (Fluctuation), WAIS-R DS Forward, Letter Number Span # Correct, Longest, WAIS-R Arith, WAIS-R DS Backward, LMI			
3. Ideational fluency + WCST persev.	Ruff Fugural Fluency- Unique Designs, COWAT, Animal Naming, WCST Per Errors			
4. Learning	WMS-R LM I, LM II, WMS-R Verbal Paired I, Verbal Paired II, WMS-R VR I, VR II, WMS-R Visual Paired I, Visual Paired II			
5. Verbal knowledge	WAIS-R Vocab, Info, Comp, Similarities			
6. Non-Verbal function	WMS-R VR I, VR II, WAIS-R Block Design, Object Assembly, Pict Comp, Pict Arrangement			

Czobor et al., 2007				
	185 Schizophrenia, 65 Schizoaffective	EFA	29	6
	155 Bipolar Disorder	EFA, CFA	29	6
1. Attention	Concentration Endurance Test (Letters -Errors), Stroop-Words, Stroop-Colors, Trls A, WAIS-R Digit Symbol			
2. Working memory	Concen Endurance (Fluctuation), WMS-R DS Forward, Letter Number Span , WAIS-R Arith, WAIS-R DS Backward, LMI			
3. Ideational fluency + WCST persev.	Ruff Fugural Fluency- Unique Designs, COWAT, Animal Naming			
4. Learning	WMS-R Verbal Paired I, Verbal Paired II, WMS-R Visual Paired I, Visual Paired II			
5. Verbal knowledge	WAIS-R Vocab, Info, Comp, Similarities			
6. Non-Verbal function	WAIS-R Block Design, Pict Comp, Pict Arrangement			
Keefe et al., 2006				
	1,493 Schizophrenia (includes medical and substance abuse comorbidities)	PCA	24	5
1. Processing speed	COWAT, Category instance, GPB, WAIS-R Digit Symbol			
2. Reasoning	WCST (Perseverative errors & categories)			
3. Verbal memory	HVLT (total recall)			
4. Working memory	Computerized test of visuospatial working memory, letter-number sequencing (# correct)			
5. Viligance	CPT (d-prime)			
Williams et al., 2008	*verified factor structure found in Rowe et al. (2007)			
	56 First Episode Schizophrenia (mean age = 20)	PCA	19	7
1. Information processing & speed	Verbal Interference Test Part I, and II, Switching of Attention Test Parts I, and II, Choice Reaction Time test			
2. Verbal memory	Verbal Learning and Recall Test: delayed, recognition, immediate recall			
3. Viligance/sustained attention	CPT Reaction Time, CPT Errors			
4. Working memory capacity	Digit Span forward, Digit Span backward, Span of Visual Memory Test			
5. Sensori-motor function	average pause between taps on tapping test for dominant and non-dominant hands			
6. Verbal processing	Letter Fluency, Category Fluency			
7. Executive function	Maze complettion time, Maze overrun errors, Span of Visual Memory Test			

General Findings

- Several models of latent cognitive structure have found empirical support in one or more population
  - A few have been replicated in multiple samples
  - And a few have been confirmed by CFA
- The measures included in an assessment strongly affect the nature of the latent cognitive model that is found
- Three "levels" of model complexity deserve particular attention
  - Single factor model: General cognitive ability (*g*)
  - Two-factor models: Crystallized and fluid abilities (Gc & Gf)
  - Multiple-factor models: Multiple cognitive domains

Lumping vs. splitting

- A single summary measure of impairment or cognitive RFC ability has advantages
  - It is easily understood
  - More reliably measured than specific cognitive domains
  - Separate factors share common variance anyway
  - Summary measures correlate best with most outcomes

- Multiple factors have advantages too
  - No theoretical cognitive construct maps onto a summary impairment index
  - Summary scores might mask specific impairments or aspects of RFC that preclude or support employability
  - Scores for multiple measures are no harder to understand than a single summary score

One-Factor Model: *g*

- Hundreds of studies document the existence of a single general mental ability, *g*, on which individuals differ
- *g* is a construct
  - That is not directly observable
  - Determined by genetic and environmental factors
- Arises from fact that performances on <u>all</u> cognitive tasks are positively correlated
  - <u>All</u> cognitive tests measure *g* (to varying degrees)
  - Thus, *g* is not tied to any specific test content such as words, numbers, or geometric patterns
  - Nor is *g* bound to any sex, age, or cultural group
- The *g* component of tests accounts for most of their predictive power

Mental Cognitive Subcommittee
Content Model and Classification Recommendations
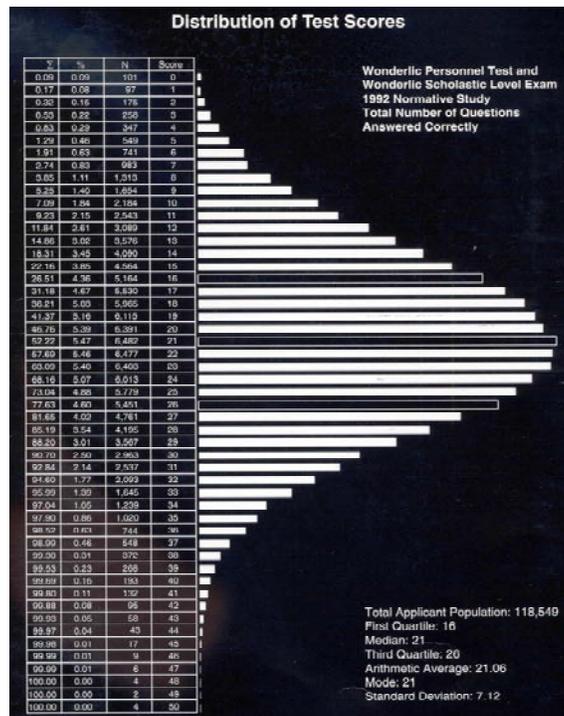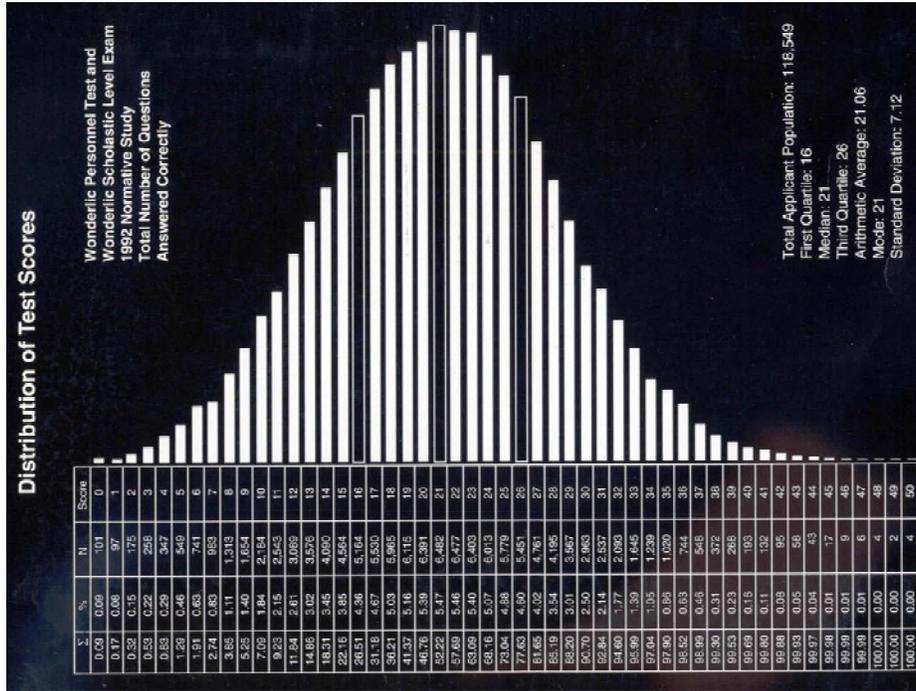
Distribution of Test Scores

Wonderlic Personnel Test and
Wonderlic Scholastic Level Exam
1992 Normative Study
Total Number of Questions
Answered Correctly

Total Applicant Population: 118,549
First Quartile: 16
Median: 21
Third Quartile: 26
Arithmetic Average: 21.06
Mode: 21
Standard Deviation: 7.12

Mental Cognitive Subcommittee
Content Model and Classification Recommendations

TABLE 3: TEST SCORES BY POSITION APPLIED FOR SUMMARY (1992 NORMS)
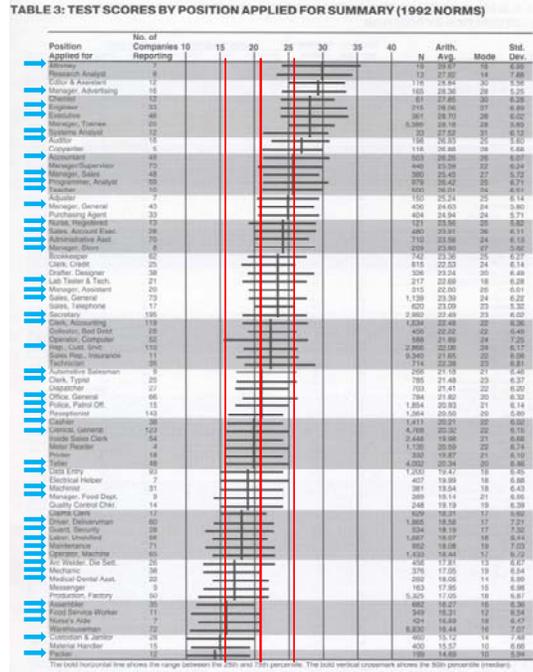
Some Implications & Questions

- 25% of workers fall below 1st quartile
- What point in the distribution of incumbents' scores defines insufficient RFC to meet job demands?
  - 25th %ile, 2nd %ile
- How "well" must a disability applicant be able to perform a job in order to be <u>not</u> disabled?
  - Poor employees are the first laid off
  - Job placement vs. job maintenance
- What is "fair" to non-disabled workers?

Comment

- The single-factor *g* model has advantages
  - It is parsimonious
  - *g* is well documented and highly defensible
  - We can measure it reliably in many languages
  - Individual differences in *g* are robust, easily assessed, and strongly predictive of occupational attainment, work performance, and income in normal, healthy persons
  - We can obtain a reasonable estimate of *g* in a few minutes, using such instruments as the Wonderlic Personnel Test

- It also has limitations
  - Lacks sensitivity to many types of brain dysfunction
  - Does not capture more circumscribed cognitive deficits
  - Thus, might not measure <u>residual</u> functional capacity very well

Two-Factor Model

- Many studies distinguish between highly over-learned skills or knowledge (Crystallized abilities or Gc) and current, online information processing (Fluid abilities or Gf)

  - Gc: vocabulary, fund of information, mathematical ability

  - Gf: novel problem solving, reasoning, speed of processing

  - Gc grows rapidly in childhood, and more slowly in adulthood, and then declines in very late life

  - Gf grows rapidly in childhood, peaks around age 20, and then declines throughout adulthood

  - Gc is more affected than Gf by education

  - Gf is more sensitive than Gc to brain dysfunction

Mental Cognittee Subcommittee

Content Model and Classification Recommendations

Application of a
Two-Factor Model

MENTAL STATUS EXAMINATION–TELEPHONE VERSION
David J. Schretlen, PhD

Name _____ Phone (___) ___-___ Date __/__/__ Age ___ Sex ___

Test Item & Instructions	Scoring Criteria	Score
1. What is today's date? (Prompt for each part as needed.)	___ Day ___ Date ___ Month ___ Year Score 1 point for each correct part of date.	___/4
2. Next I am going to read a list of nine words. Please listen carefully. When I am done, tell me as many words as you can remember in any order. Ready? (Recite each word only once)	___ dentist ___ pepper ___ shoes ___ mustard ___ waitress ___ pants ___ teacher ___ hat ___ vanilla Score 1 point for each word recalled.	___/9
3. Now I am going to read the same list of nine words. After I am through, tell me as many words as you can remember, including words you said the first time. Ready?	___ dentist ___ pepper ___ shoes ___ mustard ___ waitress ___ pants ___ teacher ___ hat ___ vanilla Score 1 point for each word recalled.	___/9
4. How much is 100 minus 7? And how much is 7 from that? And 7 from that? Keep going. (Do not correct errors, but allow subject to subtract from each prior response)	___ 93 ___ 86 ___ 79 ___ 72 ___ 65 ___/5 Write subject's response after each subtraction and score 1 point for each correct difference (e.g., "93–85–77–70–64" would receive a score of 2).	
5. The opposite of up is down. What is the opposite of empty? What is the opposite of shallow? And the opposite of remain? And the opposite of seldom? And the opposite of learn? Score 1 point for each correct answer.	___ full or fill ___ deep (not clear, dark, full or wide) ___ depart, leave, go, move or change (not stay) ___ often or frequently (not always) ___ forget or teach (not dumb, fail, or ignore) ___/5	
6. How much does 5 + 6 equal? How much does 17 – 9 equal? How much does 4 x 16 equal? How much does 70 ÷ 5 equal? Score 1 point for each correct answer.	___ 11 ___ 8 ___ 64 ___ 14	___/4
7. How many months are there in a year? Who was the first President of the United States? On what continent is the Sahara Desert? What kind of tree will grow from an acorn? How many square feet are in a square yard? Score 1 point for each correct answer.	___ 12 ___ George Washington (or Washington) ___ Africa (or African continent) ___ oak (or oak tree) ___ 9	___/5
8. A few minutes ago I read a list of nine words to you. Now I want you to tell me as many of the words on that list as you can remember. Score 1 point for each word recalled	___ dentist ___ pepper ___ shoes ___ mustard ___ waitress ___ pants ___ teacher ___ hat ___ vanilla	___/9
	Total correct: ___/50	

MSE-TV in SSDI/SSI Beneficiaries

Variable	ABC Full Sample (n = 234)	ABC Matched Sample (n = 139)	SSA Sample (n = 139)
Age (years)	54 ± 17	43 ± 13	41 ± 11
Sex (M:F%)	44:56	42:58	45:55
Race (W:B:O%)	79:18:2	68:29:3	26:64:5
Educ. (years)	14 ± 3	14 ± 3	N/A
MMSE	28 ± 2	28 ± 2	24 ± 4

PCA with Varimax Rotation Factor Loadings for ABC and SSA Samples

Question	Factor 1 General Ability		Factor 2 Learning/Memory		Factor 3 Orientation	
	ABC	SSA	ABC	SSA	ABC	SSA
Orientation					.93	.99
Word recall (1)			.75	.84		
Word recall (2)			.83	.86		
Serial 7's	.77	.79				
Opposites	.68	.80				
Arithmetic	.60	.80				
Information	.73	.69				
Word recall (3)			.82	.78		

Correlations of MSE-TV Scores with Other Cognitive Measures

Variable	MSE-TV Total	MMSE Total	Factor 1 General Ability	Factor 2 Learning & Memory	Factor 3 Temporal Orientation
WAIS-R Sum SS	0.63**	0.53**	**0.66****	0.42**	0.02
NART IQ	0.58**	0.37**	**0.69****	0.32**	0.03
HVLT Learning	0.48**	0.30**	0.27**	**0.50****	0.05
HVLT Delay	0.44**	0.27**	0.27**	**0.45****	0.13
BVMT Learning	0.44**	0.33**	0.27**	**0.40****	0.06
BVMT Delay	0.35**	0.33**	0.21**	**0.40****	0.07

Group Differences in MSE-TV Scores

MSE-TV Variable	Healthy Controls (N = 139)	Affective Disorder (N = 59)	Schizophrenia Spectrum (N = 36)	Cognitive Disorder (N = 18)	Mental Retardation (N = 20)
Total	$39.0 \pm 5.5_a$	$31.4 \pm 7.5_b$	$29.2 \pm 5.8_b$	$27.1 \pm 6.6_b$	$20.8 \pm 6.4_c$
Factor 1	$14.5 \pm 3.2_a$	$10.9 \pm 4.4_b$	$10.8 \pm 3.5_b$	$8.9 \pm 4.5_b$	$4.7 \pm 3.0_c$
Factor 2	$20.6 \pm 3.4_a$	$16.5 \pm 3.9_b$	$14.5 \pm 3.8_b$	$14.2 \pm 4.0_b$	$12.2 \pm 4.5_c$
Factor 3	3.9 ± 0.3	4.0 ± 0.0	3.9 ± 0.4	3.9 ± 0.2	4.0 ± 0.2
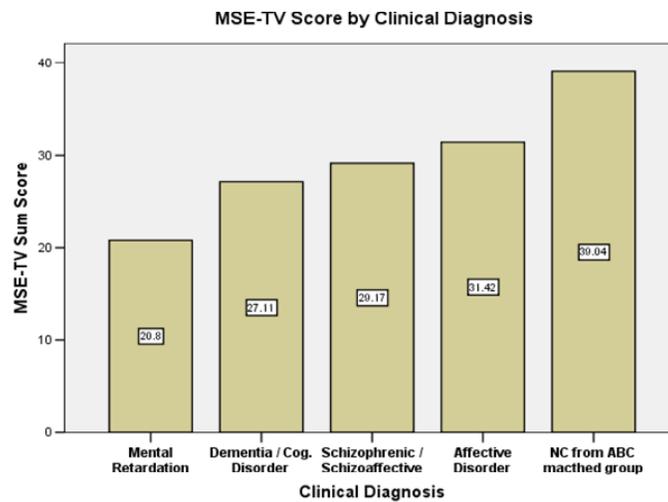
MSE-TV Score by Clinical Diagnosis

Comment on Two-Factor Models

- Allow for slightly more fine-grained assessment of cognitive functioning and impairments

- Gc reflects over-learned "premorbid" verbal abilities that are relatively insensitive to aging and brain dysfunction

- Gf reflects current nonverbal problem solving abilities that are sensitive to age and brain dysfunction

- These two factors can be combined into one

Multiple-Factor Models

- Several multiple-factor models emerged from our (selective) review of the literature
- The most robust and well-replicated factors include
  - General mental ability (g)
  - Verbal learning and memory
  - Processing speed
- Somewhat less clear (in terms of independence)
  - Working memory
  - Attention/concentration
  - Executive functioning
  - Ideational fluency

Johns Hopkins Confirmatory Factor Analysis in Three Populations

- Determine whether the same hypothesized latent factors would characterize cognitive functioning in three groups

- Test hypothesized model against specific alternatives

- Hypothesized model based on previous study (Schretlen et al, 2007)

Participants and Method

Recruited 576 participants, including 340 reasonably healthy adults (NC), 110 relatively stable individuals with schizophrenia (SZ), and 126 relatively stable persons with bipolar disorder (BD).

All participants underwent cognitive testing.

	NC (n = 340)	SZ (n=110)	BD (n=126)	Statistic	p
Age (years)	54 ± 19	40 ± 11	42 ± 11	$F_{(2,571)} = 44.1$	<.001
Sex (male, %)	44	70	40	$\chi^2_{(2)} = 28.2$	<.001
Race (w:b:o %)	79:18:3	39:55:6	55:40:5	$\chi^2_{(4)} = 68.9$	<.001
Education (years)	14 ± 3	12 ± 2	14 ± 3	$F_{(2,571)} = 19.5$	<.001
Est. premorbid IQ	105 ± 10	97 ± 11	103 ± 12	$F_{(2,,571)} = 23.3$	<.001

Clinical Characteristics of the Patients

	SZ (n=110)	BD (n=126)	Statistic	p
Age at onset , years	23 ± 7	25 ± 9	$t_{(212)} = -1.8$	.064
Illness duration, years	17 ± 11	18 ± 11	$t_{(212)} = -0.6$	.519
# Hospitalizations	5.0 ± 5.6	3.7 ± 5.1	$t_{(210)} = 1.8$	.066
SANS (sum)	8.9 ± 5.5	1.8 ± 2.4	$t_{(193)} = 8.6$	.001
SAPS (sum)	4.7 ± 3.8	1.0 ± 1.8	$t_{(191)} = 11.9$	.001
Typical antipsychotic (%)	34	5	$\chi^2_{(1)} = 14.7$	.001
Atypical antipsychotic (%)	74	47	$\chi^2_{(1)} = 13.9$	.001
Antidepressant (%)	23	48	$\chi^2_{(1)} = 12.0$	.002
Lithium (%)	4	56	$\chi^2_{(1)} = 58.6$	.001
Anticonvulsant (%)	12	44	$\chi^2_{(1)} = 23.7$	.001

Competing Models

Six-Factor Model

Factor	Measures
Psychomotor Speed	TMT-A, TMT-B, and GPT (mean of both hands)
Attention	BTA-L, BTA-N, and CPT Hit RTse
Ideational Fluency	Letter, Category, and Design Fluency
Verbal Memory	HVLT-R Learning and delayed recall
Visual Memory	BVMT-R Learning and delayed recall
Executive Function	mWCST category sorts and errors

Six-Factor Model with TMT-B on EF

Factors	Measures
Psychomotor Speed	TMT-A and GPT (mean of both hands)
Attention	BTA-L, BTA-N, and CPT Hit RTse
Ideational Fluency	Letter, Category, and Design Fluency
Verbal Memory	HVLT-R Learning and delayed recall
Visual Memory	BVMT-R Learning and delayed recall
Executive Function	TMT-B mWCST categories and errors

Five-Factor "Speed" Model

Factors	Measures
Psychomotor Speed	TMT-A, TMT-B, GPT, Letter, Category, and Design
Attention	BTA-L, BTA-N and CPT Hit RTse
Verbal Memory	HVLT-R Learning and delayed recall
Visual Memory	BVMT-R Learning and delayed recall
Executive Function	mWCST category sorts and errors

Five-Factor "Memory" Model

Factors	Measures
Psychomotor Speed	TMT-A, TMT-B and GPT (mean of both hands)
Attention	BTA-L, BTA-N and CPT Hit RTse
Ideational Fluency	Letter, Category, and Design Fluency
Memory	HVLT-R and BVMT-R learning and delayed recall
Executive Function	Wcst categories and Wcst errors

Four-Factor Model

Factors	Measures
Psychomotor Speed	TMT-A, TMT-B, GPT, Letter, Category, and Design
Attention	BTA-L, BTA-N and CPT Hit RTse
Memory	HVLT-R and BVMT-R learning and delayed recall
Executive Function	mWCST category sorts and errors

One-Factor Model

Factors	Measures
General Cognition	All measures

Evaluating CFA Results

Statistic	Name	Recommended Values
χ^2/df	Chi-square/df	< 3 is a good fit
RMSEA	Root mean square error of approximation	< 0.05 is a very good fit < 0.08 is a reasonable fit
NNFI	Non-normed fit index	> 0.95 is a close fit > 0.90 is a good fit
CFI	Comparative fit index	> 0.95 is a close fit > 0.90 is a good fit

CFA Results: Six-Factor Models

Six-Factor Model

Group	χ^2/df	RMSEA	NNFI	CFI
Combined	2.50	0.051	0.99	0.99
NC	1.79	0.048	0.98	0.99
BD	1.63	0.071	0.96	0.97
SZ	1.40	0.060	0.98	0.98

Six-Factor Model
with TMT-B in EF

Group	χ^2/df	RMSEA	NNFI	CFI
Combined	4.92	0.083	0.95	0.96
NC	3.44	0.085	0.93	0.95
BD	1.93	0.087	0.94	0.95
SZ	2.03	0.097	0.92	0.94

CFA Results: Five-Factor Models

Five-Factor "Speed"
Model

Group	χ^2/df	RMSEA	NNFI	CFI
Combined	4.75	0.081	0.96	0.97
NC	3.38	0.084	0.95	0.96
BD	1.82	0.081	0.95	0.96
SZ	1.54	0.071	0.96	0.97

Five-Factor "Memory"
Model

Group	χ^2/df	RMSEA	NNFI	CFI
Combined	10.16	0.126	0.89	0.92
NC	4.41	0.100	0.91	0.93
BD	2.59	0.112	0.87	0.90
SZ	2.68	0.124	0.89	0.91

CFA Results: Remaining Models

Four-Factor Model

Group	χ²/df	RMSEA	NNFI	CFI
Combined	11.01	0.132	0.90	0.92
NC	5.69	0.117	0.89	0.91
BD	2.75	0.118	0.87	0.89
SZ	2.76	0.127	0.88	0.91

One-Factor *(g)* Model

Group	χ²/df	RMSEA	NNFI	CFI
Combined	18.89	0.176	0.76	0.80
NC	12.15	0.181	0.70	0.74
BD	3.95	0.165	0.78	0.81
SZ	4.65	0.171	0.72	0.76
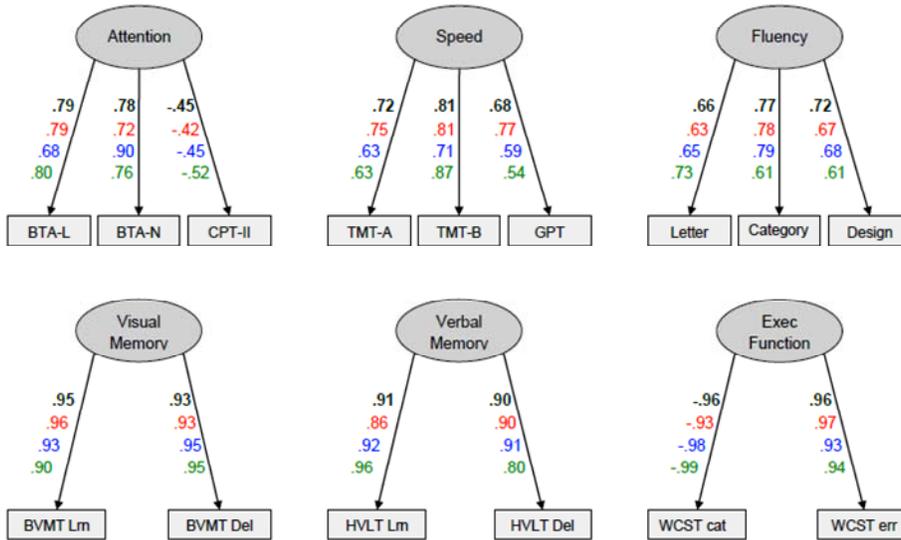
Factor loadings: **Entire Sample; Normal Controls; Bipolar disorder; Schizophrenia**

Comment

- In this CFA, the hypothesized six-factor model showed a good to excellent fit by all evaluative measures

- Other hypothesized models did not fit the data as well

- However, another ensemble of tests almost certainly would yield a different "optimal" solution

- Therefore, the question of whether to assess mental RFC using a multi-factor model probably should precede the selection of which domains to assess

  - My personal recommendation is to assess 3–6 domains

Other Big Issues

- Shall we use performance-based measures or informant rating scales, or both?
  - And who should administer them? Change models?

- How shall we validate decision criteria?
  - I know of no existing data defining disability "thresholds"

- Shall we use available measures or create a proprietary set that SSA creates, standardizes, and updates?
  - This would be my recommendation for many reasons
  - Existing tests become obsolete, raise royalty issues

- There is a theme: The need to design and conduct a couple studies

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Appendix E

Second Mental Cognitive Subcommittee Presentation

Clinical Inference in the Assessment of Mental Residual Functional Capacity

David J Schretlen, PhD, ABPP

OIDAP Panel Meeting

10 June 2009

Methods of Inference

1. Pathognomonic sign approach

2. Pattern analysis

3. Level of performance or deficit measurement

Pathognomonic Signs

- Characteristic of particular disease or condition

- High specificity

- Present vs. absent

- Often ignored questions
  - How frequent are they in healthy individuals?
  - How reliable are they?

Should the Babinski sign be part of the routine neurologic examination?

Timothy M. Miller, MD, PhD; and S. Claiborne Johnston, MD, PhD

- 10 physicians (5 neurologists & and 5 others)

- Examined both feet of 10 participants
  - 9 w/ upper motor neuron lesions (8 unilateral; 1 bilateral)
  - 1 w/ no upper motor neuron lesion

- Babinski present in
  - 35 of 100 examinations of foot w/ UMN weakness (sensitivity)
 - 23 of 99 examinations of foot w/o UMN weakness (specificity)

Neurology (2005)

Pathognomonic?

91-year-old Caucasian woman

14 years of educ (AA degree)

Excellent health

Rx: Floxin, vitamins

MMSE = 27/30

WAIS-R MOANS IQ = 109

Benton FRT = 22/27

WMS-R VR Immed. SS = 8
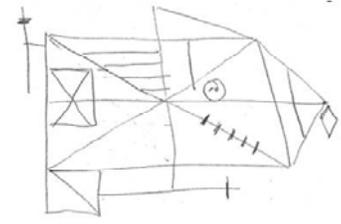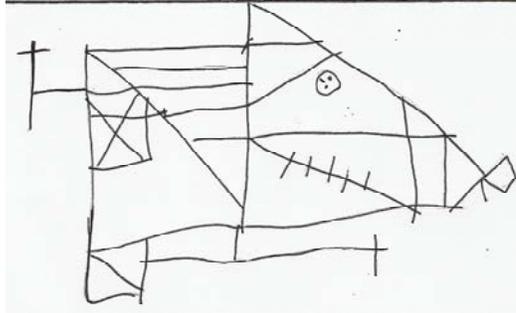
Jan. 2004: 68-year-old retired engineer with reduced arm swing, bradyphrenia & stooped posture. Diagnosed with atypical PD.
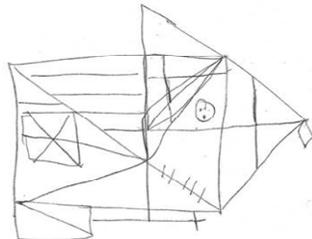
Apr. 2005: Returns for follow-up testing 2 months after CABG; thinks his memory has declined slightly but PD is no worse
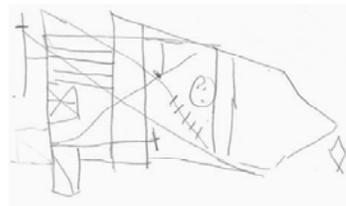
Jan. 2007: Returns & wife reports visual hallucinations, thrashing in sleep, & further memory ↓ but his PD is no worse and he still drives

Pathognomonic Signs: Limitations & Implications

- Are there any in clinical neuropsychology?
  - Unclear if there are any for a specific disease or condition
- Might be more prevalent in normal population than commonly thought
- Reliability is rarely assessed

- ⮕ If we recommend that SSA rely on pathognomonic signs of impairment, we should not assume that successful job incumbents are free of such signs

Methods of Inference

1. Pathognomonic sign approach
2. Pattern analysis
3. Level of performance or deficit measurement

Pattern Analysis

- Recognizable gestalt of signs, symptoms, history, laboratory findings, and test results

- Most elaborate approach to inference

- Best for patients with typical presentations

Empirical Basis of Pattern Analysis

- Considerable empirical support
  - But much of it is pieced together from disparate studies

- Studies often involve discriminant function analyses
  - Other designs have been used (eg, comparing AD and HD patients on MMSE after matching for total score)

Examining the range of normal intraindividual variability
in neuropsychological test performance

- Derived 32 *z*-transformed test scores for 197 healthy Ss

- Subtracted each person's lowest *z*-score from his or her own highest *z*-score to measure the "Maximum Difference" (MD)

- Resulting MD scores ranged from 1.6 - 6.1 (*M*=3.4)

- 65% produced MD scores $\geq$3.0; 20% had MDs $\geq$4.0

- Eliminating each persons' single highest and lowest test scores decreased their MDs, but 27% still produced MS values of 3.0 or greater

Intra-individual variability shown by 197 healthy adults
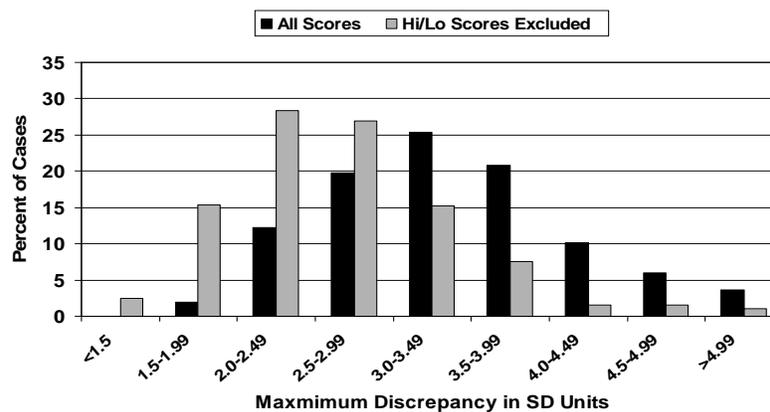
Pattern Analysis: Limitations & Implications

- Applicability varies with typicality of patient

- Normal variation can be mistaken for meaningful patterns

- ⇨ This approach probably mirrors the task of linking specific residual functional capacities to job demands more closely than the others

- ⇨ It might be useful to think about linking specific RFCs to job demands using such statistical methods as cluster analysis or canonical correlation

Methods of Inference

1. Pathognomonic sign approach

2. Pattern analysis

3. Level of performance or deficit measurement

Level of Performance

- Often used to detect impairments or deficits
- <u>But</u>, what is an impairment or deficit?
    - Deficient ability compared to normal peers?
    - Decline for individual (but normal for peers)?

Level of Performance: Deficit Measurement

- We infer *ability* from *performance*
    - But factors other than disease (eg, effort) can uncouple them
    - There is no one-to-one relationship between brain dysfunction and abnormal test performance *at any level*
- But even if other factors do not uncouple them, what is an *abnormal* level of performance?
- <u>Thought experiment</u>: Suppose we test the IQs of 1,000,000 perfectly healthy adults

Would the distribution look like this?
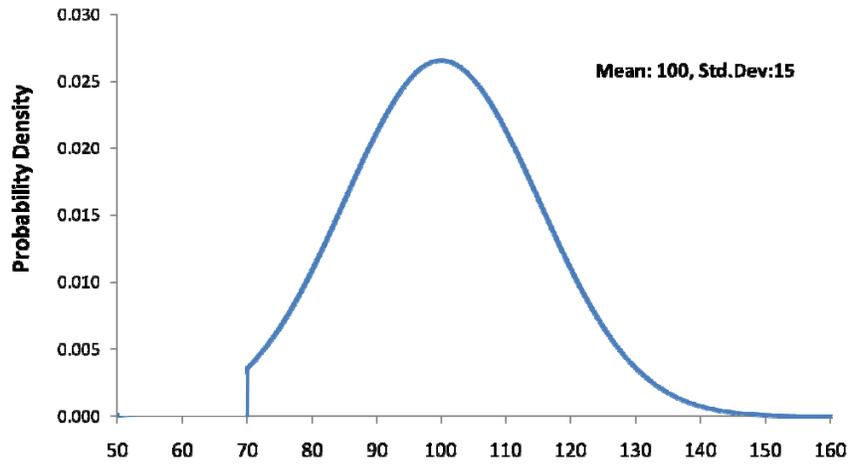
Mean: 100, Std.Dev:15

Probably not

More likely, the distribution would be shifted up
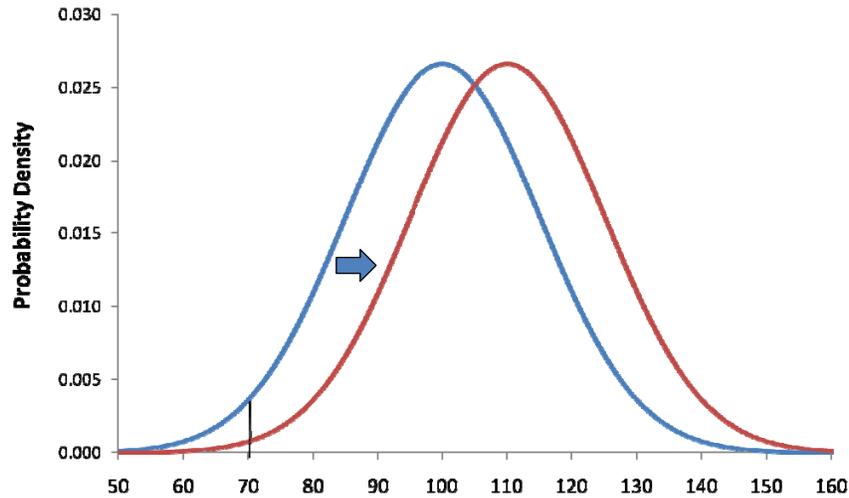
Consequently

- If a distribution of one million IQ test scores is shifted up **10 points**, but remains Gaussian, then 4800 people will still score <u>below 70</u>

- How do we understand normal, healthy people with IQs below 70?
  - Chance?
  - Healthy but nonspecifically poor specimens?

Logical Conclusions

- Some of those who perform in the lowest 2% of the distribution are <u>*normal*</u>

- Most of those who perform in the lowest 2% of the distribution are <u>*impaired*</u>

- The probability of impairment increases with distance below the population mean

Cutoff Scores

- Help decide whether performance is abnormal

- Often set at 2 *sd* below mean, but 1.5 and even 1 *sd* below mean have been used

- If test scores are normally distributed, these cutoffs will include 2.3% to 15.9% of normal individuals on any single measure

Multiple Measures

- When a test battery includes multiple measures, the number of normal healthy individuals who produce abnormal scores increases

- So does the number of abnormal scores they produce

- Using multiple measures complicates the interpretation of abnormal performance on test batteries

The binomial distribution can be used to predict how many abnormal scores healthy persons will produce on batteries of various lengths

Probability of obtaining 2 or more "impaired" scores based on selected cut-off criteria & number of tests administered

Cut-off	Number of Tests Administered		
	10	20	30
--1.0 *SD*	.50	.84	.95
--1.5 *SD*	.14	.40	.61
--2.0 *SD*	.03	.08	.16

Ingraham & Aiken (1996)

C-162

Frequency and bases of abnormal performance
by healthy adults on neuropsychological testing

- Participants
  - 327 reasonably healthy adults without current psychiatric illness or substance abuse/dependence
- Procedure
  - Administered 25 cognitive measures; obtained T-scores
  - Classified T-scores as normal or "abnormal" based on three cutoffs: <40, <35, and <30
  - Computed Cognitive Impairment Indices (CII) as the number of abnormal scores each person produced
  - Used both unadjusted and demographically adjusted scores

- We estimated how many individuals would produce 2 or more abnormal scores using three T-score cutoffs
  1. Based on binomial distribution (BN)
  2. Based on Monte Carlo simulation (MC) using <u>unadjusted</u> T-scores
  3. Based on Monte Carlo simulation (MC$_{adj}$) using <u>adjusted</u> T-scores

Mental Cognittee Subcommittee

Content Model and Classification Recommendations

Test/Measure	M ± SD	Test/Measure	M ± SD
Mini-Mental State Exam	28.1 ± 1.7	Rey Complex Figure	31.3 ± 4.3
Grooved Pegboard Test Dominant hand Non-dom hand	 80.4 ± 28.1 90.5 ± 34.7	Clock Drawing	9.5 ± 0.8
Perceptual Comparison Test	64.5 ± 16.4	Design Fluency Test	14.2 ± 7.2
Trail Making Test Part A Part B	 34.9 ± 17.0 95.0 ± 69.4	Wechsler Memory Scale Logical Memory I Logical Memory II	 26.3 ± 6.9 22.4 ± 7.5
Brief Test of Attention	15.4 ± 3.7	Hopkins Verbal Learning Test Learning Delayed recall Delayed recognition	 24.6 ± 4.8 8.7 ± 2.6 10.4 ± 1.6
Modified WCST Category sorts Perseverative errors	 5.3 ± 1.3 2.5 ± 3.9	Brief Visuospatial Memory Test Learning Delayed recall Delayed recognition	 22.2 ± 7.5 8.7 ± 2.7 5.6 ± 0.7
Verbal Fluency Letters cued Category cued	 28.2 ± 9.2 44.8 ± 11.4		
Boston Naming Test	28.2 ± 2.6	Prospective Memory Test	0.6 ± 0.7
Benton Facial Recognition	22.4 ± 2.3		

25 Measure Battery
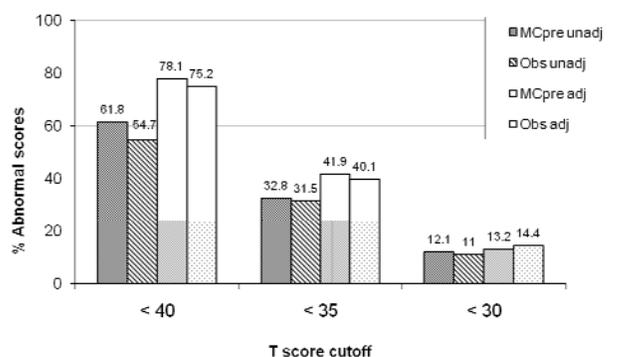
Predicted and observed percentages of participants who produced 2 or more abnormal test scores (y axis) as defined by three different cutoffs (<40, <35, and <30 T-score points)

Spearman correlations between Cog Imp Index scores based on unadjusted T-scores and age, sex, race, years of education and estimated premorbid IQ

No. of tests	T-score cutoff	Mean (SD)	Age	Sex	Race	Educ.	NART IQ
25	< 40	3.6 (4.4)	.573**	-.029	.215**	-.327**	-.360**
25	< 35	1.6 (2.7)	.528**	-.039	.186*	-.325**	-.354**
25	< 30	0.5 (1.3)	.409**	-.066	.176	-.312**	-.318**

* = $p < 0.001$;   ** = $p < 0.0001$

This study shows that

- Neurologically normal adults produce abnormal test scores
  - Rate varies with battery length & cutoff used to define abnormal

- This is not due purely to chance
  - Varies with age, education, sex, race and est. premorbid IQ
  - Demographically adjusting scores eliminates the relationship between these characteristics and abnormal performance

- Findings underscore distinction between "abnormal" test performance and "impaired" functioning
  - Test performance can be abnormal for many reasons: impaired functioning is but one

Returning to the question of what cut-off we should use to define abnormal performance…

- Stringent cut-offs decrease test sensitivity
- Liberal cut-offs decrease test specificity
- Adding tests increases the risk of type I errors
- Excluding tests increases the risk of type II error
- As in most endeavors, we must exercise judgment

Decline from Premorbid Ability

- If we know a person's "premorbid" ability, then it is relatively simple to determine decline
  - Unfortunately, we rarely know this
  - Therefore, we have to estimate it
  - So how do we do that?
- Research has focused on estimating premorbid IQ

Estimating Premorbid IQ

- Demographic prediction
  - Barona formula SE_{est} = 12 points (95% CI = $\pm$24 points)

- Word reading tests are more accurate
  - Except for persons with very limited education
  - And those with aphasia, reading disorders, or severe dementia
  - And persons for whom English is a second language

Stability of NART-R IQ Estimates
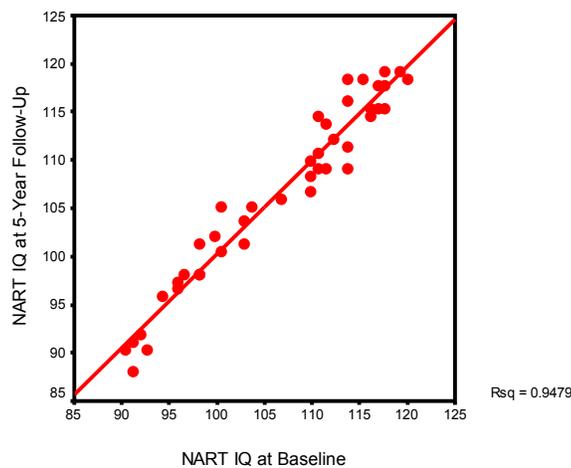
NART IQ at Baseline

Rsq = 0.9479

Correlation of NART-R and WAIS-R
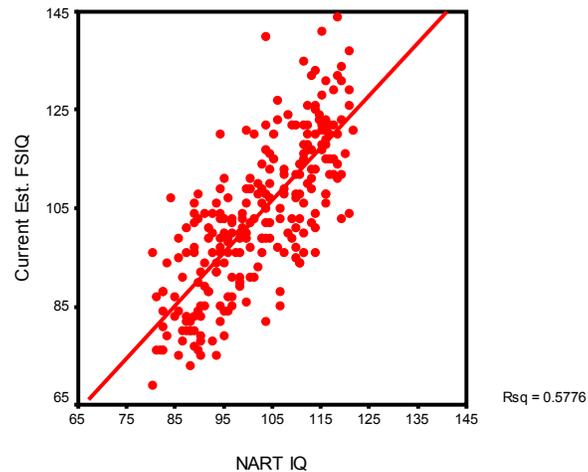
But how well does the NART-R predict cognitive abilities <u>other than</u> IQ?

BRIEF COMMUNICATION

The use of word-reading to estimate "premorbid" ability in cognitive domains other than intelligence

Administered 26 cognitive measures to 322 healthy adults

Regressed each on age, saved the residuals, and correlated these with NART-R scores

Compared the correlation of NART-R and IQ with correlations of the NART-R and other age-adjusted cognitive measures

Table 1. Pearson r (or Spearman ρ) correlation of the NART–R with age-corrected scores on each cognitive test, standard errors of the estimates of NART–R predicted performances on the same measures, and standard scores corresponding to 5th percentile of NART–R predicted minus actual scores for each cognitive test variable

Test/variable	Correlation[1]	$p <$	SE_{Est}	5th %ile[2]
Verbal IQ (prorated)[3]	$r = .755$	.0001	9.4	13.4
Full Scale IQ (prorated)[3]	$r = .724$	.0001	10.1	15.4
GPT Dominant Hand	$\rho = -.286$	.0001	12.9	26.7
GPT Nondominant Hand	$\rho = -.276$	.0001	13.6	24.5
Trail Making Test, Part A	$\rho = -.237$	.0001	14.6	35.3
Trail Making Test, Part B	$\rho = -.528$	.0001	12.1	25.5
Brief Test of Attention	$r = .319$	.0001	14.2	31.5
mWCST Categories	$\rho = .311$	.0001	14.3	37.8
mWCST Perseverative Errors	$\rho = -.259$	.0001	14.5	33.4
Cognitive Estimation Test	$r = -.500$	.0001	13.0	27.1
CPT Hit Reaction Time	$r = .071$	n.s.	15.0	33.1
CPT Discrimination (d')	$r = .061$	n.s.	15.0	39.8
Boston Naming Test	$\rho = .384$	.0001	13.0	28.7
Word Fluency (Letters)	$r = .481$	.0001	13.1	25.7
Word Fluency (Category)	$r = .386$	.0001	13.8	29.0
Design Fluency Test	$r = .403$	.0001	13.7	27.4
Benton Facial Recognition	$r = .284$	.0001	14.4	30.3
Rey CFT (Copy)	$\rho = .328$	.0001	14.2	31.6
HVLT–R Learning	$r = .356$	.0001	14.0	31.6
HVLT–R Delay	$\rho = .349$	.0001	14.2	35.5
HVLT–R Recognition	$\rho = .142$	.05	14.4	33.0
BVMT–R Learning	$r = .318$	.0001	14.2	31.5
BVMT–R Delay	$r = .300$	.0001	14.3	31.1
BVMT–R Recognition	$\rho = .119$	.05	15.0	39.6
WMS–R Logical Memory I	$r = .419$	.0001	13.6	29.7
WMS–R Logical Memory II	$r = .422$	.0001	13.6	28.3
WMS–R Visual Reproduction I	$r = .343$	.0001	14.1	33.5
WMS–R Visual Reproduction II	$r = .258$	.0001	14.5	33.8

[1]Spearman rank order correlations were used for cognitive measures whose distributions were characterized by skewness or kurtosis >1.0; Pearson product-moment correlations were used for all others. [2]Difference between NART–R estimated Full Scale IQ and each standardized test score that included the 5% of participants with the largest discrepancies. [3]Prorated using Ward's (1990) seven-subtest short form of the WAIS–R or WAIS–III.

NART-R correlation with FSIQ = .72

NART-R correlations with other test scores ranged from -.53 to .48

(Every one of the latter was significantly smaller than the correlation with FSIQ)

Estimating Premorbid Abilities

- An *essential* and *unavoidable* aspect of every neuropsychological examination

- If we don't do explicitly, then we do it implicitly

- Even the best methods yield ballpark estimates

- We're better at estimating premorbid IQ than other premorbid abilities

How well does IQ predict neuropsychological test performance in normal adults?

Examined 28 scores derived from 16 cognitive tests that were administered to 221 reasonably healthy adults

Grouped participants by WAIS-R Full Scale IQ into three groups:

N = 37	Below average (BA)	FSIQ < 90	Mean = 83
N =106	Average (A)	FSIQ 90-109	Mean = 101
N = 78	Above average (AA)	FSIQ > 109	Mean = 121
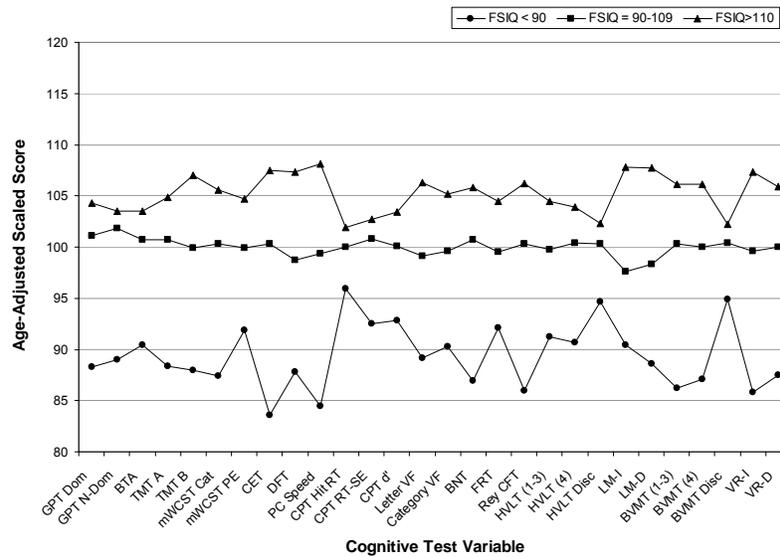
Intelligence and Cognitive Functioning

- Correlations between intelligence and other cognitive abilities are stronger below than above IQ scores of 110
  - *It is less likely that smart people will do well on other tests than it is that dull people will do poorly*

- A normal person with an IQ of 85 is likely to produce "impaired" scores on about 10% of other cognitive tests

Deficit Measurement: Limitations & Implications

- No isomorphic relationship between performance and ability

- Adding tests can increase false positive (type 1) errors

- Setting stringent cut-offs can increase misses (type 2) errors

- NART predicts pre-morbid IQ better than other abilities

- Raising "cut-off" scores for patients of above average IQ can compound the problem of multiple comparisons

Deficit Measurement: Limitations & Implications

- ➡ Many – if not most – <u>successful</u> job incumbents likely fall short of meeting one or more of their job demands

- ➡ What cutoff in the distribution of an ability shown by successful job incumbents should we use to define sufficient RFC for someone to do that job? This will <u>directly</u> affect the percentage of applicants who will be found disabled

- ➡ Factors other than impairment, like effort, can uncouple the linkage between performance and ability

- ➡ Work demands, RFC, and "deficit" vs. "impairment"

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Work Experience Analysis Subcommittee

Content Model and Classification Recommendations

APPENDIX D

Report of the

Work Experience Analysis Subcommittee

Work Experience Analysis Subcommittee

Content Model and Classification Recommendations

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Work Experience Analysis Subcommittee

Content Model and Classification Recommendations

REPORT OF THE

WORK EXPERIENCE ANALYSIS SUBCOMMITTEE

OF THE

OCCUPATIONAL INFORMATION DEVELOPMENT ADVISORY PANEL

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Nancy G. Shor, J.D.

September 2009

Work Experience Analysis Subcommittee

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Work Experience Analysis Subcommittee

Content Model and Classification Recommendations

Executive Summary

The Work Experience Analysis Subcommittee (WEA; formerly known as the Transferable Skills Analysis Subcommittee) was created by the Occupational Information Development Advisory Panel ("OIDAP" or "Panel") to analyze the Social Security Administration's (SSA) Occupational Information System (OIS) data needs for work history and transferable skills assessments performed in its disability adjudication process. The broad arena of review includes identifying the data elements needed for SSA's "skills" and work experience assessments, as well as data analyses and studies that would enable SSA to validate the Content Model data elements relevant to these assessments. These initial data analyses and studies may assist SSA in determining the programmatic and operational effects of the new data elements in its work experience and transferable skills analysis (TSA) process, and they may inform SSA policy development for improvements to the process that would assist SSA in swifter and more accurate adjudication of claims.

The subcommittee initiated a review of relevant literature regarding TSA. It convened a Roundtable of subject matter experts to discuss current models, theory and practice in utilization of TSA for adjudication. Subcommittee members heard presentations by academic experts, staff members of the SSA and State Disability Determination Services (DDS) during Panel meetings, and participated in site visits to DDS offices and the Appeals Council office in Falls Church, Virginia. Finally, subcommittee members engaged in a teleconference with the Work Taxonomy & Classification subcommittee regarding their work and elicited broader commentary from the public through the User Needs & Relations subcommittee. No studies of a scientific nature have been recommended by the WEA Subcommittee to date.

The subcommittee describes the results of its analyses and outlines its recommendations to the Panel regarding data elements for the OIS Content Model that we believe SSA needs for work history and transferable skills assessment in its disability adjudication process (see Recommendations for Skills and TSA Data Elements for the OIS Content Model section). Below, the subcommittee summarizes the recommendations to the Panel for its deliberation. In short, we suggest that the Panel consider recommending the following activities to SSA:

1. The OIS be developed in such a way that the inference necessary to apply its data is reduced to the greatest extent practical and that the degree of overlap or redundancy between data elements and between ratings of data elements be reduced to the greatest extent practical.

2. Validation studies be conducted on the occupational information collected on the data elements that the WEA Subcommittee recommends in this report to determine whether the data that have been captured are the data that were intended to be captured and if the data that have been captured fulfills the function and need described in this report.

3. For Content Model and data development purposes. SSA could use work activities as observable and measurable data elements for skills.

4. The work activity data collected be studied to determine 1) which of the work activities may rise to a level appropriate to be called a "skill," and 2) what continuum of "skill" level may be appropriately assigned to identified skills for SSA's application in the disability adjudication process.

    a. "Degrees of transferability" could be considered by the OIS. Consequently, what identified skills lead to a worker's capacity to perform work activities of other occupations? That is, what factors indicate that skills could be transferable? Can transferability be predicted? Could an error rate be estimated for that prediction?

    b. If or what work activities or identified skills could provide the worker with vocational advantage? Could these be quantified along any scale of work activity within or between occupations?

5. A method be developed for determining the complexity level of the occupation and the individual work activities. Considerations could include:

    a. Review could include the CIP, the O*Net 11-point educational scale or its Tools and Technology Scales, or the SCANS[1] scale and other measures to inform a complexity system.

    b. Potential complexity components in relation to transferability issues could be considered such as possibly weighting of measures to result in overall ranking number for the occupation.

6. A method be developed to identify the time to proficiency for satisfactory performance of an occupation.

---

[1] US Department of Labor (August 2000). *Workplace Essential Skills: Resources Related to the SCANS Competencies and Foundation Skills.*

7. Explore methods to consider the viability of work activities.

Work context factors for the OIS be included (e.g., industry, work settings, tools, machines, technologies, raw materials, products, subject matter, processes, and services) related to an occupation.

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Work Experience Analysis Subcommittee

Content Model and Classification Recommendations

Introduction

As the OIDAP progresses in its work, it sometimes recognizes the need to establish subcommittees that are useful to focus attention on subtopics. As the OIDAP began its work on the Content Model, it decided there existed a need to create a subcommittee to evaluate and anticipate not only any possible effects that might result to the transferable skills analysis (TSA) and the work experience analysis processes due to the new taxonomy and content in the OIS, but also to explore the basis of these processes themselves to consider any improvements that would assist the SSA in swifter and more accurate adjudication of claims.

The WEA Subcommittee was formed during the April quarterly meeting. Original membership of the Panel changed with the resignation of James Woods in April 2009. Current subcommittee members are: Thomas A. Hardy (Chair), Mary Barros-Bailey (Interim Chair, OIDAP), Sylvia E. Karman, Lynnae M. Ruttledge, and Nancy G. Shor.

Scope of the Charge to the OIDAP and the WEA Subcommittee

The charter for the OIDAP provides the following statement regarding the Panel's objective and scope of activities:

> The Panel will provide independent advice and recommendations on plans and activities to replace the *Dictionary of Occupational Titles* used in the Social Security Administration's (SSA) disability determination process. The Panel will advise the agency on creating an occupational information system tailored specifically for SSA's disability programs and adjudicative needs. The Panel will provide advice and recommendations related to SSA's disability programs in the following areas: medical and vocational analysis of disability claims; occupational analysis, including definitions, rating, and capture of physical and mental/cognitive demands of work, and other occupational information critical to SSA disability programs; data collection; use of occupational information in SSA's disability programs; and any other area(s) that would enable SSA to develop an occupational information system suited to its disability programs and improve the medical-vocational adjudication policies and processes.

At the inaugural meeting of the Panel, we were advised that the work of the Panel did not include recommending changes to SSA's disability policies; rather, we were instructed to treat SSA's disability policies as though they were "standing still." Through further conversations, it was learned that SSA intended that the focus of our recommendations be upon the OIS itself rather than SSA policy or possible effects upon said policy. That is, the OIS we are helping to

create must meet SSA's current adjudicative needs at a minimum. The OIS should provide a platform from which SSA can develop and test revisions to its disability process and policies as the OIS data are obtained. Statistical analyses of OIS data and applied research will provide empirical bases for policy evolution that may result in proposed policy revisions that will be developed according to the Administrative Procedures Act (APA).[2]

Given this scope, we recognize that it is not our responsibility to redefine the terms "skill" and "transferable skills" for SSA policy considerations. Instead, it is our charge to identify the data elements that SSA should collect in order to adjudicate claims using its current policy as a starting point, with the understanding that the current policy is based on DOT constructs and definitions and, as such, analyses of newly-obtained OIS data may suggest changes to the current policy.

 The OIS and data collection and subsequent analyses, applied research, and other studies may also indicate the need for SSA to revise its initial Content Model data elements considerations. That is, we recognize that the OIS research and data analyses will inform the OIS development process as well as SSA disability process and policy iteratively.

We admit that we have encountered difficulty attempting to define OIS Content Model data elements using terminology in ways that do not have SSA policy implications. We acknowledge that the DOT constructs that SSA currently uses to perform work experience analysis and TSAs do not directly link to SSA's definitions of skills and transferable skills. The SSA uses several DOT constructs as proxies, or substitutes, for the type of data it needs. Therefore, we must distinguish between the policy (and vocational application) terms with which SSA and external users are familiar and the Content Model data elements we recommend to the Panel. We use the terms "skills," "transferable skills," and "TSA" to refer to applied concepts as they are presently conceived in SSA's disability process and policy.

The development of a new OIS provides SSA with the opportunity to: 1) deconstruct the elements that form the bases of the concepts of skill and transferable skills analysis for disability evaluation and vocational assessment; 2) collect the exact data that are critical to the agency's disability process 3) apply of these data in light of how work experience analysis and TSA are presently conceptualized; and, 4) explore potential improvements for considering work experience and skills and how they transfer given a person's impairment and residual functional capacity to perform work at the substantial gainful activity (SGA) level.

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[2] 5 U.S.C. § 556

Work Experience Analysis Subcommittee

Content Model and Classification Recommendations

This subcommittee is comprised of practitioners who interact with clients and claimants who have functional limitations resulting from medical or psychological impairments, or professionals who work in closely related fields that deal with SSA issues on a daily basis. We have detailed knowledge of the constructs found in the DOT and how those constructs are currently applied to evaluating the vocational aspects of a disability claim. We understand the type of data that is needed in order to support SSA's current disability adjudication process based on the DOT constructs, and we understand how that data is used. We also have a vision for how the future might be shaped, for the better, by improved evidence about the world of work. While we make our recommendations to support SSA's current disability adjudication process, we remain mindful of the incredible potential of this new OIS to improve the lives of our clients and SSA's disability claimants.

The Panel is comprised of individuals with a wide variety of expertise. While this subcommittee makes recommendations regarding only one portion of the Content Model, the full Panel will bring about the final set of Content Model recommendations. We find reassurance in the knowledge that we will have an opportunity to review the data that is collected, and that this will inform further recommendations as this new OIS is developed. This is an iterative process. We are at the first stop sign along the roadmap.

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Work Experience Analysis Subcommittee

Content Model and Classification Recommendations

Methodology and Procedures

1. Initial activity began with identification of salient articles regarding not only the theory of TSA, but also the philosophical underpinnings of the process along with any relevant current research.

2. A convocation of subject matter experts was held in SSA headquarters, Baltimore, on May 12, 2009 to elicit commentary regarding the TSA process. Experts in the private sector possessing knowledge in the evaluation of TSA models that have been applied in the vocational rehabilitation community, theory, and process, or members who have created computer models for performance of private sector TSA, were invited to attend.

3. Members of the WEA Subcommittee were in attendance at all in person Panel meetings and teleconferences held by the SSA and were, therefore, presented with valuable information regarding the work experience and TSA process through arranged presentations, previously prepared papers and public commentary (see Panel minutes for summary of presentations or transcribed session notes for presentation/testimony detail).

4. Opportunity was given to all OIDAP members to visit a local DDS or Office of Disability Adjudication and Review (ODAR) hearing office. These site visits were designed by the OIDAP to be utilized for Panel members to address any questions regarding the five-step disability evaluation process. Subcommittee members were particularly interested in assessing the current use of the work experience and TSA processes as utilized in the determination process. No formal notes or reports were prepared based upon individual visits.

    Opportunity to visit to the Falls Church office of the SSA Appeals Council was also given to all OIDAP members. Visits were conducted in the month of July. Again, the site visits were designed by the OIDAP to be utilized for Panel members to address any questions regarding the five-step disability evaluation process. Subcommittee members were particularly interested in assessing the current use of the work experience analysis and TSA process as utilized in the determination process. No formal notes or reports were prepared based upon individual visits.

5. The OIDAP, through the User Needs & Relations Subcommittee, has elicited commentary from the public regarding a contemplated OIS. Comments have included input regarding the current TSA process utilized by the SSA.

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Analysis

<u>Review of Literature</u>

A final bibliography of 38 articles and books was gathered for the subcommittee to review (see "References"). Articles were assigned to SSA staff and Panel members. Each reviewer was asked to provide a cogent and concise summary including a recommendation on the "usefulness" of the article for possible review by the entire subcommittee.

The most striking finding to date has been that while numerous articles exist regarding the TSA process, all focus is upon the process as utilized by sectors other than SSA. As noted within this paper, while a common language is utilized in discussing "skills" and "skill transfer," SSA is historically guided in using these concepts by their determination process. The literature review suggests that the concept of skill and TSA as applied in other venues is very different than within SSA at Step 5. Consequently, there is considerable room for misunderstanding how these concepts are used in SSA disability adjudication and among other disability systems or in rehabilitation. As such, we currently have the opportunity to examine the essential building blocks of "skill" and "skills transfer" and to focus this research on application of these concepts with the SSA process of transferability of skill and work experience analysis. As the OIS begins to examine the components of "skill" and define them into measurable and observable units of analysis, these findings may impact the traditional model of skills analysis and allow for a further evaluation of the process within the requirements of the SSA. While several articles were noted for their potential usefulness in reviewing the theory behind the TSA, none were considered to directly address the unique process as performed by the Step 5 of the sequential analysis.

<u>Expert Panel Roundtable</u>

The purpose of the meeting was to discuss the concepts involved in the TSA process and how a change to the underlying database presents a unique opportunity to revisit the basic tenets of the TSA. Participants were advised that consensus was not the goal, rather expression of individual opinion by recognized experts leading to areas of potential interest or exploration by the OIDAP. All participants were instructed to consider SSA's policy as "standing still" to facilitate focused discussion on the actual Content Model data that SSA needs to assess skills in its current policy framework at a minimum with the understanding that the OIS would provide a platform for policy and TSA method evolution. Participants were advised that analyses and study of the OIS data captured would be needed first to inform any improvements to the SSA TSA process and policy.

Work Experience Analysis Subcommittee

Content Model and Classification Recommendations

The invited experts were unanimous in their support of the OIDAP Charter and SSA's goal to create an OIS tailored toward its needs. In the ensuing conversation, the experts were generally in accord about the majority of topic areas covered, with exceptions noted in the detail found in Appendix A, regarding the data elements to be included in the OIS and those utilized specifically in the TSA process. It was recognized that the terminology of the DOT infuses all conversations due to the pervasiveness of the definitions and measures that have been historically utilized as a standard for the last seventy or more years. However, it was also agreed that, while the pervasive language sometimes causes confusion in discussion when trying to create new measures or to formulate either new and different utilization of current measures, the underlying concepts are sound and to be retained.

The Roundtable experts were in accord regarding the current definition of a "skill" utilized by SSA and suggested that a short working definition for purposes of the current meeting might be "learned behaviors, techniques, methods, and activities that enable individual workers to perform substantial gainful employment." As a foundation of the skill definition, the experts were unanimous in their recommendation that "categories of technologies that reflect how work gets done and what gets done as a result of the work activity; the purpose of the job" (labeled Work Fields in *The Revised Handbook for Analyzing Jobs* [RHAJ], i.e., cleaning, drafting, protecting, etc.) should be captured by the OIS. The experts agreed that data collection in this area could most easily be achieved through use of work activities and materials, products, subject matter and services. It was recognized that the measures of these items in the DOT are psychometrically flawed. As broad categories of data collection they remain valid areas of consideration. Additional research will be required to establish data elements that accurately reflect these items in a defensible manner under current legal and technical requirements.

The experts strongly urged the OIDAP to consider examining the present method in which skills is conceptualized and potentially what elements constitute the proxy. That is, SVP is a composite and has served as a proxy for how skills, which are person-side attributes, are applied at a work-side measure or level. Studying the underlying constructs of the concept and composite might be useful to consider better ways to conceptualize skill, work experience analysis, and TSA. One possible way to do this would be a break out of the amount of time required by a typical worker to learn the techniques, acquire the information and develop the facility needed for average performance (labeled Specific Vocational Preparation (SVP) in the RHAJ) into component pieces. It was noted that this information remains key to transferability assessment. The experts further suggested a review of the present rating of unskilled, noting that, in their opinion, all work requires some basic skills; thus, the wording of the current rating is confusing. Specifically, although there is a category for "unskilled" work, when

the definition is examined for the types of work that fall into that range, each depicts some level of learning, albeit very basic. That learning, by definition, involves some level of skill acquisition. Thus, the category "unskilled" is a misnomer and confusing. Whether the skills learned in that range as presently defined are sufficient to provide a claimant with the capacity to perform other work at the level of substantial gainful activity is altogether a different question. However, the subcommittee found these concepts are often confounded by users. Experts discussed ways of identifying the complexity level of an occupation, including a complexity quotient involving how work activities must be performed.

Finally, it agreed that a TSA performed for SSA purposes differs in many ways from that being performed, for example, for job seeker placement. Clarity in purpose, and clarity in language, was recognized by all in attendance as being the key to avoiding confusion in the future.

A full summary of this meeting is located in Appendix A of this document.

OIDAP Site Visits

While designed to allow Panel members to address any topic of interest, these visits presented a unique opportunity for in depth discussion of the TSA process as utilized by the SSA in the adjudication of claims. Subcommittee members Thomas Hardy, Nancy Shor, and Mary Barros-Bailey were participants in this program. No formal notes were retained, nor summaries of impressions or visits transcribed. Subcommittee members noted in general that the "end users" of the proposed OIS and eventual TSA process were enthusiastic regarding the possibility for the creation of a user friendly product that would facilitate rapid and accurate adjudication of claims. The proposed OIS was generally seen as a significant asset and was eagerly anticipated.

Anecdotal evidence was obtained via site visits; no attempt was made to create a scientific analysis of the work experience or the TSA processes or use. Based upon the site visits, it appears that the TSA process currently is seen by end users as a time consuming and complex process at Step 5. End users appear reluctant to utilize current methodologies to conduct the TSA and were extremely positive in their response to a more user friendly product being created that would help with the work experience analysis and TSA processes. Responses included requests for a computerized process that would enable the end user to key in past relevant work, adjust for residual functional capacities and receive a summation of remaining skills that would be automatically either connected to occupations existing in sufficient numbers in the national economy, or a finding of no occupations matching the residual profile for the claimant.

Work Experience Analysis Subcommittee

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<u>Solicited Comments from SSA and Professional Organizations</u>

The OIDAP has utilized the *Federal Register* to initiate a link with the public and to provide formal notice of meetings and the goals of Panel. The public has been advised that submission of written or verbal commentary to the Panel can be made regarding any area under consideration by the Panel. Further, the Panel has solicited input from users and interested parties regarding the OIS and has been reviewing and organizing the resulting responses through the User Needs & Relations Subcommittee.

To date, user input remains an ongoing process. It is requested that the User Needs & Relations Subcommittee provide a detailed breakdown of those comments specific to the TSA as performed within SSA. Preliminary analysis of the information provided by the public or professional organizations whose members are indicative of users along SSA's disability determination continuum, result in the following categories:

1. Suggestions and requests for revision of the SVP scales that might include additional educational levels and vocational training to assess vocational preparation.

2. Investigation of occupational prerequisite information, such as type and length of experience needed for occupations.

3. Analysis of how skill is classified along the present spectrum as defined by the ranges of unskilled to skilled work.

<u>Subcommittee Discussions of TSA Factors</u>

The WEA Subcommittee has utilized teleconferences and face-to-face meetings, when possible, to facilitate investigation of issues and discussion within the subcommittee about information and relevant questions members have identified.

On July 13, 2009, the WEA Subcommittee participated in a teleconference with the Work Taxonomy & Classification subcommittee to coordinate efforts of the subcommittees and identify not only areas of mutual concern, but also to eliminate any potential duplication of effort. The teleconference resulted in potential ideas for the subcommittees to consider as they prepare recommendations for the Panel to consider:

1. Deconstruction of "skill" as it is presently conceptualized as a proxy within the DOT and considering other terminology to describe the deconstructed concepts due to the conflation of meanings by disparate users outside of the SSA arena.

2.   Review of work activities or how the work gets done, which is currently reflected in the DOT task descriptions. The essential nugget of this topic is the granularity required in data collection to adequately describe the work activity so that conclusions about how skills transfer carry greater validity.

3.   Review of a complexity level for occupations.

4.   Examining the time required to reach "proficiency" (to be defined) within an occupation. [Note: any attempt to firmly anchor this definition will result in a requirement for further research into a variety of topics including on-the-job experience factors, education levels, and the minimal standard to be utilized.]

5.   Research how long an occupation's "skills" or work activities may be viable. Currently, SSA's definition of Past Relevant Work (PRW)[3] stipulates a relevance period of fifteen (15) years. Work that meets the definition of PRW is analyzed to identify any skills that may be potentially transferred during the TSA at step 5, depending on the individual's age, education, work experience, and RFC. If future research results in a recommendation that a viability factor should be created, this will result in the need for additional questions for review and consideration by the Panel.

6.   Delineating the concept of vocational advantage as currently utilized. Currently vocational advantage is recognized at identified levels of the SVP. Its quantification and interaction with new definitions of SVP or skill will result in a necessary analysis of this concept.

Teleconference participants agreed that the subcommittees may need to revisit these and other related issues as the OIS Content Model is developed and as the OIS data and their statistical analyses become available. Suggested approaches are addressed in the recommendations   section of this report.

Pertinent Presentations

As members of the OIDAP, all subcommittee members were present for the Panel meetings held February 23-25, 2009 in Washington, D.C., April 27-29, 2009 in Atlanta, Georgia, and June 9-11, 2009 in Chicago, Illinois. At the above

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[3] 20 CFR 404.1560(b)(1) and 416.960(b)(1).

referenced meetings, presentations and testimony were heard by the subcommittee members. All referenced presentations can be found on the Panel's website www.ssa.gov/oidap The presentations that provided significant input into the subcommittee's work included:

- *Statutory Significance of the use of Occupational Information in SSA's Disability Programs* by Jeffrey Blair

- *SSA's Sequential Evaluation Process for Assessing Disability* by Tom Johns

- *Utilizing Vocational Expert Testimony at the Hearing Level* by The Honorable David Hatfield

- *Claim Intake and Initial Development of Medical and Vocational Evidence* by John E. Owen III

- *Vocational Evaluation—Past Relevant Work* by Shirleen Roth

- *Vocational Evaluation—Other* Work by Shirleen Roth

- *Perspectives from Hearing Office and Office of Appellate Operations* by The Honorable Judge Cam Oetter and Judge Robert Goldberg

- *Perspectives from Vocational Experts and Case Analysis* by Scott Stipe and Lynne Tracy

- *Perspectives from Claimant Representatives and Case Analysis* by Art Kaufman and Charles Martin

- *Presentation: National Council of Disability Determination Directors* by Trudy Lyon-Hart

- *Presentation: National Association of Disability Examiners* by Georgina Huskey

Previously prepared papers by SSA staff were part of the materials presented to Panel members for the meetings. These papers have no attributable author. The papers include:

1) *Working Paper: What is a Content Model?*

2) *Working Paper: Developing an Initial Classification System*

3) *Working Paper: Social Security Administration's Legal, Program and Technical/Data Occupational Information Requirements*

4) *Working Paper: SSA Plans and Methods for Developing a Content Model: Key Questions to be Addressed*

In addition, the subcommittee reviewed input from SSA users of occupational information and from stakeholder organizations. This information is summarized and addressed in the appendix entitled "Report from the User Needs & Relations Subcommittee" and includes:

1) Comments received from the American Board of Vocational Experts (ABVE).

2) Letter from the American Occupational Therapy Association.

3) Letter from the American Physical Therapy Association.

4) Comments received from the International Association of Rehabilitation Professionals (IARP).

5) Comments received from the National Organization of Social Security Claimant Representatives (NOSSCR)

6) User Needs Analysis: Maryland Disability Determination Services (DDS) and Office of Disability Adjudication and Review; Office of Appellate Operations.

7) National Association of Disability Representatives (NADR) OIDAP Committee – Collaborative Opinion: July 2009.

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WEA Subcommittee Findings and Recommendations

In conducting this investigation into skills and the concept of transferable skills, it quickly became apparent to the subcommittee that definitions for the term skill, as well as application of the concept of transferable skills, are widely varied. For this reason, before attempting to provide recommendations on data collection to inform the Content Model of the OIS regarding skills, we describe some of the definitions and uses for these terms below. It is important for the reader to consider this foundational information before attempting to understand why this subcommittee is offering its set of recommendations.

When the SSA uses the terms skill and transferable skill, it is to make a decision about an individual's eligibility for disability benefits. Clearly, this decision is critical to the individual who has filed the claim, so the decision should be made with the best possible evidence. Currently, SSA makes these decisions based on a claimant's age, education, work experience, and residual functional capacity. In making this decision, it does not consider, for example, the training that might be provided to the individual to assist with vocational rehabilitation. It does not consider special equipment or other accommodations which might be provided to the individual to assist with work adjustment. In administering its entitlement programs, SSA makes a decision based on the individual's residual functional capacity as it exists today[4] without intervention.

There are many forensic uses of occupational information. Examples of use include determining eligibility for a number of types of benefits, such as workers' compensation, long term disability from private insurance, and SSA's disability programs. Occupational information is used for vocational counseling for newly graduated students and for recently unemployed workers. It is used for vocational rehabilitation, such as for placement or to retrain individuals with disabilities for other work. Industrial organizational psychologists study and provide testimony about the world of work. Any of these sample groups may consider different factors when it defines the term skill and may conceptualize transferable skills quite differently. For all of these reasons, we urge the SSA to have care in utilizing this term and in explaining how the concept will be applied as it develops the OIS.

What is a Skill?

In conducting the investigations for this recommendation report, a wide variety of definitions of the term skill were examined. Each subcommittee member brought their own understanding of the term based on our years of experience applying

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[4] Or that period of disability identified by the claim.

the term within our work and we also considered a wide variety of other uses and definitions of the term.

Examination was made of the definitions that are contained in SSA's own references, such as the definitions for unskilled work, semi-skilled work, and skilled work in SSA's regulations.[5] We also looked at the way in which skills are referenced in SSA's regulations when it describes transferable skills, which implies that skills refer to "skilled or semi-skilled work activities"[6] that presumably provide a vocational advantage. We looked at the definitions of skills in SSA's ruling on transferable skills, which defines skills in this way:

> What a "skill" is. A skill is knowledge of a work activity which requires the exercise of significant judgment that goes beyond the carrying out of simple job duties and is acquired through performance of an occupation which is above the unskilled level (requires more than 30 days to learn). It is practical and familiar knowledge of the principles and processes of an art, science or trade, combined with the ability to apply them in practice in a proper and approved manner. This includes activities like making precise measurements, reading blueprints, and setting up and operating complex machinery. A skill gives a person a special advantage over unskilled workers in the labor market.

> Skills are not gained by doing unskilled jobs, and a person has no special advantage if he or she is skilled or semiskilled but can qualify only for an unskilled job because his or her skills cannot be used to any significant degree in other jobs. The table rules in Appendix 2 are consistent with the provisions regarding skills because the same conclusion is directed for individuals with an unskilled work background and for those with a skilled or semiskilled work background whose skills are not transferable. A person's acquired work skills may or may not be commensurate with his or her formal educational attainment.[7]

Previously prepared papers provided by SSA that include definition of skills were reviewed. One of these definitions stated that "skills are the learned capacity to perform the specific activities required on jobs, based on past experience,

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[5] Code of Federal Regulations (CFR). 20 CFR 404.1568 and 416.968.

[6] 20 CFR 404.1568(b) and 416.968 (b).

[7] Social Security Ruling (SSR) 82-41: Titles II and XVI: Work Skills and Their Transferability as Intended by the Expanded Vocational Factors Regulations Effective February 26, 1979.

training, and knowledge."[8] Another said that, while skill is used to refer to a very wide range of things. For the purposes of that paper, it would be defined as "the capacity of a person to perform specific duties, tasks, or other psychomotor activities that are required by an occupation."[9] For this definition, we would have preferred some clarification, since "psychomotor activities" could refer, for example, to walking, standing, or lifting, which we do not believe to be skills. Again, this points to the need for clarity in this definition among all users. As indicated earlier, for purposes of this report, we consider skill to be work activities.

The subcommittee researched how the term was used by Human Resources and Skills Development in Canada when it identified essential skills. We investigated the way in which the term skills is used in the Australian and New Zealand Standard Classification of Occupations (ANZSCO),[10] which states, "Skill level is defined as a function of the range and complexity of the set of tasks performed in a particular occupation. The greater the range and complexity of the set of tasks, the greater the skill level of an occupation" Additionally, the subcommittee explored how the term was used in a wide variety of literature in vocational rehabilitation counseling.

Also considered was how the U.S. Department of Labor (DOL) identifies skills for the O*NET, and how they were identified in the DOT. Vocational rehabilitation specialists and the experts at the May 2009 Roundtable all agreed with the statement that, in sum, "Skills are learned behaviors, techniques, methods and activities that enable individual workers to perform substantial gainful employment."[11]

The RHAJ defines work fields as "categories of technologies that reflect how work gets done and what gets done as a result of the work activities of a job: the purpose of the job" and lists ninety-six work fields, such as appraising, cleaning, data processing, drafting, and researching.[12] Roundtable participants indicated that the purpose of the job or work field was useful in considering how skill is demonstrated. We also considered comments by the experts at the Roundtable who noted the work fields listing, as currently shown in the DOT, are not

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[8] SSA Working Paper: *What is a Content Model?* (June 2009).

[9] SSA Working Paper: *SSA Plans and Methods for Developing a Content Model: Key Questions to be Addressed* (April 2009).

[10] http://www.immigration.govt.nz/migrant/general/generalinformation/anzsco

[11] See Summary of Roundtable in Appendix A.

[12] *Revised Handbook for Analyzing Jobs.* US Department of Labor, 1991.

comprehensive enough and that there may exist hundreds of work fields just for is white collar occupations and needed significant review. The subcommittee also considered the proxy that SSA uses in its transferable skills analyses, that is, the task lists identified for each occupation in the DOT. Examination of the lists elicited words like grinds, fabricates, weighs, engraves, polishes, etc. These words appear much like work fields, only requiring them to be converted into gerunds.

<u>What is a Transferable Skill?</u>

Just as there exist numerous definitions of skills, so there are numerous uses for a transferable skills analysis and a wide variety of methods to perform the TSA. For example, vocational rehabilitation specialists might use this process, first, to identify the skills that a person with an impairment has and, then, to identify work for which he or she might be trained and rehabilitated into. When developing the rehabilitation plan. the vocational rehabilitation specialist might consider a wide variety of factors, including a person's preferences, interests, the person's geographic location, or personality traits,. The TSA and rehabilitation plan open up a range of new possibilities and opportunities for the person with an impairment.

SSA uses the TSA process in a very different way, that is, to determine eligibility for benefits or the *residual* work capacity. At the last step of the decision making process, SSA must consider whether the claimant can do work that is different than the work he or she did in the past. To do this, SSA compares the claimant's age, education, work experience, and residual functional capacity with a series of tables in its regulations.[13] These tables take into account unskilled work that exists in the national economy. A TSA, if applicable, is performed at this point in the process because a claimant with transferable skills has access to a larger pool of jobs than a claimant who is limited to unskilled work. The purpose of a TSA is to determine, first, whether a claimant has transferable skills and, second, whether any identified skills transfer to a significant number of occupations found in the national economy. SSA does not consider retraining or any other form of rehabilitation or accommodation in making this decision. And, unlike vocational rehabilitation, SSA cannot consider factors such as a person's preferences, interests, where a person lives, or a person's personality when making this determination.[14]

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[13] 20 CFR Part 404, Subpart P, Appendix 2.

[14] Social Security Act, section 223(d)(2)(A).

SSA's data requirements for conducting a TSA can be inferred from its regulations,[15] reproduced here:

> d) Skills that can be used in other work (transferability)
>
> (1) What we mean by transferable skills. We consider you to have skills that can be used in other jobs, when the skilled or semi-skilled work activities you did in past work can be used to meet the requirements of skilled or semi-skilled work activities of other jobs or kinds of work. This depends largely on the similarity of occupationally significant work activities among different jobs.
>
> (2) How we determine skills that can be transferred to other jobs. Transferability is most probable and meaningful among jobs in which—
>
> > (i) The same or a lesser degree of skill is required;
> >
> > (ii) The same or similar tools and machines are used; and,
> >
> > (iii) The same or similar raw materials, products, processes, or services are involved.
>
> (3) Degrees of transferability. There are degrees of transferability of skills ranging from very close similarities to remote and incidental similarities among jobs. A complete similarity of all three factors is not necessary for transferability. However, when skills are so specialized or have been acquired in such an isolated vocational setting (like many jobs in mining, agriculture, or fishing) that they are not readily usable in other industries, jobs, and work settings, we consider that they are not transferable.
>
> (4) Transferability of skills for individuals of advanced age. If you are of advanced age (age 55 or older), and you have a severe impairment(s) that limits you to sedentary or light work, we will find that you cannot make an adjustment to other work unless you have skills that you can transfer to other skilled or semiskilled work (or you have recently completed education which provides for direct entry into skilled work) that you can do despite your impairment(s). We will decide if you have transferable skills as follows. If you are of advanced age and you have a severe impairment(s) that limits you to no more than sedentary work, we will find that you have

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[15] 20 CFR 404.1568(d) and 416.968(d)

> skills that are transferable to skilled or semiskilled sedentary work
> only if the sedentary work is so similar to your previous work that
> you would need to make very little, if any, vocational adjustment in
> terms of tools, work processes, work settings, or the industry. (See
> §404.1567(a) and §201.00(f) of appendix 2.) If you are of advanced
> age but have not attained age 60, and you have a severe
> impairment(s) that limits you to no more than light work, we will
> apply the rules in paragraphs (d)(1) through (d)(3) of this section to
> decide if you have skills that are transferable to skilled or
> semiskilled light work (see §404.1567(b)). If you are closely
> approaching retirement age (age 60-64) and you have a severe
> impairment(s) that limits you to no more than light work, we will find
> that you have skills that are transferable to skilled or semiskilled
> light work only if the light work is so similar to your previous work
> that you would need to make very little, if any, vocational
> adjustment in terms of tools, work processes, work settings, or the
> industry. (See §404.1567(b) and Rule 202.00(f) of appendix 2 to
> this subpart.)

We have described our interpretation of these needs in the next section, which
contains our recommendations for the data that SSA needs to collect for the new
OIS in order to be able to perform a TSA.

Recommendations for Skills and TSA Data Elements for the OIS Content Model

As we have indicated, the terms skills and transferable skills have been used for
many purposes and analyzed using many different methods. The terms have so
much end-user-specific historical context, with much implied but unspoken
content, that we believe it is necessary to discuss the data elements using new
terms that do not carry these connotations.

In addition, many of the rating scales that SSA has necessarily used in the past,
and continues to use, are composites of multiple concepts that do not serve SSA
or the claimant well. In order to fully understand the information that SSA needs,
we have deconstructed, or taken apart, the DOT concepts now in use so that we
can identify and address the underlying need that they were supposed to serve.
By going back to basics, we believe that can better identify the type of
information that SSA needs for skills assessment.

Before discussing the data elements themselves, we would like to raise several
concerns related to data elements in general.

- First, we recommend to the Panel that SSA develop the OIS in
  such a way so that the inference necessary to apply it is reduced to
  the greatest extent practical. That is, little inference is required to

compare a work requirement for lifting 20 pounds with a claimant limitation of an inability to lift over 10 pounds. It is clear that the individual can not meet the requirement. A great deal of inference may be needed, however, to compare an individual's cognitive limitation with an occupational rating of 3 on SVP.

- Second, we recommend to the OIDAP that SSA develop the OIS in such a way that the degree of overlap or redundancy between data elements and between ratings of data elements be reduced to the greatest extent practical.

- Third, once the data is collected on the data elements suggested in this report, we recommend to the OIDAP that SSA conduct validation studies to determine 1), whether the data that have been captured are the data that were intended to be captured, and 2) whether the data that have been captured fulfill the function of providing sufficient information to determine skills that provide or do not provide a claimant with vocational advantage.

After conducting this investigation, we recommend to the OIDAP that SSA collect information on the following data elements, which are critical for skills assessment for disability evaluation and forensic purposes.

- Work activities

    We recommend use of work activities as a measurable data element that can be used as an interim proxy for skill. We further recommend that once the work activity data is collected and validated, further research be conducted to differentiate between the various levels of skill in work activities. This may be done, for example, by comparison of these work activities with the other occupational information discussed in this section to differentiate the activity such as cleaning (e.g., cleaning a test tube, cleaning an office, cleaning a printing press).

    Work activities will need to be collected at a specific enough level so that a discrete occupation will be identifiable from all others. Once collected, we recommend that work activities be compared with other occupational information discussed in this section to determine which of the work activities, when combined with other items, rise to a level appropriate to be called a skill.

    Once the levels of work activities are identified, we recommend that they be named using a common language across occupations

allowing comparisons to be made between occupations, so that SSA adjudicators can readily utilize them for adjudication purposes.

We also recommend that work activities be analyzed to establish if there exists a category of skills that are extremely specialized to the extent that they are not readily transferable to other work. For example, the skills needed to bind historical texts may be highly specialized in that a worker may not be able to readily transfer those skills into other jobs. Should such a category be identified, further research may need to be conducted to determine if this skill can be linked to the existence of a "substantial number of jobs" in the national economy as reflected through the OIS.

- Complexity Level

We recommend that a rating system be developed for the complexity level of the occupation and for the individual work activities which, when combined with other requirements of an occupation, may rise to a level appropriate to be called a "skill." We believe ratings at both the work activity and occupational levels will improve the accuracy of SSA's TSAs.

The complexity level relates to the need identified in SSA's regulations at 20 CFR 404.1568(d)(2)(i) and 416.968(d)(2)(i), that is, "The same or a lesser degree of skill is required."

SSA currently uses the SVP of an occupation to identify the complexity level of the occupation. However, SVP was never intended to rate complexity level. The rating that we have recommended is a new concept that will enhance usability of the new OIS and reduce the inference that users must make when comparing an individual's RFC with the demands of work.

Further development of the complexity rating will have to include deconstructed measures including the level of formal education and training, amount of previous experience in a related occupation, the amount of on the job training and time to proficiency as initial elements. Further evaluation by the Panel may result in other measures being identified.

- Time to Proficiency

We recommend that a rating system be developed to identify the time to proficiency for satisfactory performance of an occupation and composite work activities. SSA needs to be able to determine

whether an individual has performed a work activity or occupation long enough to learn how to do it. This concept comes from the definition of past relevant work and is incorporated by reference in the concept of TSA, as currently SSA regulations stipulate that only past relevant work provides transferable skills.[16]

We note that the "time to proficiency" we identify is not a rating of the degree of expertise or level of proficiency that a worker may have. It may be true that, for any given job in an establishment, some workers will perform the job better than other workers. However, SSA does not consider this degree of proficiency in determining disability and does not need a rating scale for it.

SSA currently uses the SVP of an occupation to identify the time to proficiency, but the scale has been problematic in application. For example, it does not take into account all methods by which a person might prepare for a job; it is a single item scale even though multiple factors are probably involved.

We believe that developing a time to proficiency rating system will be among the most daunting in the development of the new OIS. For this reason, we recommend that SSA conduct research on this topic. Research questions that will need to be resolved include, for example, "What factors should SSA include in considering time to proficiency?" "How can the factors be measured and quantified in a manner that is operationally feasible both from a data collection perspective and a program application perspective?" We note that some occupations require no on-the-job experience for the new job incumbent to be considered proficient, yet are highly skilled occupations. In these cases, for example, proficiency might be based on education or vocational training alone or a combination of education and on the job training. Another research question might be, "To what extent does the economy drive the educational level of recently hired job incumbents?" Methodology for not only assessing individual time to proficiency for a skill, but internal organization of skills within occupations will have to be considered.

- Length of viability

We recommend that a rating scale be developed for the length of viability of "skills," both by work activity and by occupation. For example, it is possible that the work activities of some occupations

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[16] 20 CFR 404.1565 and 416.965.

may be so subject to change due to changes in technology, tools, machinery, processes, etc. that the "skills" required by a worker to complete the work activity may be obsolete if the worker had not engaged in these activities over a period of, say, two years. Conversely, there may be some work activities that have not changed in an occupation, except in trivial ways, in thirty years and someone's skill level may still be relevant for a much longer period than in the first example.

This type of information is not currently available. We believe that the length of viability of a skill would enhance SSA's skills assessment as well as provide an opportunity for the claimant to receive a decision that is more equitable than is now possible. Based on the definition of past relevant work, SSA currently considers skills for all work to be viable for 15 years.[17]

Because this is a new concept, we recommend that SSA conduct research to examine it. Research questions could include, "What is the actual length of viability of skills, by work activity and by occupation?" "What factors moderate the length of viability of skills?" SSA could build upon its previous contracted work in this area.[18]

- Work context

We recommend that occupational information be developed on work context factors, such as the industry, work settings, tools, machines, technologies, raw materials, products, subject matter, processes, and services related to the occupation.

This information relates to the needs identified in SSA's regulations at 20 CFR 404.1568(d)(2)(ii)-(iii) and (d)(4) and at 416.968(d)(2)(ii)-(iii) and (d)(4). These sections list many factors that may be considered by SSA, including whether the "same or similar tools and machines are used," whether the "same or similar raw materials, products, processes, or services are involved," and

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[17] 20 CFR 404.1565 and 416.965.

[18] American Institutes for Research. *The Effects of Time and Disuse on the Capabilities Required for Prior Work* (June 29, 2001) and *Refining the Social Security Administration's Disability Determination Process: The "Past Relevant Work" Issue* (July 15, 2001).

whether any vocational adjustment in terms of tools, work processes, work settings, or the industry is involved.

SSA currently uses the DOT industry code to determine industry and for information on work setting. It looks at the detailed, occupationally specific list of tasks in the DOT for additional data on work context. Vocational rehabilitation specialists and experts at the May, 2009 Roundtable pointed to the DOT rating for Materials, Products, Subject Matter, and Services (MPSMS) for additional information on work context. The RHAJ also contains a reference to Machines, Tools, Equipment, and Work Aids (MTEWA). We note that all of these codes relate to the type of information needed, but none are truly comprehensive enough to fully meet SSA's adjudicative needs for work context information.

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Future Considerations

Through the content and technical papers reviewed, user input, and Panel deliberations, a variety of issues regarding transferability were identified. Although these do not pertain, per se, to the current Content Model and classification recommendations, they remain issues that SSA may need to consider or study at some point:

- The *What is a Content Model?* paper identifies the need to obtain information about the number of jobs available in the national economy. We suggest that research be conducted to determine if the number of jobs for each occupation in the new OIS can be accurately estimated.

- We suggest that research be conducted to determine the level of granularity of job collection and clustering to satisfy the term "occupation" per SSA policy utilization.

- Engage Vocational Experts who provide testimony for SSA for their feedback on ease of use regarding any prototype system that provides TSA information or results.

Extra Data Elements

- The age of the worker is important in considering vocational adjustment or other issues involving the transfer of skill at the end of the worklife. The year of birth of an incumbent may provide a good data element to collect.

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Definition of Terms

Formal discussion and review by Full Panel of the following items is recommended:

- Occupation

- Skill

- Transferability of skill(s)

- Transferable skills analysis

- Work experience analysis

Legal, Technical, and Data Issues

Legal, technical and data issues are certain to occur regarding the creation of a new OIS due to the immense ramifications of the system upon potential claimants within the SSA adjudicatory system. It is also anticipated that the OIS will be used by other organizations and individuals throughout the United States, who will also have a keen interest in the underpinning data elements and structures that infuse the OIS. The OIDAP has consistently been cognizant of the need for all data to meet current legal standards which include, but are not limited, to, validity, reliability, reproducibility, peer review, creation of quality guidelines, and transparency.

At this time the subcommittee does not attempt to present an analysis of the current state of the law regarding the proposed OIS. As the TSA process is integral in the determination of disability under the Five Step process currently used, and as there is a current body of regulation regarding the information utilized, the process to be followed, and the promulgation of individual results and collective findings, specific care is necessary in the coming process to ensure adherence to all applicable regulation.

Below is a brief summary of currently identified standards to be considered in the creation of a new OIS. This summary is not to be used as legal advice nor as a statement of the views of the Panel, either as a whole or individuals, rather, it is a starting place to provide the reader with a sample of legal issues that the OIDAP and SSA will need to consider during the process of creating an OIS.

Daubert and _Federal Rule of Evidence 702_

In _Daubert_, the Supreme Court addressed how a district judge should evaluate an expert's opinion about scientific knowledge under Federal Rule of Evidence 702. _Daubert_, 509 U.S. at 589-93. The Supreme Court set forth several factors a district judge may consider:

- whether a theory or technique can be (and has been) tested;

- whether a theory or technique has been subjected to peer review and publication;

- whether, in respect to a particular technique, there is a high known or potential rate of error;,

- whether there are standards controlling the technique's operation; and,

- whether the theory or technique enjoys general acceptance within a relevant scientific community.

Id. at 592-594. Using these factors, a district judge determines whether to allow or exclude expert testimony about scientific knowledge, i.e., functions as a gatekeeper with respect to such testimony. Id. at 597.

Several years after _Daubert_, the Supreme Court held that a district court should consider the _Daubert_ factors when evaluating an expert's testimony not only about scientific knowledge, but also when evaluating an expert's testimony about technical or other specialized knowledge. See _Kumho Tire_, 526 U.S. at 147-49. The Supreme Court further held in _Kumho Tire_ that, in a given case, the _Daubert_ factors may or may not apply depending on the nature of the issue, the expert's particular expertise, and the subject of his or her testimony. Id. at 150.

Federal Rule of Evidence 702 was amended to reflect _Daubert_ and _Kumho Tire_:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Fed. R. Evid. 702. Under amended Rule 702 as well as under _Daubert_, when an expert purports to apply principles and methods in accordance with professional standards, and yet reaches a conclusion that other experts in the field would not

reach, the district judge may conclude that the principles and methods have not been faithfully applied. Id. (Advisory Committee's Notes). Consistent with *Kumho Tire*, a district judge applying Rule 702 does not distinguish between scientific and other forms of expert testimony when performing his or her gatekeeping function.

Data Quality Act and Information Quality Act

Section 515 of the Treasury and General Government Appropriations Act of 2001 (P.L. 106-544; H.R. 5658) directs the Office of Management and Budget (OMB) to issue guidelines applicable to all federal agencies. Section 515(a) requires that such guidelines "provide policy and procedural guidance to Federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by Federal agencies …."

OMB's Bulletin establishes fairly extensive requirements, including that important scientific information be peer reviewed by qualified specialists before it is disseminated by the federal government. The selection of an appropriate peer review mechanism is left to the agency's discretion.

OMB has set out a policy to apply stricter quality standards to the dissemination of information that is considered influential, when used in the phrase "influential scientific, financial, or statistical information." This higher standard is triggered when "the agency can reasonably determine that dissemination of the information will have or does have a clear and substantial impact on important public policies or important private sector decisions." If the agency disseminates influential scientific, financial, or statistical information, then agency guidelines "shall include a high degree of transparency about data and methods to facilitate the reproducibility of such information by qualified third parties."

Under this statute, each agency must issue its own information quality guidelines, and establish procedures that allow people to seek correction of information disseminated by an agency on or after October 1, 2002. In response, the SSA has issued *Social Security Administration Information Quality Guidelines*, which sets out standards designed to ensure the quality of information products.

Potential Challenges Based on Charges of Discrimination

The Supreme Court in *Griggs* (1971) considered a challenge pursuant to Title VII of the Civil Rights Act of 1964 to an employer's requirement that all employees must possess a high school diploma or pass an intelligence test as a condition of employment or job transfer. In practice, these requirements rendered a disproportionate number of black applicants and workers ineligible for hiring or

promotion. Yet, the Court tells us that, absent a showing of a discriminatory purpose, the employer's use of the requirements was permitted.

Department of Labor Guidelines at 41 C.F.R. Part 60-3, *Uniform Guidelines on Employee Selection Procedures*, concern employers' selection procedures that are used as a basis for making employment decisions. The *Guidelines* state, "The use of any selection procedure which has an adverse impact on the hiring, promotion, or other employment or membership opportunities of members of any race, sex, or ethnic group will be considered to be discriminatory and inconsistent with these guidelines, unless the procedure has been validated in accordance with these guidelines …" For the purposes of satisfying these guidelines, users may rely upon criterion-related validity studies content validity studies or construct validity studies. Standards for these studies are set out at section 14 of Part 60.

For purposes of developing a new OIS, *Griggs*, Title VII, and the Department of Labor Guidelines remind us that the process of data collection must be free from reflecting any unlawful discriminatory practices in the workplace.

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Appendix A—TSA Expert Panel Roundtable Summary

Meeting

On May 12, 2009, at SSA headquarters in Baltimore, MD., a one-day meeting was held to elicit comment from recognized leaders in the theory and practice of performing transferable skills analyses for consideration by the Occupational Information Development Advisory Panel. The overarching goal was to engage in a highly theoretical discussion of the concepts that underlie the current process of transferring skills, as that process is applied in the private sector.

Attendees present either in person or via telephone were:

Invited Experts (Participants): Gale Gibson, Jeff Truthan, Karl F. Botterbusch, Patrick L. Dunn, Timothy F. Field.

OIDAP Members (Participants): Thomas Hardy (WEA Subcommittee Chair), Lynnae Ruttledge, Mary Barros-Bailey (Interim Chair, OIDAP), Sylvia Karman (Project Director, SSA).

SSA Staff (Observers): Anne Vollmer, Deborah Harkin, Debra Tidwell-Peters, Elaina Wise, Mark Trapani, Michael S. Dunn, Michele Schaefer, Nancy Torkas, Robert Pfaff, and Shirleen Roth.

Charge

After a brief introduction of participants and a summary of OIDAP progress to date, the agenda for the day and the charge for discussion was reviewed by the Chair. Participants were advised that consensus was not the goal, rather expression of individual opinion by recognized experts leading to areas of potential interest or exploration by the OIDAP. The purpose of the meeting was to discuss the concepts involved in the TSA process and how a change to the underlying database presents a unique opportunity to revisit the basic tenets of the TSA. All participants were reminded that, at present, no change in SSA policy is being entertained nor anticipated and that the final product would have to conform to present policy, but suggestions of any nature were being requested for consideration and deliberation. The format for the meeting, while being broken into topic areas within a time framework, was encouraged to be open and conversational.

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Summary

The invited experts were unanimous in their support of the OIDAP Charter and goal to create an OIS for SSA. In the ensuing conversation, the experts were in accord regarding the majority of topic areas covered, with exceptions noted in the detail below, regarding the conceptual elements to be included in the OIS and those utilized specifically in the TSA process. It was recognized that the terminology of the DOT infuses all conversations due to the pervasiveness of the definitions and measures that have been utilized as a standard for the last seventy-plus years. However, it was also agreed that, while the pervasive language sometimes causes confusion in discussion when trying to create new measures or formulate either new and different utilization of current measures, the underlying concepts are sound and to be retained.

The Roundtable experts were in accord regarding the current definition of a "skill" utilized by SSA and suggested that a short working definition for purposes of the current meeting might be "Learned behaviors, techniques, methods, and activities that enable individual workers to perform substantial gainful employment." As a foundation of the skill definition, the experts were unanimous in their recommendation that "categories of technologies that reflect how work gets done and what gets done as a result of the work activity; the purpose of the job" (labeled Work Fields in the RHAJ, i.e., cleaning, drafting, protecting, etc.) should be retained in the OIS. The experts agreed that data collection in this area could most easily be achieved through use of "work activities" which identify worker relationships to data, people, and things (Worker Functions, or "DPT" codes in the RHAJ) and materials, products, subject matter and services (MPSMS).

The experts strongly urged the OIDAP to consider a "break out" of the amount of time required by a typical worker to learn the techniques, acquire the information and develop the facility needed for average performance (SVP) into smaller component pieces. It was noted that this information remains a key area in transferability. The experts further suggested a review of the rating of "unskilled," noting that, in their opinion, all work requires some basic skills. A "complexity quotient" was advanced as a new way of gathering information regarding areas currently captured under "Traits" and other categories in the DOT.

Finally, it was suggested that greater emphasis be placed upon the "end purpose" of the TSA as a descriptor for the type of TSA being performed. It was agreed that a TSA performed for SSA purposes differs in many ways from that being performed, for example, for job seeker placement. Clarity in purpose, and clarity in language, was recognized by all in attendance as being the key to avoiding confusion in the future.

Questions raised for further investigation are contained at the end of the summary.

A copy of this summary is to be circulated to all attendees for review and solicitation of further comment.

<u>Skills Definition</u>

The experts unanimously agreed that the current SSA definition for TSA found in the CFR is comprehensive and remains useful:

A person has transferable skills when "the skilled, or semi-skilled work activities performed in past work can be used to meet the requirements of skilled, or semi-skilled work activities of other jobs or kinds of work. This depends largely on the similarity of occupationally significant work activities among different jobs. Transferability is most probable and meaningful among jobs in which:

    i.   The same or a lesser degree of skill is required (SVP);

    ii.   The same or similar tools and machines are used (Work Fields); and

    iii.   The same or similar raw materials, products, processes, or services are involved (MPSMS).[19]

There was also agreement that the current definition of "skill" utilized by SSA remains useful:[20]

A skill is knowledge of a work activity which requires the exercise of significant judgment that goes beyond the carrying out of simple job duties and is acquired through performance of an occupation which is above the unskilled level (requires more than 30 days to learn). It is practical and familiar knowledge of the principles and processes of an art, science or trade, combined with the ability to apply them in practice in a proper and approved manner. This includes activities like making precise measurements, reading blueprints, and setting up and operating complex machinery. A skill gives a person a special advantage over unskilled workers in the labor market.

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[19] 20 CFR 404.1568 and 416.968

[20] Social Security Ruling 82-41, § 2.a.

> Skills are not gained by doing unskilled jobs, and a person has no special advantage if he or she is skilled or semiskilled but can qualify only for an unskilled job because his or her skills cannot be used to any significant degree in other jobs. The table rules in Appendix 2 are consistent with the provisions regarding skills because the same conclusion is directed for individuals with an unskilled work background and for those with a skilled or semiskilled work background whose skills are not transferable. A person's acquired work skills may or may not be commensurate with his or her formal educational attainment.

The experts all agreed with a briefer statement that, in sum, "Skills are learned behaviors, techniques, methods and activities that enable individual workers to perform substantial gainful employment."

All agreed that, as the OIDAP moves ahead in its work, any definition must be held to a *Daubert* standard and thus whatever measurements are ultimately, if at all, tied to "skill" must be amenable to the multi prong test set forth. The OIDAP is currently reviewing Daubert and other Data requirements and will report on findings throughout the evolution of the OIS.

An expert noted the inherent value in the flexibility of a given skill to apply to a variety of occupations. The "marketability,", or those employment situations in which a skill can be applied, affects the value both socially and economically of a given skill. Thus, one skill may have greater value (and possibly transferability) than others.

The question of the erosion of skills over time was raised. It was suggested that, with changes in technology, skill requirements will change for an occupation. General discussion ensued as to whether a change in technology was more a change in "categories of technologies that reflect how work gets done and what gets done as a result of the work activity; the purpose of the job" (labeled "Work Fields" in the RHAJ, e.g., cleaning, drafting, protecting, etc.) or rather a change in the basic materials, processes, the final products made, the subject matter or data dealt with, or services rendered (labeled "MPSPMS" in the RHAJ). No consensus was reached on this topic.

Subsequently, a larger theoretical conversation regarding the underpinnings of skill was pursued. The component, "the purpose of the job" (Work Field), was urged as the basis for skill, but it was noted that activities which identify worker relationships to data, people, and things (Worker Functions or "DPT" codes in the RHAJ) and MPSMS may be the easiest way to collect data. It was proposed that a less linear approach to skills transfer, with a greater emphasis on "the purpose of the job" (Work Field), and a movement to a "concentric circle" view of "the purpose of the job" that would overlap might be a better process.

There was agreement by all that "the purpose of the job" is the strongest base of skill transferability. The larger question remains that, since currently there are approximately 100 "purpose of the job" words (gerunds), do all remain current and are there new "purpose of the job" words to be discovered? One expert noted that, in his work on white collar occupations, he had identified over 300 different gerunds. OIDAP was encouraged unanimously by the panel to explore this area further in their work.

An ancillary discussion regarding "traits" indicated that, while these are important, they are not transferable and, unlike skills, cannot be acquired per se.

Skill Levels/SVP

Currently occupations may involve many different skills but the totality is utilized to obtain a single skill level. A theoretical question of the implication of breaking out individual skills and assigning concrete levels would require greater investigation. OIDAP was cautioned that, when a skill transfers, it doesn't mean that the incumbent can therefore perform the occupation, it means the ability to perform the occupation is enhanced by the presence of the skill.

The experts strongly encouraged the OIDAP to break out the current SVP definition into, at a minimum, two tiers allowing for general/specific education and training/experience. It was suggested that the Classification of Instructional Programs (CIP) be investigated for education and that the O*Net Tools and Training measurements be investigated for training/experience. Certification was discussed as a possible additional variable to be tracked for utilization by other end users who deal in placement arenas. The scale should indicate the minimum level of competency for the occupation.

"Reading, math, language" (RMLs) was discussed briefly. These measures were found to remain viable categories and would be useful in establishing levels of complexity within the SVP.

As a subset, "aptitudes" were discussed. It was asserted that in the TSA arena, aptitudes become irrelevant. There was a general discussion on this topic but no real consensus was achieved and the area may require further review, less for transferability and more as a general requirement of the OIS.

"Data/People/Thing" (DPT) codes were briefly considered. Several experts noted that the scales are not consistent, which causes problems. All agreed that DPT should not be hierarchical, e.g. just because a worker can "mentor" does not mean the worker is competent at any other "people"-related activities.

Skilled vs. Unskilled

The experts were asked to address if it is possible for an occupation to truly be unskilled: restated, "Does not every occupation require some skill"? It was generally agreed that "unskilled" is a misnomer and that all occupations require some basic skill. A scale of "low skill", "moderate skill" and "high skill" was suggested and generally accepted.

On a theoretical level, it was suggested that the use of the word "skill" itself may be problematic or misleading and that the use of a "complexity level index" might be more satisfactory, but the experts opined that the use of such an index would not be feasible for SSA at this time.

Discussion moved to center on a possible "complexity quotient" that would gather judgment, responsibility, control, latitude in the way a job is performed, and other categories, as possible rated items. It was noted that this nears the "temperaments" area of the current DOT and would have to be investigated for feasibility under both a Daubert standard and the necessity for such information under the general charge of the OIDAP.

General Discussion/Conclusion

The topic of academic achievement, otherwise known as General Educational Development or the GED levels, as part of the above complexity measurement was raised. It was suggested that the O*Net or SCANS rating scales could be investigated by the OIDAP as a possible substitute for the current GED levels (presently unused by SSA but valuable to other end users).

The place of "hobbies" or volunteer work in the TSA was briefly discussed. Currently, SSA adjudicates only on past relevant work (PRW) and it would be unclear how these areas would be assessed under current SSA structure.

Participants noted that a new RHAJ would be necessary. They encouraged SSA to consider tracking additional information within the OIS even if not utilized by SSA for adjudication. It was suggested that occupational group arrangement (OGA) will have to be reviewed and the classification of the OIS will need refinement so that all digits in the occupation code will have actual meaning.

Complexity was again urged as a valid area of consideration along with a reevaluation of the emphasis placed upon age in the performance of the TSA under SSA regulations. Panel members agreed that the TSA itself may need to be defined more precisely based upon the purpose of the TSA such as "rehabilitative" versus "forensic,"

The experts were unanimous in urging OIDAP to update the DOT and work on selected measurements without making large changes to the basic structure of the DOT.

Work Experience Analysis Subcommittee

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Appendix B—Biographical Information: TSA Expert Panel

Gale Gibson

Gale Gibson is Founder and President of VERTEK, a software application program development organization located in Bellevue, Washington. His company develops, publishes, and supports OccuBrowse+, OASYS, and other computer software that facilitates transferable skills analysis, access to occupational, wage, employment, training program information, nationwide job openings, and nationwide business listings. Mr. Gibson has been involved with the design and development of software products that utilize occupational information databases since 1979 when he was Director of National Marketing for Ability Information Systems in Spokane, Washington. He organized VERTEK in 1983 and he holds a Bachelor of Science degree from Iowa State University, along with Bachelor of Arts and Master of Arts degrees from the University of Washington.

Jeff Truthan

Jeff Truthan has served the rehabilitation and disability management industry since 1973. He is a 1973 graduate of the University of Notre Dame. He earned a Master's Degree from the Illinois Institute of Technology in 1975 in Rehabilitation Counseling. Jeff spent nine years in direct client services as both a Vocational Rehabilitation Counselor and Vocational Evaluator. He was recognized as Ohio's "Outstanding Rehabilitationist of the Year" in 1985. Using his "knowledge from the trenches" from 1985 to 1997, he served in a variety of support, sales, training, administrative, and product management capacities at Ability Information Systems / CAPCO: The Capability Corporation / JobQuest where he had the opportunity to design and support a variety of software products, including EZ-DOT, Job Browser Pro, Placement Problem Solver, PREPOST, Career Capability Search, and the Job Search Service.

As President of SkillTRAN since 1998, Mr. Truthan spearheads a multi-year effort to reengineer these services into a web-based format. This leads to many new product features, including a new foundation for estimating employment numbers at the Dictionary of Occupational Titles level, which was rolled out in the Job Browser Pro software in June, 2008.

Karl F. Botterbusch, Ph.D.

Karl F. Botterbusch earned a Bachelor of Arts degree in psychology, English, history, and philosophy from Elizabethtown College in 1965, a Master of Arts degree in social psychology and psychometrics from the University of Pittsburgh

in 1966, and a doctorate in social psychology, personnel psychology, tests, and measurements from George Washington University in 1974.

Dr. Botterbusch has held a number of government and university positions. This has included work as a Personal Research Psychologist at the U.S. Army Enlisted Evaluation Center, U.S. Department of Defense, as a Research Psychologist at the U.S. Employment Service, U.S. Department of Labor, as a Senior Development Specialist at Stout Vocational Rehabilitation Institute, University of Wisconsin-Stout, and as a Senior Research Scientist, Stout Vocational Rehabilitation Institute, University of Wisconsin-Stout. He has been the sole owner of Vocational Consulting Associates, Inc., Menomonie, WI. Since 1977.

Dr. Botterbusch has published over 45 monographs, chapters, and referred journal articles. He has made over 40 presentations. His areas of expertise include job analysis, database development, the Social Security disability program, the Dictionary of Occupational Titles, applied research into vocational rehabilitation program effectiveness and model programs development, employment models and services, computerized job matching systems, vocational expert witness, technical and grant writing, and graduate level instruction in research methodology and job analysis.

Patrick L. Dunn, Ph.D., CRC

Patrick L. Dunn, Ph.D., CRC earned a Bachelor of Arts degree in Counseling and Rehabilitation from Marshall University in 1987, a Master of Science degree in Vocational Rehabilitation with a concentration in Vocational Evaluation from the University of Wisconsin-Stout in 1990, a Master of Arts degree in Rehabilitation Counseling from the Ohio State University in 1995, and a Doctor of Philosophy in Rehabilitation Services from Ohio State in 1998. Dr. Dunn is currently an Associate Professor of Counselor Education and Coordinator of the Rehabilitation Counseling concentration at the University of Tennessee-Knoxville. He has also served on the rehabilitation counseling faculty at Syracuse University and the University of Alabama.

Before beginning his academic career, Dr. Dunn was employed in a number of different positions as a vocational evaluator and rehabilitation counselor in both the private and public sectors. This employment included work as a vocational evaluator for the Ohio Bureau of Workers' Compensation and multiple proprietary rehabilitation companies in the state of Ohio. Currently a resident of Knoxville, Tennessee, Dr. Dunn continues to be available as a vocational consultant and vocational forensic expert in addition to his scholarly endeavors.

From the beginning of his academic career Dr. Dunn's research agenda has focused on rehabilitation and reintegration of injured or displaced workers in the work force. In particular, he has examined the relevance of worker traits and occupational characteristics to better understand the relevance of how workers transfer skills from one job to another. His work has been published in numerous scholarly journals, including Rehabilitation Counseling Bulletin, The Journal of Forensic Vocational Analysis, and Vocational Evaluation and Work Adjustment Bulletin. He has also presented on rehabilitation and assessment issues at numerous conferences of national counseling and rehabilitation organizations, including the American Board of Vocational Experts, The American Counseling Association, the International Association of Rehabilitation Professionals, the National Rehabilitation Association, and the National Council on Rehabilitation Education.

Timothy F. Field, Ph.D.

Timothy F. Field earned a Bachelor of Arts degree in psychology from Barrington College in 1963, a Master of Arts degree in rehabilitation counseling from Michigan State University in 1965, and his doctorate in Counseling & Personnel Services from the University of Maryland in 1971.

Dr. Field has been an author, consultant, educator, and vocational expert within the public and private rehabilitation sectors since joining the faculty at the University of Georgia (UGA) in 1972. As an academic advisor and major professor at UGA, more than 75 masters candidates and 19 doctoral candidates graduated with degrees in counseling and rehabilitation. Dr. Field was a vocational expert and advisor to the social security program and to both plaintiff and defense attorneys in personal injury litigation. Over the last 15 years, Dr. Field has conducted over 350 seminars to rehabilitation professionals on the topics of job analysis, transferable work skills, loss of employability, and lost earning capacity. In recent years, Dr. Field has concentrated on authoring books and developing related resources (e.g., journals, study guides, etc.) through printing and publishing for professionals in the rehabilitation industry. Dr. Field is a frequent contributor of articles to the professional journals in rehabilitation. In terms of presentations, Dr. Field has presented annually at state, regional, and national conferences for over 30 years.

In 1986, Elliott & Fitzpatrick, Inc. (E & F) purchased a local printing company, which became the publishing arm of E & F. Today, E & F enjoys a respected national reputation as a publisher of rehabilitation journals, texts, and other resource manuals, and the developer of one of the more successful software programs (Labor Market Access) in the field of jobs and rehabilitation. In his

capacity as president of E & F, Dr. Field continues to write, conduct seminars, serve as both editor and publisher of several rehabilitation resources, and serve as a consultant to other rehabilitation professionals, as well as a frequent speaker to professional groups and organizations, including annual presentations at the IARP National and Forensic conferences.

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APPENDIX E

Report of the

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**Report of the Work Taxonomy and Classification Subcommittee of the
Occupational Information Development Advisory Panel (OIDAP):
Findings and Recommendations Regarding Work Measurement**

September 1, 2009

Mark A. Wilson

OIDAP Panel Member
NC State University
Department of Psychology

Shanan Gwaltney Gibson

OIDAP Panel Member
East Carolina University
Department of Management

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Executive Summary

This report describes the central and seminal role of Industrial and Organizational Psychology in determining the link between work and the demands work places on the worker (see page 2). Linking the world of work and the required human attributes to perform work is the key problem in work disability determination. By making clear the assumptions that place constraints on our efforts (see page 5), describing a method of due diligence involving both extensive field interviews and observations (see page 10), detailing the review and consolidation of previous empirical work taxonomies (see page 10), we have reached a clearly indicated set of findings and recommendations (see page 13). The heart of these recommendations is that we believe the SSA must develop their own internal occupational analysis unit, staff it with experts in the field of occupational analysis, carry out pilot studies to refine work measurement instruments that consist of behavioral and observable descriptors, launch a nationwide occupational analysis system, and encourage extensive involvement from the scientific and user communities while doing so (see page 27). These findings and recommendations were made based on the current state of the scientific literature concerning work analysis (see page 19) and are designed to maximize the defensibility of the new occupational information system. We feel that, barring any delays due to external reviews, the vast majority of our recommendations can be carried out over an eighteen month period. Because data that will be collected as part of the OIS Pilot Study is a prerequisite and foundational to all other recommendations, its completion must be an SSA priority. Finally, a glossary is provided to help the reader better grasp the technical nature of the issues discussed in this report (see page 23).

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Report of the Work Taxonomy and Classification Subcommittee of the
Occupational Information Development Advisory Panel (OIDAP):
Findings and Recommendations Regarding Work Measurement

Preface

Job and Work Analysis are often described as foundational because the information generated by these activities is used as the primary input into several decision making systems involving people at work. A completed work analysis is of no value until the results are used by one or more of these systems. The implication of this insight is that any error committed as part of a work analysis will impact the many other systems which are, in part, based on the work analysis results. Describing work is not easy, requires considerable resources, and needs to be frequently updated (Wilson, 2007). Work analysis done incorrectly can result in inaccurate decisions and unfairness for those affected by the decisions. Work analysis that is not accurate and complete is likely to be challenged, will not be defensible, and will need to be redone resulting in increased costs and wasted effort.

What if you were interested in analyzing all work in the economy so that you could build an occupational information system for the purpose of determining work related disability and you also wanted to keep the information up-to-date? To complete a work analysis it is important to know why the analysis is being done (purpose), what degree of specificity of work descriptors is required (specificity), who will be providing the information (source), what means will be used to collect the information (modality), and how you will determine if the information is acceptable for the desired application (evaluation). For work analysis experts, the answer to several of these questions is straightforward for the problem at hand but others require more explanation. Other parts of this report will deal with issues of specificity, source, modality, and evaluation but the issue of purpose will be discussed in more detail here. Doing work analysis for the purpose of disability determination requires establishing a linkage between work and the human attributes required to complete the work.

Industrial and Organizational Psychologists have long been interested in using work analysis results to make inferences regarding what the work requires of the individual who performs the work (Harvey, 1991). The process of determining work demands on an individual (i.e., job specification) requires that someone knowledgeable in both human attributes and work analysis review the work information (that is, what activities are performed on the job), and then in some fashion infer the human attributes that may be required to do the work successfully. This process is an example of what scientific methodologists mean

when they speak of making "inferential leaps." Inferential leaps are often looked upon with some suspicion by scientists because the act of inference may involve human judgment and all the potential sources of error that result from such judgment. For the process to be acceptable to other scientists, the expert must make the case that other experts looking at the same situation would come to the same conclusions. One way to ensure similar conclusions by other experts is to decrease the distance of the "leap" by identifying a series of judgment rules, or by conducting empirical research to confirm the predictions inherent in a job specification.

The systematic linkage of the world of work to a comprehensive taxonomy of physical, cognitive, and interpersonal attributes of workers has been a primary goal of Industrial and Organizational Psychology for some time (Dunnette, 1976). One major difficulty in establishing this linkage is that work is often described in different ways that make job-to-job comparisons difficult (e.g., by using different descriptors and metrics). To the extent that descriptors used to describe work are concrete, observable, and behavioral they will be more likely to be evaluated with more consistency. Conversely, there is clear evidence that as job analysis descriptors become more abstract the evaluation of them becomes more difficult (Dierdorff & Wilson, 2003). Another benefit of a common set of descriptors and metrics is that it makes the process of comparing one job to another (a common task in the disability determination process) easier, more comprehensive, and provides less room for errors in human judgment. Describing work with a common set of descriptors and metrics is essential to establishing a linkage between the world of work and the attributes required of the worker because it will help minimize the distance of the inferential leap required.

Overview

This document describes the purpose, assumptions, procedures, findings, and recommendations, of the Work Taxonomy and Classification Subcommittee of the Occupational Information Development Advisory Panel (OIDAP). Each of the areas listed above is discussed below in enough detail to provide the reader with a complete understanding of the subcommittee's activities. We want the reader to understand both what we recommend and how we came to choose our recommendations. We have included information relevant to the initial and intermediate steps of some of our activities, as well as the final results of those efforts. We hope this information will allow the reader to better evaluate and potentially replicate the results of our efforts. One important goal of this report is to be transparent concerning the Work Taxonomy and Classification

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Subcommittees activities leading to the recommendations in this report. In order to achieve this goal, while still producing an accessible document, substantial amounts of information are presented in tables, figures, and as appendices at the end of the report.

Purpose of the OIDAP and the OIDAP Work Taxonomy and Classification Subcommittee

The OIDAP was appointed by the Commissioner of the Social Security Administration (SSA) to provide advice and recommendations on occupational information issues. As stated in the OIDAP Charter, "The Panel will advise the agency on creating an occupational information system tailored specifically for SSA's disability programs and adjudicative needs." The primary role of the Panel is to provide advice in a number of areas related to the collection and use of occupational information. One way to visualize the task of the OIDAP is presented in Figure 1, which illustrates the way in which information on both the job-side (work activities) and person-side (required personal characteristics) can be arranged and described in terms of its degree of behavioral specificity, ranging from highly detailed Level 1 information through highly abstract Level 5 constructs.

An important aspect of the OIDAP process at the beginning of this project to develop the new Occupational Information System (OIS) for SSA is to make recommendations concerning a comprehensive list of work descriptors that could be used as the framework for constructing a new OIS that is based on collecting information describing all jobs in the economy. The recommendations in this report assume that the comprehensive list of descriptors are at Level 3 or 4 in Figure 1 and that data will be collected at Level 2. Hence, the task of the OIDAP is to provide advice to SSA on the identification, development, operationalization, and maintenance of an occupational information content model to describe the world of work in sufficient detail to be useful for disability determination purposes.

The OIDAP Work Taxonomy and Classification Subcommittee was formed on the last day of the inaugural meeting of the OIDAP (2-25-2009). The purpose of the subcommittee is twofold: (a) to provide advice to the entire Panel concerning what type of taxonomy of work activity (see "Job Side" of Figure 1) would be optimal in the new OIS, and (b) to identify issues and provide recommendations regarding the strategies that are used to link the information in the job-side of the new OIS to the person-side traits and characteristics that the SSA will use with medical or functional evidence of the effects of impairments to assess the residual functional capacity (RFC) of individual disability claimants.

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This report is the culmination of the subcommittee's efforts to provide advice to the Panel concerning work taxonomies. As the process of developing a new OIS proceeds, the issue of linking the job- and person-sides of the OIS content model will receive more detailed attention. However, because the other OIDAP subcommittees are only now preparing to offer their initial recommendations regarding ways in which the existing person-side traits assessed in the physical and mental RFC process might be modified or extended (e.g., to include additional physical or non-physical constructs), we cannot yet speak to the critical issue of how SSA should link the two "worlds of work" shown in Figure 1 in a fashion that is optimal for SSA's purposes in a technical and a legal-defensibility sense.

Three members of the OIDAP (Shanan Gwaltney Gibson, Mark A. Wilson, and James F. Woods) volunteered to sit on the Work Taxonomy and Classification Subcommittee (see Appendix A). Mark A. Wilson was nominated and serves as Chair of the subcommittee. At the close of the second Panel meeting (4-29-2009), Panel member James Woods resigned from the Panel but continued working with the subcommittee until the completion of an initial proposed work taxonomy by the subcommittee that was presented in a fact finding session immediately prior to the third Panel meeting (6-9-2009).

Assumptions of the Work Taxonomy and Classification Subcommittee

In nearly every effort like that undertaken by this subcommittee, a number of assumptions are made which help guide the actions taken to achieve the goals. Not infrequently, those writing about their efforts fail to make clear their assumptions which can lead to difficulty in understanding the logical basis of recommendations. We have identified twelve assumptions which have guided our efforts on behalf of the OIDAP. We consider the validity of many of these assumptions to be self-evident to those who have studied the occupational information needs of SSA, and accordingly need no further explanation or defense.

In those cases where the validity is not self-evident, it is hoped that other sections of this report will provide the information needed to convince the reader that the assumption is indeed valid. What follows is an enumeration of the major assumptions under which this subcommittee carried out its work.

1. The occupational information system (OIS) and the work taxonomy on which it is based will be challenged when it is implemented and will need to be able to be defended successfully. One key component of defensibility is that the process of development for the new OIS be as

transparent as possible from inception to completion (e.g., the public meetings of the OIDAP).

2. Change on the order of what is envisioned necessary to develop a new OIS will be threatening to various constituents who play a role in the disability determination process, and produce resistance to such change. Even positive and necessary change can inspire resistance and suspicion of motives. Individuals who have had an opportunity to share their concerns and offer suggestions for change tend to respond to change more positively. An open source approach to change should help ease the transition process to a new OIS.

3. Many of the terms in job, work, and occupational analysis are used by various professional fields in different ways, which may lead to confusion and communication problems as the new OIS is designed and implemented. Development and promotion of a common language of occupational analysis across professions through social media technology will be important to minimize miscommunication.

4. A large-scale nationwide occupational analysis at the level of what workers actually do in the economy will be of interest to a number of individuals, institutions, and agencies that have no direct interests in disability determination; such interests may seek to broaden the scope of applications that the new OIS will address. The cost and effort associated with OIS development on the scale envisioned by SSA is such that others may seek to leverage our investment to meet needs that may have little to do with disability determination. The fact that the new OIS must be optimal for allowing SSA to meet its disability determination needs must be acknowledged as "job one," and the design and implementation of the new OIS must be fully consistent with that goal.

5. An OIS designed for the purposes of disability determination should not include any unnecessary or redundant information. Given the scale on which the desired information is to be collected unnecessary or redundant information would represent substantial wasted effort and increased costs. Such information could also serve to distract the decision maker from relevant information if it were included in a new system leading to potential inconsistencies.

6. An OIS that is specifically designed for the purposes of disability determination will better and more accurately serve the needs of the users than a system that was designed for other purposes. The occupational information requirements of the SSA are unique when compared to the occupational information needs of most other organizations. The

specificity of descriptors and the scales used to evaluate those descriptors in the new OIS must be developed with a clear understanding of, and support for, the occupational information needs of the agency.

7. Regarding the title taxonomy that will underlie the job-side of the new OIS, an OIS that is designed for the purposes of disability determination must describe work at the level at which individuals perform work in the economy: that is, the job or occupation (analogous to the occupational titles in the *Dictionary of Occupational Titles (*DOT) taxonomy). More abstract taxonomic units for describing work do not provide the detailed information needed to determine whether a claimant is no longer able to perform work as it exists in the economy. More abstract title taxonomies that combine jobs that perform significantly different work activities (or perform them under significantly different conditions) also lack the face validity needed to convince consumers of the information that the system is fair and accurate.

8. An OIS designed for the purposes of disability determination must comprehensively describe all work that exists in nontrivial numbers in the economy. SSA is required to review all claims of disability regardless of the work of the claimant and the frequency with which the work occurs in the economy. A work taxonomy that fails to describe all work as it exists in the economy would not meet the occupational information needs of the SSA.

9. Job titles provided by job incumbents often tell an analyst little about what a person actually did in previous jobs, and jobs may change over time (while the job title remains the same). The same work in different organizations may be identified by very different job titles. Any new OIS must accurately and comprehensively describe what the incumbent actually does, rather than rely on potentially arbitrary and confusing job titles to infer worker requirements.

10. A new OIS should be based on current scientific standards of work analysis. The field of work analysis has progressed rapidly in the slightly over 100 years it has been in existence (Wilson, 2006). A system designed today based on current scientific standards may look quite different than one that was designed during the height of the industrial revolution.

11. In those areas where not enough prior scientific research information is available to guide development of the new OIS, empirical research studies will need to be conducted to provide a defensible basis for making informed decisions. Because projects involving large scale nationwide

occupational analysis focused on describing what workers actually do on the job have not been done (or kept current) for decades, there are many unknowns that will need to be investigated.

12. The design process of a new OIS will be iterative, such that the final OIS may look very different from the initially proposed OIS. Soon after SSA's initial field studies in occupational analysis are completed the agency will know more about many occupational analysis research issues than what currently exists in the scientific literature. This new information will most likely lead to changes in the design of SSA's OIS over time, as well as how it is used. This is particularly the case with respect to the ways in which job-side information in the new OIS is linked to person-side assessments (e.g., the physical and mental RFC process) and decisions (e.g., Step-Five Transferable Skills Analysis (TSA) judgments). In comparison to the current DOT-based processes, considerable room for improvement exists with respect to the defensibility and utility of the linkages that exist between the job- and person-side aspects of the disability content model. We anticipate that the results of the empirical validation studies that will be conducted as part of the work involved in developing the new OIS will be critical in determining the final characteristics of the new OIS, and the ways in which the information in the OIS is applied when making person-side decisions during the sequential evaluation process.

Procedures

The Work Taxonomy and Classification Subcommittee of the OIDAP engaged in a number of activities in order to accomplish their task of providing the Panel with work taxonomy advice. A timeline and description of activities carried out by the Subcommittee is provided in Appendix B. As can be seen in Appendix B, the activities of the Subcommittee involved attending and presenting at public meetings, conducting fact finding visits and interviews, and evaluating existing empirical work taxonomies. Each of these activities is described in more detail below.

Public Meeting Activities – The OIDAP held three public meetings and two public teleconferences. Agenda for all the public meetings and teleconferences is presented in Appendix C. A review of Appendix C reveals that the public meetings have involved numerous presentations and demonstrations by various experts and interested parties both within and outside of SSA. Every aspect of the disability determination and adjudication process was reviewed in

considerable detail for Panel members. In almost all cases, Panel members were able to ask those making presentations questions and in some cases to deliberate following presentations.

At the first meeting during Panel deliberations the need for a subcommittee of the Panel to focus on work taxonomy issues was identified and the Work Taxonomy Subcommittee was formed. As the Panel's recommendations for Fiscal Year 2009 were considered, the subcommittee's scope was consistent with OIDAP's need to also encompass the needs of the OIS's classification. Therefore, in April, 2009, the subcommittee's scope was expanded to include recommendations regarding the occupational classification structure. At the inaugural meeting, the Panel reached consensus that, for the purposes of disability determination, SSA would need to collect job side occupational information at the level of specificity identified as Level 2 in Figure 1.

The Work Taxonomy and Classification Subcommittee Chair made a presentation at the second Panel meeting on behalf of the subcommittee outlining a number of basic work analysis issues along with a proposed method for identifying a work taxonomy (see Appendix D for the slides from the presentation). During questions after the presentation and subsequent Panel deliberations, members of the subcommittee answered questions and further explained the proposed process for identifying an initial work taxonomy for use in an occupational information system.

At the third public meeting and the public teleconference the Work Taxonomy and Classification Subcommittee Chair provided updates on the subcommittee's activities and answered questions from other Panel members concerning how the envisioned work taxonomy would be used to analyze work as performed in the economy. Many of these questions concerned the relationship between information provided in the DOT and the types of information that could be expected to result from an operationalization of the results of the subcommittee's work taxonomy recommendations.

More specifically, several questions concerned the types of specific measures or items that might result and how these would be related to specific types of information found in the DOT. The response to these questions was that the initial work taxonomy as envisioned by the subcommittee would describe occupational information that could be presented to end users in formats similar to DOT job descriptions, and that the information produced would be based on more defensible and modern scientific methods.

The Work Taxonomy and Classification Subcommittee found the public meetings to be a valuable source of information on many issues that need to be addressed and helped the subcommittee gain an appreciation for the complexity of the

process. The presentations and discussions saved time and provided direction for the subcommittee's activities. Some of the assumptions listed above and findings and recommendations listed below resulted from information gained in these public meetings.

However, both authors of this report felt that it was important to take a scientist-practitioner approach to the work of the subcommittee. An important aspect of this approach is to directly observe the phenomenon you are trying to understand where and when it takes place. Thus, the subcommittee requested and received permission to conduct fact finding visits and interviews with individuals who were directly involved in the disability determination process and the use of occupational information.

Fact Finding Visits and Interviews – In order to gain a greater understanding of how occupational information is used in the field by various parties involved in the disability determination process several site visits and interviews were conducted. The purpose of these efforts was to provide direct contact between the various "end users" in the disability determination process and the authors of this report. As can be seen in Appendix B site visits were made at a Raleigh, North Carolina Disability Determination Services and the Office of Disability Adjudication and Review, and the Falls Church, Virginia National Hearings Center. During the visits several administrative law judges, appeals judges, and disability examiners were individually interviewed. In addition, site visits were made to interview vocational experts (VEs) and claimant representatives in their offices or near their work place. Other members of the OIDAP (Mary Barros-Bailey, Nancy Shore) assisted the subcommittee Chair in setting up these interviews with non-SSA personnel.

The primary purpose of the individual interviews was to learn how the individuals used occupational information in their jobs, what they liked and disliked about currently available occupational information, and what their ideal OIS might contain. The sole purpose of these interviews was to provide more information regarding the real world use of occupational information. In every case, those being interviewed were told that their comments would be held in confidence Interviewees were also given brief descriptions of some of the key potential recommendations regarding the design and possible content of the new OIS and all reacted quite favorably.

During the course of public meetings and fact finding visits and interviews a number of concerns were expressed to the OIDAP and the Work Taxonomy and Classification Subcommittee by various individuals. Many of the concerns were expressed on multiple occasions by different individuals. Whenever the concern

was related to Work Taxonomy and Classification Subcommittee areas of interest we made note of the concerns. Appendix E is our attempt to provide a comprehensive list of the primary concerns expressed concerning work taxonomy related issues. These concerns help guide some of the recommendations made by the subcommittee.

In addition to the end user visits and interviews described above, the Work Taxonomy and Classification Subcommittee Chair attended two National Academy of Sciences (NAS) meetings in Washington, DC. Currently, the NAS is conducting a scientific review of the Department of Labor's O*NET project. O*NET is the Department of Labor's replacement for the DOT. The subcommittee Chair attended these meetings to be aware of the public testimony made by various occupational experts and end users on the positive and negative aspects of the O*NET. At the writing of this report the NAS had not released a report detailing its assessment of O*NET. However, attendance at these meetings was helpful in determining some of the findings and recommendations in this report (see next section for more detail).

Existing Empirical Work Taxonomy Evaluation – The primary task of the Work Taxonomy and Classification Subcommittee at this stage of the process of developing the new OIS is to provide the OIDAP with guidance and recommendations on the content and operationalization of the job side of Figure 1 so that it could be used as part of the OIDAP's recommendation of a content model for the new OIS. Our initial efforts toward this goal involved a consolidation of existing empirical work taxonomies and the evaluation of potential taxonomies for their sensitivity to various person side constructs proposed by other OIDAP subcommittees. The first activity (consolidation of existing work taxonomies) seemed the best approach for identifying an initial work taxonomy to serve as the stimulus for the development of specific work activity descriptors (items). That is, the work taxonomy can be thought of as on overarching framework (Level 4) of specific work activity descriptions (Level 2). The second activity was to determine the likelihood that job descriptions based on the new OIS would provide various decision makers with enough information to make inferences about the person side dimensions that were required by the work. Each of these activities is described in more detail below.

Existing Taxonomy Consolidation - How does one go about identifying a work taxonomy that can be used to classify and study all work in the economy at the level of what is actually done by workers? Are there existing taxonomies that can be adopted as is or modified for the needs at hand? Because we feel it is important to have some empirical basis for our recommendations the answer to the second question is a clear "no."

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That is, in our assessment no existing *empirical* work taxonomy has been shown to describe all work in the economy, as it is performed by workers, and to do so in a fashion that possesses the technical adequacy and legal defensibility needed by SSA in its disability programs. The DOT was used for this purpose for many years, but the DOT was never developed to be optimal for disability applications, and its rated job- and worker-side taxonomic elements suffer from significant psychometric limitations due to their reliance on abstract "holistic" judgments to rate most of the work and worker requirements it describes. The fact that the DOT descriptions contain substantial amounts of information that is customized to each rated occupation further limits its ability to make empirical (as opposed to rational) determinations regarding the work activities required of a given occupation, or particularly, to make meaningful comparisons between task-dissimilar occupations (e.g., for TSA purposes).

There have been several attempts at the development of empirical work taxonomies to describe the nature and structure of the job-side world of work. With the exception of the O*NET, none have ever been used to classify all work, and many are specifically focused on certain types of work. In the case of O*NET it achieved this goal by not describing work as actually done by workers, but rather by describing work at the much more abstract occupational unit level of analysis. It should not be too surprising that no sufficiently comprehensive empirical work taxonomy and database now exists, and given the enormous resources required to carry out the activity, perhaps only the government is capable of completing the task. Because we could identify no existing taxonomy that we felt was adequate, we chose to address the first question by identifying a number of less comprehensive empirical work taxonomies, examining them for similarities, and consolidating them into an initial proposed work taxonomy.

Appendix F provides a list of the eleven work taxonomies that were identified after a search of the empirical literature. A review of this list will reveal that some of these taxonomies are more focused (managerial work, professional work, cognitive work) and many are more general. The hope was that by including a number of well developed empirically based efforts in work taxonomy we would be able to identify all potential taxonomic work dimensions through a comparison of the dimensions that compose each of the taxonomies.

Appendix G provides a list of the dimensions associated with each taxonomy. The process of identifying an initial work taxonomy for use by the OIDAP involved all three members of the Work Taxonomy and Classification Subcommittee engaging in a comparison and sorting exercise. The task was simple; each member was to create one list of dimensions out of the eleven lists by sorting the same or similar dimensions together using a spreadsheet. Because the Common Metric Questionnaire (CMQ) had the largest number of dimensions (d = 42) each member began with the CMQ and sequentially

compared each of the taxonomies until one unique list of dimensions was achieved.

The results of this exercise are found in Appendix H. A consensus meeting was held where the three member of the committee met to discuss the individual lists and create one common list. To aid in the consolidation process each dimension was labeled as being indicative of Data, People, Things, or Other. This process produced an initial consolidated list and a final consolidated list (see Appendix H). The final consolidation list was shared with several Panel members at a fact finding session prior to the third OIDAP Panel Meeting, and discussed during the public Panel meeting, after which the Panel gave the subcommittee its comments.

Initial Taxonomy Person Side Sensitivity – To determine if the initial taxonomy would be able to provide information necessary to infer the requirement of various person side dimensions of physical, cognitive, and interpersonal work demands each member of the Work Taxonomy and Classification Subcommittee rated each of the work taxonomy dimensions for its likelihood of providing information necessary to infer the presence of four cognitive/interpersonal dimensions and four physical dimensions. The ratings for each subcommittee member and the consolidated ratings of all subcommittee members are provided in Appendix I.

As can be seen from a review of Appendix I, considerable agreement was obtained that the proposed initial taxonomy would be sensitive to potential person side taxonomic elements. Appendix I was shared with several Panel members at a fact finding session prior to the third OIDAP Panel Meeting, discussed during the public Panel meeting and comments were received from several Panel members. It is important for the reader to note that the eight person side dimensions used for this exercise were identified by the Work Taxonomy and Classification Subcommittee due to the fact that the Physical Demands and Mental/Cognitive Demands Subcommittees had not completed work on their person side taxonomies at the time this exercise was carried out. That being said, the Work Taxonomy and Classification Subcommittee is confident that because of the comprehensive nature of the initial work taxonomy identified similar results would likely be found with other person side taxonomic dimensions.

Findings and Recommendations

The findings and recommendations of the Work Taxonomy and Classification Subcommittee are contained in Table 1. As can be seen the findings and recommendations are broken down into four categories (Existing Systems, OIS

Design and Development, OIS Data Collection, OIS Maintenance). Findings represent the professional opinion and conclusions of the report authors based on the activities described in this report and the relevant scientific literature when cited. Recommendations represent proposed actions by the report authors that are necessary for SSA to successfully bring a new OIS into existence and keep it up-to-date.

In many cases the findings and recommendations need no further elaboration beyond that provided in Table 1. Several paragraphs below describe the final deliberations and actions of the Work Taxonomy and Classification Subcommittee of the OIDAP and are organized by the same four categories used in Table 1. After reviewing the findings and recommendations this section of the report ends by returning to Appendix E and discussing the relationship between the concerns expressed in Appendix E and the Findings and Recommendations of this report.

Existing Systems – The previous section of this report foreshadowed, and Table 1 confirms, that the Work Taxonomy and Classification Subcommittee does not find any existing work taxonomy, empirical or otherwise, sufficient for the purposes of developing a job side work taxonomy for a new OIS. In public presentations to the Panel the SSA has detailed a number of concerns concerning the Department of Labor's replacement for the DOT, the O*NET. We agree with those concerns. As with its predecessor, the O*NET is currently under review by the NAS. Presentations made at the public meetings of the NAS (Harvey, 2009) offered criticisms of O*NET that were very similar to criticisms offered by Miller, Treiman, Cain, & Roos (1980) of the DOT ("In particular, consideration should be given to the development of factor-based multiple-item scales, the use of which would go a long way towards overcoming the reliability problems identified in Appendix E and summarized in this chapter," p. 195.). We agree with Miller, et al. (1980), and make suggestions for how to carry out their advice in the next paragraph of this report (see also, Cain & Green, 1983; Geyer, Hice, Hawk, Bose, & Brannon, 1989; Gibson, Harvey, & Harris, 2007).

OIS Design and Development – This section of the table describes the proposed content and procedures for the design and operationalization of a new work taxonomy to serve as the foundation of a new OIS. A key element of this section of the Findings and Recommendations is the Proposed Work Taxonomy Dimensions contained in Table 2. A comparison of the dimensions listed in Table 2 to the "Edited List of Combined Unique Work Taxonomy Dimensions Resulting from Taxonomy Crosswalk and Their Original Taxonomic Source

Sorted by Data, People, Things, and Other Rational Categories" found in Appendix H will reveal two important changes.

The first change is that the physical taxonomy dimension recommendations from the Physical Demands Subcommittee of the OIDAP have taken the place of the previous physical dimensions that were included in the taxonomy. Thus, the Work Taxonomy and Classification Subcommittee has integrated the recommended physical dimensions from the Physical Demands Subcommittee into its Proposed Work Taxonomy Dimensions listed in Table 2. The thoughtful reader may wonder why the taxonomy of the Physical Subcommittee was integrated into the work taxonomy while the taxonomy of the Cognitive and Interpersonal Subcommittee was not. The primary reason deals with the issues of abstraction and ability to observe. The Physical Taxonomy is concrete, behavioral, observable, and has historically been included in work taxonomies. The Cognitive Interpersonal Taxonomy is abstract, unobservable, and has historically been inferred from examining work descriptors. The second change is that the Standard Occupational Classification (SOC) categories were integrated into the taxonomy resulting in one additional new dimension. The advantage of having a taxonomy that can be linked back to the SOC is that a number of government occupational information data collection efforts are based on the SOC. Thus, linkage to the SOC will allow potential crosswalks to those systems with less effort.

The other two recommendations involving design and development deal with hosting an online community and internalizing substantial expertise into the agency. There is a vast community of professionals who have significant practical experience with work measurement issues in disability cases who may have suggestions for how the taxonomy proposed in Table 2 should be operationalized. Whatever instruments are developed will need to be altered from time-to-time as work changes. Developing an online community of registered experts and providing them with a place to propose and discuss ideas about work measurement issues would both involve users in the development process and provide SSA with a quick means of gauging utility from end users.

The scale of the work analysis that is proposed for the nation's two largest disability programs is such that we can think of no other entity other than SSA that is capable of carrying it out. The use of occupational information for disability determination purposes is a core task of the agency. The agency will need to develop expertise internally to carry out this core task as it collects and analyzes information about work that has never before existed on the scale needed by SSA. Because of the changing nature of work and the need for keeping the OIS accurate there will be ongoing need for expertise in these areas. The agency will need to put procedures and policies in place to establish the independence and scientific credibility of this unit.

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OIS Data Collection – A work analysis project of this size has to start somewhere and beginning with an attempt to analyze all work does not seem to be advisable given some of the unknowns. By beginning with a pilot study that involves those jobs most commonly encountered by the agency a prototype system can be developed that can be used to evaluate systems, involve various user communities, and provide the basis for evaluation of the data collection process. One attractive element of the pilot study approach is that more job descriptors can be evaluated than would be the case in a system designed to describe all work because relatively few jobs would be involved.

This approach also allows for the comparison of various potential sources of work analysis information and sharing the results of the pilot study with the scientific community will stimulate new research of potential interest to the SSA. The transition from pilot study to operationalization of an operational OIS should focus on efficient use of work descriptor items that can be reliably rated, verified through observation for validation purposes, and provide maximum information for carrying out the person side linkages to work.

OIS Maintenance – Not that much is known, other than anecdotal reports, concerning how frequently work changes. Clearly, technology and innovation bring change to work but does this change always result in significant alteration of how the work is performed? Do all jobs change at the same rate and what is the best procedure for identifying when work has changed? There is very little longitudinal data to provide the answers necessary to keep an OIS up to date. By developing an online community of users and random audits of existing job descriptions the SSA can begin to answer these questions. As technology and innovation continue, existing job descriptors will need to be modified from time-to-time to describe currently unimaginable types of work.

Concerns – A review of the purpose of the Work Taxonomy and Classification Subcommittee will reveal that several of the concerns listed in Appendix E fall outside of the subcommittee's scope. This is particularly true for the concerns related to database design and reporting. However, we wanted to list all the OIS related concerns that we identified during our fact finding because we thought they would be of interest to SSA and because our recommendations directly address some of the concerns. We feel that our recommendations clearly address the need for work information that is up-to-date, complete, and accurate. We feel the methods recommended represent current scientific standards of work analysis and do not involve the attempts to measure constructs that are too

abstract. The means by which the suggested work taxonomy was developed and the inclusion of the suggestions of the Physical Demands Subcommittee's taxonomy should provide the stimulus necessary to develop the specific work measurement items desired in a new OIS.

Conclusions

We feel that the findings and recommendations listed in Table 1 provide a solid foundation for designing, measuring, and maintaining usable descriptions of work. If followed, this plan will produce work descriptors that are based on ratings collected at the appropriate level of specificity (Level 2) for the desired application (as necessary, more abstract Level 3-5 job-side descriptors can be derived using empirically defensible methods from the more-detailed Level 2 ratings). Our findings and recommendations are meant to provide guidance on how SSA might go about building a complete system for the purpose of occupational analysis rather than simply what type of occupational information needs to be studied.

We have identified two potential sources (incumbents and analysts) of information, and a procedure to compare sources (although prior research strongly suggests that analysts will be required in order to collect ratings having the highest quality and defensibility). Given the scale of the effort, we have assumed that the mode of data collection will be online computer administered questionnaires. Most important, we feel the plan will result in work analysis results and job descriptions that are defensible because they will be demonstrably reliable, valid, and specifically designed for the disability determination process.

If the new OIS cannot be shown to be composed of work analysis data that is reliable and valid, any subsequent decisions based on the system will be justifiably questioned. As we made clear in our very first assumption, we believe the work information generated from any new work analysis effort will be subjected to vigorous challenges. Although the new OIS needs to accomplish several important goals for SSA, if it is not a defensible system capable of withstanding challenges it will be of little use to the agency.

By building an internal unit to carry out the recommendations, by providing the unit with a means of generating and communicating with an open source community of interested users and researchers, by encouraging outside research based on the data that is collected, and by designing procedures to keep the

information up-to-date, the defensibility of the resulting OIS will be greatly enhanced. Given the circumstances we identified in our fact finding and public meetings we feel that these recommendations comprise the most acceptable choice given SSA's needs, the existing scientific literature, and the practical constraints under which the new OIS must be collected and updated.

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*Note: Indicates Articles that Describe a Taxonomy Included in the Work
Taxonomy Consolidation Exercise

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Glossary

Common Metric – a taxonomy of job descriptors which can be applied to all jobs thereby allowing comparison of work behaviors across all jobs.

Content Model – a framework that identifies all of the important elements of some whole – those things which should be measured or delineated. For SSA purposes, an initial content model for the world of work is proposed that identifies those aspects of work which are behavioral, observable, and defensible descriptors of work as it is performed. Similar content models must be developed for the "people" side of the disability determination process; ones that delineate what cognitive and physical requirements are appropriate to measure for purposes of comparison to the behavioral requirements of work as it is performed.

Cross Job Relative – work descriptors that are written at a level of specificity which allows them to be applied to all jobs.

Decomposed Rating – rating of observable (Level 2 or 3) parts of a construct for purposes of analysis as opposed to rating a whole occupational construct or trait (Level 5 or 4) on some metric. See also *Holistic Rating*.

Defensibility – the degree to which conclusions will be upheld by the courts; this is typically determined by the degree to which they are supported by statistical evidence of reliability and validity. Also of importance for SSA is the degree to which conclusions are "acceptable," meaning that they do not result in adverse impact and possess face validity.

Dimension –job-related information that is presented at the Level 3 or 4 abstraction. It is the stimulus used for generating items that would actually measure the job related behaviors of interest.

Holistic Rating – rating of a whole occupational construct or trait (Level 5 or 4) on some metric, as opposed to separating said activity into its observable (Level 2 or 3) parts for purposes of analysis. See also *Decomposed Rating*.

Inferential Leap – the degree to which one determines the attributes of something which are not directly observable. In occupational analysis it typically refers to making judgments about attributes of the person based upon

observable requirements of a job. The goal is to minimize the inferential leap through the documentation of observable work requirements.

Generalized Work Activity – set of general work behaviors that apply to all jobs, and that one can describe all jobs in terms of how much of each of these general work behaviors are involved, more behaviorally and technologically abstract than tasks.

Item – a question written to obtain information regarding whether or not a specific behavior or characteristics is associated with performing an occupation. Examples may include items that measure the frequency, duration, or height of lifting for a particular job.

Job Side – attributes of work that are inherent to the job itself; these attributes are observable activities that the job requires regardless of the individual who fills a position.

Level 1 / Level 2 – job related information that is behaviorally specific and observable. Level 1 data is frequently referred to as "task" data because it is specific only to a single job of interest; hence, it is not appropriate for making comparisons across job titles. Level 2 data, while slightly less specific, can be rated both reliably and validly; it represents a level of aggregation that is cross-job relative and desirable for SSA's purposes.

Level 3 / Level 4 / Level 5 – job related information that is too abstract to be reliably rated or validated as observable aspects of work. This level of data is appropriately obtained through statistical aggregation of Level 1 / Level 2 data. Level 4 data may be construed as an overarching framework that groups the more specific activities typically described as Level 2 data.

Person Side – attributes of the person that are needed to successfully fulfill the requirements of an occupation

Reliability – at a conceptual level, the degree to which a measure is free from random errors of measurement. At a practical level, reliability is often inferred from measures of the consistency seen across a set of scores or ratings of some attribute. With regard to occupational analysis, it is reflected in the degree to which two independent raters provide ratings of work attributes which are similar.

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Skill – the learned capacity, based on one's knowledge, prior practice, aptitude, training, education, etc., to perform a given psychomotor activity or function. For example, someone may have typing skills, wood-working skills, or word processing skills).

Task – a highly specific descriptor of work which is not cross-job-relative. A task statement usually includes a single action verb, is directed toward a single objective, and is based upon observable characteristics of the work.

Taxonomy – a classification scheme used to organize characteristics of workers, the work itself, or the job titles workers are assigned (as they exist in the economy). Several types of taxonomies are relevant to this project, including taxonomies describing the structure of the job- and person-sides of Figure 1, as well as title taxonomies describing the structure of jobs and occupations (work as it is performed in the economy).

Taxonomy (empirical) – a classification scheme that is derived from experimental analysis. In occupational analysis, it is a taxonomy that was derived by subjecting large quantities of data to statistical factor analysis and using the resulting structure.

Taxonomy (rational) – a classification scheme based upon reason or human judgment; a "common sense" approach to describing occupations. Rational taxonomies may be validated via empirical methods.

Validity – the degree to which inferences are appropriate based upon the interpretation of data. Determinations of validity are usually based upon three types of evidence: content (the degree to which something measures the entire – or an adequate representative sample – domain of behaviors to be examined), criterion (the degree to which some an instrument is appropriately predictive of a criterion of interest), and construct (the degree to which inferences about unobserved variables can be made on the basis of observed variables).

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Table 1—Findings and Recommendations of the Work Taxonomy and Classification Subcommittee of the OIDAP

Number	*Findings and Recommendations*
	Existing Systems
F1ES	*Finding*: The DOT in both content and procedure does not represent state-of-the-art occupational analysis technology. Further, it is out-of-date, and methodologically flawed (due to its reliance on holistic ratings of abstract job- and person-side constructs) resulting in data having unacceptable reliability and validity (e.g., Miller, Treiman, Cain, & Roos, 1980). The effort and resources required to "fix" the DOT would presumably meet or exceed those necessary to develop an entirely new OIS specifically designed to meet SSAs needs, and even if resources were made available to update the DOT database, such information would still be decidedly sub-optimal with respect to meeting SSA's specific needs in terms of both technical adequacy (e.g., for TSA determinations) and legal defensibility (given the inherently unverifiable holistic rating procedures used to make its common-metric ratings).
R1ES	*Recommendation*: SSA should develop an occupational information system that targets SSA's legal, program, and technical needs for its disability programs in the 21st century, rather than update the DOT.
F2ES	*Finding*: The O*NET does not describe work at the level at which it is actually done by workers in the economy, does not included constructs important to the disability determination process, and like the DOT relies, on collecting data via the direct holistic rating of abstract occupational constructs and traits. The effort and resources required to "fix" the O*NET meet or exceed those necessary to develop an entirely new OIS specifically designed to meet SSAs needs.
R2ES	*Recommendation*: SSA should develop an occupational information system that targets SSA's legal, program, and technical needs for its disability programs in the 21st century, rather than update the O*NET or develop methods for using O*NET data to estimate DOT-type constructs (e.g., SVP, Strength).

Table continues

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OIS Design and Development	
F1ODD	*Finding*: No existing work taxonomy (specifying either the structure of work activities or occupational titles) meets the needs of the SSA for disability determination purposes.
F2ODD	*Finding*: There is little empirical research that has involved occupational analysis on the scale of the entire economy to guide our efforts, but some empirical work taxonomy efforts have been reported in the scientific literature.
F3ODD	*Finding:* The current level of technology in common metric work analysis is more than sufficient to meet the OIS needs of the SSA and current SSA staff includes a nationally recognized expert with demonstrated competence in carrying out large scale work analysis.
R1ODD	*Recommendation*: A new OIS should be developed based on the work-activity taxonomic dimensions listed in Table 2. More specifically, the dimensions listed in Table 2 should serve as the stimulus for the development of multi-item scales meant to measure each dimension listed in Table 2. The item development process should commence without delay.
R2ODD	*Recommendation*: The SSA should host a web based community where registered experts from several different disciplines can review the dimensions listed in Table 2, suggest potential items for inclusion, comment on suggestions from others, and on any proposed work measurement instrument as it becomes finalized. Three primary criteria for items should be that they are behavioral, observable, and measurable. This community should be maintained after the OIS has been established to identify new items or scales that need to be added as the world of work changes.
R3ODD	*Recommendation*: The SSA should develop its own internal unit devoted to OIS Design and Development, OIS Data Collection & Analysis, and OIS Maintenance. The purpose of this unit will be to integrate suggestions from the web-based community, provide their own expertise and suggestions for OIS development and maintenance, and to advise SSA on the numerous technical matters related to OIS utilization. The unit needs to include experts in common metric work analysis, labor economics, and SSA employees experienced in internal project management. The use of occupational information for disability determination purposes is a core task of the agency. SSA, has, and will need to increase its internal work analysis expertise to carry out this core task as it collects and analyzes information about work that has never before existed on the scale needed by SSA. Because of the changing nature of work and the need for keeping the OIS accurate, there will be ongoing need for expertise in these areas. The agency will need to put procedures and policies in place to establish the independence and scientific credibility of this unit.

Table Continues

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OIS Data Collection & Analysis	
R1DCA	*Recommendation*: Once multi-item scales have been identified for each dimension listed in Table 2 that SSA considers relevant for its purposes, SSA should immediately conduct a pilot study involving the most frequently seen jobs of claimants and the most frequently recommended jobs for those with residual functional capacity. This pilot study should capture at least 95% of the most frequently seen and recommended jobs and should scale each item in terms of both frequency of occurrence on the job and duration of performance. Finally, we feel that, barring any delays due to external reviews, the entire pilot study can be carried out over an eighteen month period.
R2DCA	*Recommendation*: The SSA should train existing Experts in the new OIS and use them as a source to provide job level data for the pilot study. The SSA should also provide job incumbents with the opportunity to provide job level data in the pilot study and compare the quality of results from the two sources. As part of this study, a further examination of the performance and suitability of direct holistic ratings of abstract work characteristics should be included. Although past research has strongly suggested that holistic ratings cannot provide data of adequate reliability, validity, and accuracy, it is nevertheless important to further establish the correctness of this conclusion with respect to the specific types of data collection instruments SSA will use to collect the new OIS (both on the job- and person-side of the OIS content model).
R3DCA	*Recommendation*: The SSA should evaluate the pilot study data for utility (does it provide the information needed by the users in the system), reliability (inter-rater), and validity (confirmation of job descriptions generated by the OIS through direct observation, and convergence with expert validated job profiles).
R4DCA	*Recommendation*: The SSA should use the pilot data to generate prototype occupational analysis reports and computerized systems to access the information for the purposes of usability analysis.
R5DCA	*Recommendation*: The SSA should host a web-based community where registered users will be provided access to the occupational analysis data collected by SSA for scientific research purposes. The hope is to encourage the development of an independent scientific community devoted to understanding occupational analysis issues using a common metric of description. Not only will this allow for independent verification of SSA internal studies but it will most likely result in the development of a number of applications that have nothing to do with disability determination.

Table Continues

OIS Data Collection & Analysis *(cont'd)*	
R6DCA	*Recommendation*: The SSA should use the results of the pilot study to refine the items and work taxonomy using existing psychometric principles prior to launching a data collection effort targeted at capturing all work in the economy.
R7DCA	*Recommendation:* The SSA should develop a plan to sample work from all jobs in the economy. There does not seem to be any easy means to identify what a sample that included all jobs would include. Perhaps the best source to begin the development of the sample would be the 12000+ titles listed in the DOT. Both research and expert online communities should be provided with the initial list for purposes of suggesting additions and deletions from the list. The data from the operational OIS should be subjected to the same type of evaluation criteria as the pilot study. The data from the operational OIS, like the pilot study data, should be shared with the scientific community via the web-based community.
R8DCA	*Recommendation:* Once a large database representative of all work in the economy has been obtained, the SSA should examine various methods of job classification based on the common metric of descriptors employed in the new system. By basing job classification on a common metric of descriptors the agency will avoid the inaccuracy problems associated with job classification systems based on job titles.
***Table Continues* OIS Maintenance**	
R1M	*Recommendation*: The SSA should host a web based community where registered users can comment on the quality and accuracy of the operational OIS data. The idea is that experts are most likely to identify when information has become dated and needs to be updated.
R2M	*Recommendation*: The SSA should regularly and randomly select jobs in the operational OIS for audits to ensure that they remain up-to-date and establish an "expiration date" for job level descriptions.
R3M	*Recommendation*: The SSA should periodically review the OIS for items that may no longer be useful and for the absence of items that may be needed. This process will be useful in identifying changes in work content not reflected in the existing items that may be emerging in the economy.

Table Continues

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Table 2—Proposed Work Taxonomy Dimensions

Taxonomic Source	D/O/P/T	Consolidation of Dimensions Sorted by Data/Other/People/Things
CMQ	D	Managerial Decision Making: Acquire/start/sell businesses
CMQ	D	Managerial Decision Making: financial
CMQ	D	Managerial Decision Making: prods/services, higher impact
CMQ	D	Managerial Decision Making: products/services, lower-impact
CMQ	D	Managerial Decision Making: strategic planning, entire org
CMQ	D	Take info, orders, interview
CMQ*	D	info/decide/resolve: High-level
CMQ*	D	info/decide/resolve: Lower-level
CMQ*	D	info/decide/resolve: mid-level
CMQ*	D	info/decide/resolve: Prof/tech
CMQ*, O*NET*,SOC*	D	Computer Language use/programming
CMQ, O*NET*,SOC*	D	Tech/scientific/computers-machines
GWI	D	Stock keeping/Bookkeeping
O*NET	D	Estimating the Quantifiable Characteristics of Products, Events, or Information
O*NET	D	Evaluating Information to Determine Compliance with Standards
O*NET	D	Judging the Qualities of Objects, Services, or People
O*NET,SOC*	D	Scheduling Work and Activities
O*NET	D	Updating and Using Relevant Knowledge
OAI	D	Biological Testing/Inspection Activities
OAI	D	Environmental Planning and Maintenance
OAI	D	Technical Planning and Drawing
OAI, GWI, O*NET,SOC*	D	Utilization and Processing of Numerical Data
OAI, WAP*,SOC*	D	Routine Clerical & Administrative Activities
PAQ	D	Attentive/discriminating work demands

Table Continues

Table 2—Proposed Work Taxonomy Dimensions *(cont'd)*

Taxonomic Source	D/O/P/T	Consolidation of Dimensions Sorted by Data/Other/People/Things
PCTAQ*	D	Individual/Job-Related Decision Making
PCTAQ*, O*NET*	D	Individual/Job-Related planning
CMQ	O	Language use/foreign
CMQ,SOC*	O	Safety/damage to others
PAQ	O	Variable vs. regular work schedule
PMPQ	O	Relevant Experience
PMPQ	O	Special Training
PMPQ*	O	Educational Requirements
WAP	O	Hourly Pay vs. Salary
WAP	O	job-related/required APPAREL
GWI, OAP	O-Cognitive	Spatial/Object Perception & Tracking
GWI, PAQ	O-Cognitive	Perceptual interpretation
O*NET	O-Cognitive	Thinking Creatively
PAQ, OAI	O-Cognitive	Environmental awareness
PCTAQ	O-Cognitive	General cognitive info processing
PCTAQ*	O-Cognitive	cognitive attention, focus
CMQ,SOC*	O-Context	Enforcement/demanding conditions
CMQ, PAQ	O-Context	Hazardous/unpleasant work environment
GWI	O-Context	Regulated/Standardized Work
MPDQ	O-Context	Autonomy of Action
MPDQ	O-Context	Complexity & Stress
WAP	O-Context	Job Security vs. Performance-Dependent Income
WAP	O-Context	Outdoor Work
PMPQ, PCTAQ*	O-Interpersonal	Interpersonal Activities
OAI	O-Physical	Activities Related to Coordination
OAI	O-Physical	Activities Related to Balance
OTHER	O-Physical	Activities Related to Hand Function
OTHER	O-Physical	Activities Related to Manual Materials Handling
OTHER	O-Physical	Activities Related to Position Tolerance

Table Continues

Table 2—Proposed Work Taxonomy Dimensions *(cont'd)*

Taxonomic Source	D/O/P/T	Consolidation of Dimensions Sorted by Data/Other/People/Things
WAP	O-Physical	Activities Related to Mobility/Movement
OTHER	O-Sensory	Activities Requiring Olfactory Senses
OTHER	O-Sensory	Activities Requiring Tactile Senses
PAQ	O-Sensory	Visual input from devices/materials
PAQ	O-Sensory	Visual input from distal sources
PCTAQ	O-Sensory	Audio attention
CMQ	P	Entertain
CMQ	P	Managerial Decision Making: POM/HR higher-level
CMQ	P	Managerial Decision Making: POM/HR, lower-level
CMQ	P	MDM: Implementing
CMQ,SOC*	P	Treatment/therapy
CMQ*	P	Communication: press/media
CMQ*	P	Communication: public/customers/clients
CMQ*	P	Communication: Regulators, Government
CMQ*,SOC*	P	Communication: students/children/civic
CMQ*,SOC*	P	delegating
CMQ*,SOC*	P	Resolving conflicts
CMQ*	P	supervision: sales/service
CMQ*, OAI*, WAP*, PAQ*, MDPQ*	P	Supervision: lower-level
CMQ*, OAI*, WAP*, PAQ*, MDPQ*,SOC*	P	supervision: middle-level
CMQ*, WAP*, PAQ*, PMPQ*,SOC*	P	Communication: mid-level exchange info
CMQ, O*NET*,SOC*	P	Negotiation
CMQ, WAP*, O*NET*,SOC*	P	Persuade/sell

Table Continues

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Content Model and Classification Recommendations

Table 2—Proposed Work Taxonomy Dimensions *(cont'd)*

Taxonomic Source	D/O/P/T	Consolidation of Dimensions Sorted by Data/Other/People/Things
MDQ,SOC*	P	Advanced Consulting
O*NET	P	Developing and Building Teams
OAI	P	Communication: Verbal
OAI,SOC*	P	Improving/Monitoring the Physical Performance, Capability and Adjustment of Others
OAI, PMPQ,SOC*	P	Instructing
OTHER	P	Communication: Written
OTHER	P	Project Management
CMQ,SOC*	T	Operating Office equipment
CMQ,SOC*	T	Operating Powered tools/equipment
CMQ, OAI*, O*NET*	T	Operating Heavy/offroad vehicles
CMQ, OAP*, WAP*, PAQ*,SOC*	T	Operating Processing/moving machines
CMQ, OAP*, WAP*, PAQ*	T	Operating Stationary machines
GWI,SOC*	T	Activities Related to Performing Arts
O*NET,SOC*	T	Activities Related to Inspecting Equipment, Structures, or Materials
OAI,SOC*	T	Activities Related to Assembly/Fabrication
OAI,SOC*	T	Activities Related to Food Preparation/Processing
OAI,SOC*	T	Activities Related to Physical Science and Technology
OAI, GWI,SOC*	T	Activities Related to Visual Aesthetics
OAI, GWI, O*NET	T	Activities Related to Electrical/Electronic Repair, Maintenance
OAI, GWI, O*NET,SOC*	T	Activities Related to Mechanical Repair, Maintenance
OAI, GWI, OAP,SOC*	T	Activities Related to Botany/Plants
OAI, GWI, OAP,SOC*	T	Activities Related to Building/Repairing Structures
OAI, GWI, WAP,SOC*	T	Activities Related to Working with Animals
PAQ	T	Activities Related to Handling/manipulating & Use of finger-controlled devices
SOC	T	Activities Related to Personal Care and Service Occupations

Figure 1— Levels of Data Specificity within the "Person Side" and "Work Side" Domains

Person-Side

Abstract/
Hypothetical

Job-Side

Level

5

Physical | Mental/Cognitive | Interpersonal/Temperaments

Things | Data | People

4

Dynamic Strength | Color Discrimination | Mathematical Reasoning | Written Comprehension | Organizing, Planning, Prioritizing | Emotional Intelligence

Physical and Mechanical Activities | Getting Information | Communicating With People Inside the Organization

3

Lift | Carry | Addition | Division | Perceiving Emotions | Managing Emotions

Physical Demands | Hand-Held Tools | Use sight and visual information | Use Other Senses | Workers directly involved in machine operations

2

Repeatedly | Occasionally | 3 digit by 2 digit w/ remainder | 2 digit by 1 digit, no remainder

Sit for long periods | Carry heavy Objects (51-100lbs.) by hand for <50 feet | See small details of close objects | Use displays, gauges, meters, measuring instruments | Delegate job activities to clerical workers

1

< 10 lbs | 10 lbs | 20 lbs | 50 lbs | 100 lbs | What is 923/27? | What is 103/12? | "Turn the other cheek" if provoked at work? | Justify taking revenge if you were strongly slighted?

Carry bricks and mortar to masons on scaffolding using hod | Unload 70 pound bags of salt and empty into water treatment system | Visually inspect newly cut diamonds for flaws without magnification aids | Use Swiss-hole micrometer to adjust drill press | Use tape measure to measure lumber to be milled

Specific/
Observable/Verifiable

"Can you…"

"Does the job require you to…"

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Appendix A—Subcommittee Members

Shanan Gwaltney Gibson, Ph.D.

Education

B.A., Liberal Arts, magna cum laude, Armstrong Atlantic State University
M.S., Industrial and Organizational Psychology, Virginia Polytechnic Institute & State University
Ph.D., Industrial and Organizational Psychology, Virginia Polytechnic Institute & State University

Areas of Expertise

Professor Gibson's expertise is in issues related to human resources management & organizational behavior in organizations. Her research includes more than 35 published conference proceedings and 19 peer-reviewed journal articles on topics relevant to human resources and organizational development including job analysis, technology acceptance in organizations, and entrepreneurship. Her research can be seen in the Journal of Small Business Strategy, Business Education Forum, Small Business Institute Forum, and Management Research News, among others.
Professional Activities
Professor Gibson is an Associate Professor of Management at East Carolina University, where she has been a member of the College of Business since 2003. Professor Gibson has extensive experience teaching issues related to occupational analysis; in addition to currently teaching graduate level Human Resources, she previously spent two years teaching Industrial and Organizational Psychology at ECU, as well as courses at Radford University and Texas A&M Corpus Christi. Professor Gibson was awarded the 2009 Robert L. Jones University Alumni Award for Outstanding Teaching and the 2009 Max Ray Joyner Award for Faculty Service Through Continuing Education. In addition to her university responsibilities, Professor Gibson currently acts as a consultant to State Farm Insurance on issues related to human resources management and leadership development. She is a member of The Academy of Management, the Society for the Advancement of Management, the Society for Industrial & Organizational Psychology, the Southeast Decision Sciences Institute, and the Southeast Institute for Operations Research and the Management Sciences.

Mark A. Wilson, Ph.D.

Dr. Mark A. Wilson, Associate Professor of Psychology, NC State University, joined the faculty in 1992. He received a B.A. in Psychology from Wartburg College (1975), an

M.A. in Experimental Psychology from the University of Missouri-Kansas City (1978), and a Ph.D. in Industrial/ Organizational Psychology from Ohio State University (1983).

While completing the Ph.D., he served as Project Coordinator, Technical Director, and Senior Research Associate for Organizational Research and Development Inc. on a comprehensive human-resource research project involving human-resource planning, job analysis, selection (managerial assessment centers), performance appraisal, and compensation for a market-leading insurance company. The experience drastically altered his view of the field and his research interests. It was while working on the project that he developed his interest in the integration of human-resource systems, comprehensive job analysis, his dedication to the scientist-practitioner model and the problems of practitioners, and his love for fieldwork.

He has always been interested in work measurement issues, models of human job performance in organizations, and research methods. He has consulted and conducted research extensively with numerous large organizations in both the private and public sectors. He has taught graduate and undergraduate management courses as an Assistant Professor at both Texas Tech University (1981-1985) and Iowa State University of Science and Technology (1985-1992). In 1999, he was made an honorary member of the United States Army Special Forces. In 2006, he was appointed editor of Ergometrika (The Journal of Work Measurement Research).

James Woods

Mr. Woods served as the Director of the O*NET Project for the Employment & Training Administration in DOL. Prior to his position with the O*NET Project, he worked for the Bureau of Labor Statistics as a mathematician. He retired in 2004. Mr. Woods and his staff worked extensively with SSA staff from 2000 through 2004 on numerous issues relevant to SSA's needs for occupational information for disability evaluation. Under his leadership, the IOTF and DOL conducted pilots and research targeted to SSA's interests, such as alternative methods of job analyses using private-sector vocational rehabilitation specialists, job classification, measures for strength demands, and developments in identifying mental and cognitive demands of work. In his capacity as the Director for the O*NET Project, he acquired hands-on experience in developing and implementing a national occupational classification system, as well as a unique understanding of what is required to manage an undertaking of this magnitude. Mr. Woods' background in both the Bureau of Labor Statistics and in the Employment Training Administration provides him with a critical knowledge of the challenges inherent in collecting accurate and reliable occupational data across the nation.

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Appendix B—Subcommittee Timeline

- ❖ **Work Taxonomy and Classification Subcommittee Activities Overview**
  - ▪ Chair represented the subcommittee as a member of the OIDAP Executive Committee throughout the activities of the subcommittee
  - ▪ Conducted a number of fact finding visits and interviews concerning work taxonomy issues
  - ▪ Created online repository of documents that include seminal articles related to work analysis as well as copies of all empirical studies of work analysis that utilize measurement at the Generalized Work Behavior level of measurement.
  - ▪ Reviewed information from SKILLTRAN and others related to transferable skills and posts copies to repository
  - ▪ Developed and executed plan for creating comprehensive Work taxonomy

- ❖ **February 23 - 25, 2009: Inaugural OIDAP Panel Meeting, Washington DC**
  - ▪ Review of issue at hand and charge of the committee
  - ▪ Education related to the SSA Disability Process
  - ▪ Deliberation of panel direction for progressing
  - ▪ Subcommittees Formed

- ❖ **March 12, 2009: Work Taxonomy and Classification Subcommittee Conference Call**
  - ▪ Discussion related to development of Work taxonomy

- ❖ **March 26, 2009: Chair of Work Taxonomy attends National Academy of Sciences Meeting**
  - ▪ Discussion of the Applications and Criticisms of O*NET

- ❖ **March 27, 2009: Work Taxonomy and Classification Subcommittee Conference Call**
  - ▪ Finalization of list of empirical articles that describe development of a work-side taxonomy

- ❖ **April 9, 2009: Work Taxonomy and Classification Subcommittee Meeting, Raleigh NC**
  - ▪ Discussion of the role of SOC in the Work taxonomy process
  - ▪ Review of empirical taxonomies with consideration given to needs of SSA and inclusion of physical, mental, and contextual factors
  - ▪ Development of presentation to be given at April OIDAP meeting

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❖ **April 16, 2009: Work Taxonomy and Classification Subcommittee Conference Call**
- Reviewed plans for presentation to OIDAP panel
- Identified and located several documents, journal articles for panel members related to job analysis at the level of aggregation being contemplated

❖ **April 17, 2009: Chair of Work Taxonomy attends National Academy of Sciences Meeting**
- Discussion of the Scientific Criticisms of O*NET

❖ **April 27 - 29, 2009: OIDAP Meeting, Atlanta, GA**
- Viewed case demonstrations for various phases of SSA determination process
- Work Taxonomy and Classification Subcommittee report given addressing three topics.
  - ♦ Fundamentals of work analysis provided all panel members with a common frame of reference for discussing work analysis issues.
  - ♦ Work taxonomy evaluation methodology described the methods the subcommittee is employing to compare and analyze known work taxonomies for potential use by SSA
  - ♦ Work taxonomy evaluation criteria presented the evaluation criteria identified by the subcommittee for potential use in making recommendations on the work characteristics taxonomy component of a content model for SSA

❖ **May 2009: Work Taxonomy and Classification Subcommittee Activities Overview**
- Completed a literature search identifying eleven different taxonomies and several hundred work taxonomy dimensions, evaluating each in terms of ability to provide information for the person side.
- Completion of full taxonomy cross-walk to identify comprehensive list of unique work characteristics (Note: The taxonomy crosswalk completed by three panel members for later assessment of agreement)

❖ **May 29, 2009: Work Taxonomy and Classification Subcommittee Meeting, Raleigh NC**
- Comparison of subcommittee findings on cross-walk, development of the consolidated list of unique dimensions, addition of specific dimensions deemed appropriate for mental or physical requirements

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❖ **June 2009: Work Taxonomy and Classification Subcommittee Activities Overview**
  ▪ Completion of people-side cross-walk to the previously developed list of general work behaviors (Purpose: ensure that the potential work taxonomy is sensitive to the people-side inferences that will need to be made from job descriptions)
  ▪ Development of sample generalized work behavior items to demonstrate how items in the taxonomy might ultimately be measured.
  ▪ Discussion of the term "skills" as it relates to work analysis and implications for any new occupational information database; legal concerns

❖ **June 8 - 10, 2009: OIDAP Meeting, Chicago, IL**
  ▪ Work Taxonomy and Classification Subcommittee attended the Mental/Cognitive Subcommittee Roundtable so as to better understand the nature of inferences which must be inferred from job-side behaviors
  ▪ Heard information from Georgina B. Huskey and Trudy Lyon-Hart related to end-user needs for an occupational information database
  ▪ Work Taxonomy and Classification Subcommittee presented full panel with initial taxonomy of generalized work behaviors and sample items

❖ **June 24, 2009: DDS Visit, Raleigh, NC**
  ▪ After touring facility and over-viewing the claims initiation process, performed job analyses of four vocational specialists to talk with "end users" about how they use current occupational information, what they like and dislike about the system, and what their "dream" occupational information system might look like

❖ **July 2009: Work Taxonomy and Classification Subcommittee Activities Overview**
  ▪ Completion of SOC crosswalk to proposed generalized work activities taxonomy (Note: Assures that proposed taxonomy encompasses all occupational categories currently utilized by the Department of Labor for reporting purposes)

❖ **July 13, 2009: Skills Taxonomy Teleconference**
  ▪ Participated in Skills Taxonomy teleconference to assure that direction taken by this subcommittee is not inconsistent with the proposed work taxonomy

❖ **July 14, 2009: Full Panel Teleconference**
  ▪ Reviewed status of current draft of recommendations related to work taxonomy with full OIDAP panel

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❖ **July 21 - 22, 2009: Visit to SSA National Hearings Center, Falls Church, VA**
- Met with Chief Administrative Law Judge Frank Cristaudo
- Met with Administrative Appeals Judge Johnson and Judge Goldberg
- Interviewed four additional Administrative Law Judges to discuss how they use the current occupational information system, their interaction and use of Vocation Experts, and what their wants/needs are for the future occupational information system.
- Watched the hearing of a case being administered via teleconference in order to see how disability decisions at levels three, four, or five might be made and the use of vocational information in these decisions

❖ **August 2009: Work Taxonomy and Classification Subcommittee Activities Overview**
- Interviewed and Observed several Vocational Expert's from North Carolina to expand the profile of end-users included in our review of needs for the new occupational information system
- Continued drafting of final recommendations for presentation to panel at September OIDAP meeting

❖ **August 3, 2009: Meetings with Vocational Expert, Greenville, NC**
- Interviewed VE regarding use of occupational information in disability hearing process
- Phone interview of VE currently residing in MS to learn more about his experiences with occupational information and use of in the disability determination and hearing environment

❖ **August 6, 2009: Chair of Work Taxonomy and Classification Subcommittee Visits Raleigh NC, ODAR**
- Observe several hearings, interview ALJ, interview VE, Interview Claimant Representatives

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Appendix C—Public Meeting Agendas

Inaugural Meeting Agenda

MONDAY, FEBRUARY 23, 2009

9:00 a.m. to 9:45 a.m.	**Official Opening of the Inaugural Meeting** ❖ *Location: Ballroom A, 2nd Floor* **Welcome and Comments** Michael J. Astrue, Commissioner, Social Security Administration
9:45 a.m. to 10:00 a.m.	**BREAK**
10:00 a.m. to 10:30 a.m.	**Overview of the Occupational Information Development Project** Richard Balkus, Associate Commissioner Office of Program Development and Research

10:30 a.m. to 11:00 a.m.	**Statutory Significance of the Use of Occupational Information in SSA's Disability Programs**
	
	Jeffrey Blair, Acting Deputy Associate General
	   Counsel for Program Law
	   Office of General Counsel

11:00 p.m. to 12:00 p.m.	**SSA's Challenge: The Dictionary of Occupational Titles** Sylvia E. Karman, Project Director Occupational Information Development Project
12:00 p.m. to 1:15 p.m.	**Lunch – On Your Own**

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1:15 p.m. to 2:15 p.m.   **SSA's Sequential Evaluation Process for Assessing Disability**

Tom Johns, Disability Quality Branch Chief
    Office of Quality Performance, Dallas, TX

2:15 p.m. to 2:30 p.m.   **Break**

2:30 p.m. to 3:30 p.m.   **SSA's Sequential Evaluation Process for Assessing Disability (*continued*)**

Tom Johns, Disability Quality Branch Chief
    Office of Quality Performance, Dallas, TX

3:30 p.m. to 5:00 p.m.   **Panel Deliberation**

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8:30 a.m. to 8:45 a.m.   **Meeting Call to Order**
 ❖ *Location: Ballroom A, 2nd Floor*

8:45 a.m. to 10:00 a.m.   **Disability Determination Services and Their Workload**

John Owen, Acting Deputy Director
 Division of Disability Determination Services
 Operation Support

10:00 a.m. to 10:15 a.m.   **BREAK**

10:15 a.m. to 11:15 a.m.   **Utilizing Vocational Expert Testimony at the Hearing Level**

Judge David G. Hatfield, Hearing Office Chief
 Administrative Law Judge
 Office of the Chief Administrative Law Judge

11:15 p.m. to 12:00 p.m.   **The Appeals Council Process**

Judge A. George Lowe, Administrative Appeals Judge
 Office of Appellate Operations

12:00 p.m. to 1:15 p.m.   **Lunch – On Your Own**

1:15 p.m. to 2:00 p.m.   **Prior SSA Work to Address the DOT Concerns**

Robert Pfaff, Social Insurance Specialist
 Occupational Information Development Project

2:00 p.m. to 2:45 p.m.   **SSA's Ideal Occupational Information System: The Legal, Program and Data Requirements**

Deborah Harkin, Social Insurance Specialist
 Occupational Information Development Project

2:45 p.m. to 3:00 p.m.   **BREAK**

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3:00 p.m. to 4:00 p.m.　　　　**SSA's Plans to Develop Occupational Information**

　　　　　　　　　　　　　　Sylvia E. Karman, Project Director
　　　　　　　　　　　　　　　Occupational Information Development Project

4:00 p.m. to 5:00 p.m.　　　　**Panel Discussion and Deliberation**

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8:30 a.m. to 8:45 a.m.	**Meeting Call to Order** ❖ *Location: Ballroom A, 2nd Floor*
8:45 a.m. to 9:45 a.m.	**Panel Discussion and Deliberation**
9:45 a.m. to 10:00 a.m.	**BREAK**
10:00 a.m. to 11:00 a.m.	**Panel Discussion and Deliberation (*cont'd*)**
11:00 a.m. to 12:00 p.m.	**Panel Administrative Business**
12:00 p.m.	**Adjourn**

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Second Public Panel Meeting Agenda

MONDAY—APRIL 27, 2009

8:30 a.m. to 8:45 a.m.	**Call to Order** ❖ *Location: Capitol South*
8:45 a.m. to 9:45 a.m.	**Case Demonstration—Part 1** **Claim Intake and Initial Development of Medical and Vocational Evidence** **John Owen, Acting Deputy Director** Division of Disability Determination Services Operations Support Office of Disability Determinations Office of Operations Social Security Administration
9:45 a.m. to 10:00 a.m.	**BREAK**
10:00 a.m. to 11:00 a.m.	**Case Demonstration—Part 2** **Evaluation of Physical Impairments** **Tom Johns, Branch Chief** Disability Quality Branch Dallas Office of Quality Performance Office of Quality Review Office of Quality Performance Social Security Administration
11:00 a.m. to 12:00 p.m.	**Case Demonstration—Part 3** **Evaluation of Mental Impairments** **Tom Johns, Branch Chief**
12:00 p.m. to 1:15 p.m.	**Lunch On Your Own**

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1:15 p.m. to 2:15 p.m.

Case Demonstration—Part 4
Vocational Evaluation—Past Relevant Work

Shirleen Roth, Social Insurance Specialist
   Office of Retirement and Disability Policy
   Office of Program Development and Research
   Social Security Administration
      ❖ *Location: Capitol South*

2:15 p.m. to 2:30 p.m.

BREAK

2:30 p.m. to 3:15 p.m.

Case Demonstration—Part 5
Vocational Evaluation—Other Work

Shirleen Roth, Social Insurance Specialist

3:15 p.m. to 3:30 p.m.

BREAK

3:30 p.m. to 5:00 p.m.

Case Demonstration—Part 6
Perspectives from the Hearing Office and Office of
Appellate Operations

Cam Oetter, Administrative Law Judge
   Hearing Office—Macon, GA
   Office of Disability Adjudication and Review
   Social Security Administration

Robert Goldberg, Administrative Appeals Judge
   Office of Appellate Operations
   Office of Disability Adjudication and Review
   Social Security Administration

5:00 p.m.

Adjourn

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TUESDAY—APRIL 28, 2009

8:30 a.m. to 8:45 a.m.

Call to Order
 ❖ *Location: Capitol South*

8:45 a.m. to 9:45 a.m.

Perspectives from Vocational Experts and Case Analysis

Scott T. Stipe
 Career Directions Northwest
 Scott Stipe & Associates, Inc.

Lynne Tracy
 Lynne Tracy & Associates

9:45 a.m. to 10:00 a.m.

BREAK

10:00 a.m. to 11:00 a.m.

Perspectives from Claimant Representatives and Case Analysis

Art Kaufman
 Accu-Pro Disability Advocates

Charles L. Martin, J.D.
 Martin and Jones

11:00 a.m. to 12:00 p.m.

Initial Report of the OIDAP Work Taxonomy Subcommittee

The initial report of the OIDAP Work Taxonomy Subcommittee will address three topics. The first topic, fundamentals of work analysis, will attempt to provide all panel members with a common frame of reference for discussing work analysis issues. The second topic, work taxonomy evaluation methodology, will describe the methods the subcommittee is employing to compare and analyze known work taxonomies for potential use by SSA. The final topic, work taxonomy evaluation criteria, will present the evaluation criteria identified by the subcommittee for potential use in making recommendations on the work characteristics taxonomy component of a content model for SSA.

Work Taxonomy and Classification Subcommittee

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Mark A. Wilson, Ph.D.
Associate Professor of Psychology
North Carolina State University
OIDAP Member

12:00 p.m. to 1:15 p.m.   **Lunch On Your Own**

1:15 p.m. to 3:00 p.m.   **Occupational Information User Panel**

Robert Goldberg, Administrative Appeals Judge
Social Security Administration

Art Kaufman
Accu-Pro Disability Advocates

Charles L. Martin, J.D.
Martin and Jones

John Owen
Social Security Administration

Scott T. Stipe
Scott Stipe & Associates, Inc.

Lynne Tracy
Lynne Tracy & Associates

Rick Waitsman, Administrative Law Judge
Social Security Administration

3:00 p.m. to 3:15 p.m.   **BREAK**

3:15 p.m. to 4:00 p.m.   **Panel Discussion and Deliberation**

4:00 p.m. to 5:00 p.m.   **Public Comment**

5:00 p.m.   **Adjourn**

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

WEDNESDAY—APRIL 29, 2009

8:30 a.m. to 8:45 a.m.	**Call to Order** ❖ *Location – Capitol South*
8:45 a.m. to 9:45 a.m.	**Fundamental Dimensions of Human Cognitive Functioning** One possible approach to identifying aspects of cognitive functioning is factor analysis. Factor analysis aims to elucidate smaller subsets of latent abilities that account for most of the performance variability seen in larger sets of cognitive measures. This presentation will review a number of previously reported factor analytic studies and attempt to summarize models of human cognitive architecture that involve single, dual, and multiple latent factors. It will also include a discussion of the advantages and disadvantages of recommending that SSA adopt simple versus complex models of cognitive functioning for purposes of mental RFC assessment. **David A. Schretlen, Ph.D.** The Johns Hopkins University School of Medicine Department of Psychiatry and Behavioral Sciences Subcommittee Chair—Mental/Cognitive RFC OIDAP Member
9:45 a.m. to 10:00 a.m.	**BREAK**
10:00 a.m. to 12:00 p.m.	**Panel Discussion and Deliberation**
12:00 p.m. to 1:15 p.m.	**Lunch On Your Own**
1:15 p.m. to 3:00 p.m.	**Panel Administrative Business Session**
3:00 p.m.	**Adjourn**

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Third Public Panel Meeting Agenda

WEDNESDAY—JUNE 10, 2009

8:30 a.m. to 8:45 a.m.
Call to Order of the Full Panel Public Meeting
Overview of Today's Agenda
❖ *Conference Center Room CC10CD*

8:45 a.m. to 9:30 a.m.
National Association of Disability Examiners

Georgina B. Huskey, *President*

9:30 a.m. to 10:15 a.m.
National Council of Disability Determination Directors

Trudy Lyon-Hart, *Secretary*

10:30 a.m. to 11:30 a.m.
Clinical Inference in the Assessment of Mental Residual Functional Capacity
❖ *Conference Center Room CC10CD*

David A. Schretlen, Ph.D.
The Johns Hopkins University School of Medicine
Department of Psychiatry and Behavioral Sciences
Subcommittee Chair—Mental/Cognitive
Panel Member, OIDAP

11:30 a.m. to 1:00 p.m.
LUNCH ON YOUR OWN

1:00 p.m. to 2:15 p.m.
Subcommittee Chair Report – User Needs
Panel Discussion and Deliberation
Subcommittee Chair Report – Physical Demands

2:15 p.m. to 2:30 p.m.
BREAK

2:30 p.m. to 3:30 p.m.
Public Comment
❖ *Conference Center Room CC10CD*

3:30 p.m. to 5:00 p.m.
Subcommittee Chair Report – Mental/Cognitive
Panel Discussion and Deliberation

5:00 p.m.
ADJOURN

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THURSDAY—JUNE 11, 2009

8:30 a.m. to 8:45 a.m.	**Call to Order**
	Overview of Today's Agenda
	❖ *Conference Center Room CC10CD*
	Project Director's Report
8:45 a.m. to 10:30 a.m.	**Subcommittee Chair Report – Transferable Skills Analysis**
	Subcommittee Chair Report - Taxonomy
	Panel Discussion and Deliberation
10:30 a.m. to 11:00 a.m.	**BREAK**
11:00 a.m. to 12:00 p.m.	**Panel Discussion and Deliberation**
	❖ *Conference Center Room CC10CD*
12:00 p.m.	**ADJOURN**

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Teleconference Public Panel Meeting Agenda

TUESDAY - JULY 14, 2009

12:00 p.m. EDT   **Call to Order**

Review of Agenda and Procedures

**Presentation of Draft Core Recommendations
and Next Steps**

- *Taxonomy*—Mark A. Wilson, *Chair*
- *User Needs & Relations*—Sylvia E. Karman, *Chair*
- *Mental/Cognitive*—David A. Schretlen, *Chair*
- *TSA*—Thomas A. Hardy, *Chair*
- **Physical Demands**—Deborah E. Lechner, *Chair*

Panel Discussion and Deliberation

Project Director's Report

Administrative Business

2:00 p.m. EDT   **Adjourn**

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Appendix D—Subcommittee Presentation

OIDAP WORK TAXONOMY
SUBCOMMITTEE

MARK A. WILSON, CHAIR
SHANAN GWALTNEY GIBSON
JAMES F. WOODS

Presented by, Mark A. Wilson
NC State University
OIDAP Advisory Panel Member

OVERVIEW

- Fundamentals of Work Analysis

- Work Taxonomy Evaluation Methodology

- Work Taxonomy Evaluation Criteria

FUNDAMENTALS OF WORK ANALYSIS OVERVIEW

- Definition
- Two Important Models
- Important Job Analysis Decisions
- What is a job analysis system?
- Making Job Comparisons

DEFINITION

- Definition of Work Analysis
  - Collecting Information about Jobs
  - By any Means
  - For any Purpose

Work Taxonomy and Classification Subcommittee
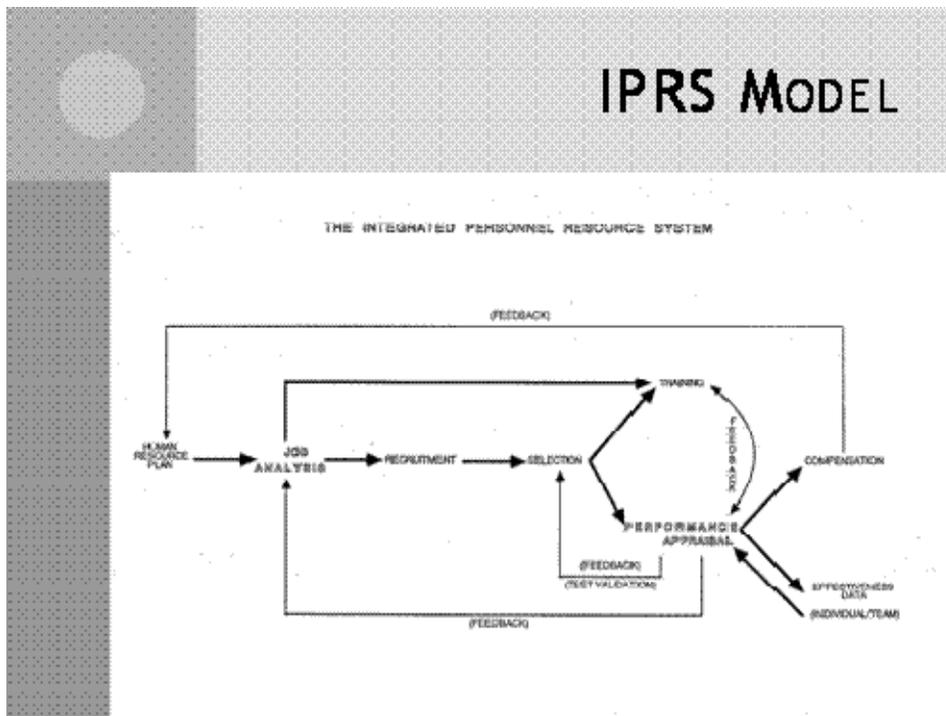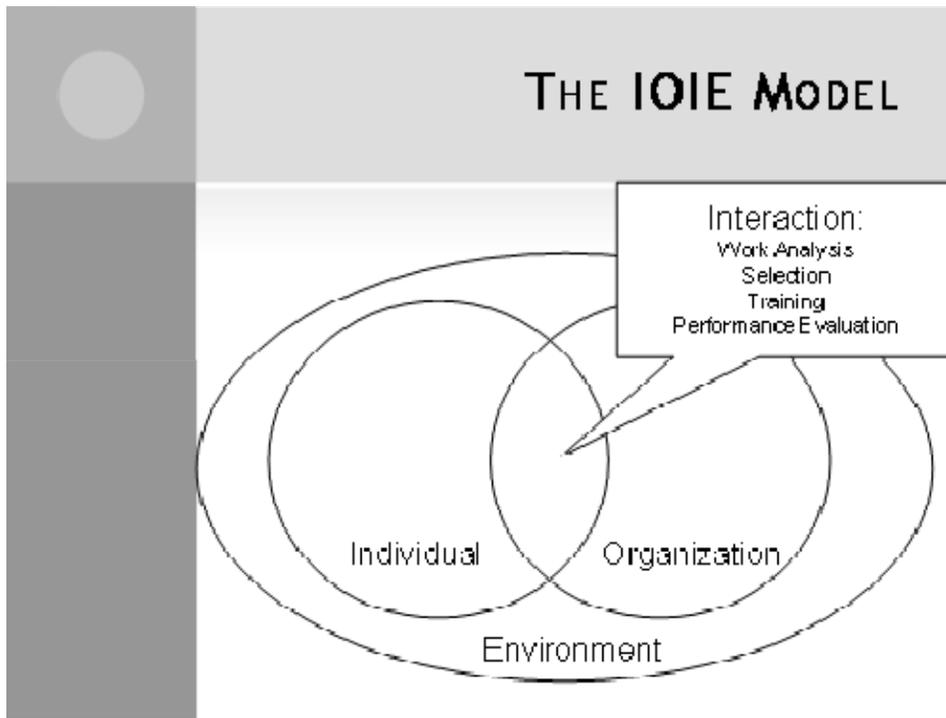
Content Model and Classification Recommendations

IMPORTANT WORK ANALYSIS DECISIONS

- Purpose of the Analysis
- Level of Analysis/Degree of Specificity
- Source of information
- Mode/Form of information collection
- Evaluation Criteria

PURPOSE OF THE ANALYSIS

- A Job Analytic Information System Describing all Available Work in the US Economy for Disability Determination
- Ability to Withstand Both Legal and Scientific Challenges

DEGREE OF ANALYSIS SPECIFICITY

Degree of Specificity	Numbers
Occupation	1000's
Job	10's-100's
Position	1
Job Dimensions	10's
Generalized Work Activities	10's
Duties	10's
Tasks	100's
Elements	1000's

SOURCES OF WORK INFORMATION

- Incumbent
- Peers
- Supervisor
- Subordinate
- Analyst

MODES/FORM OF INFORMATION COLLECTION

- Diary
- Interview
- Observation
- Participation
- Survey
- Web/Document Search

HOW DO YOU EVALUATE WORK ANALYSIS RESULTS?

- Acceptability
- Utility
- Shelf Life
- Reliability
- Validity

SAMPLE WORK ANALYSIS SYSTEMS?

- Combinations of Specificity, Source, Mode, & Evaluation Criteria Decisions
  - *Functional Job Analysis*
  - *CODAP - Task Inventories*
  - *Generalized Work Activity Questionnaires*

FUNCTIONAL JOB ANALYSIS

- Rational Job Dimensions
  - Worker Function and Orientation
    - Data, People, Things
  - Worker Instructions
  - General Educational Development
    - Reasoning, Math, Language
- Makes use of Task Ratings

FJA TASK RATING

TASK CODE:										
WORKER FUNCTION AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT			
THINGS	%	DATA	%	PEOPLE	%		REASONING	MATH	LANGUAGE	
4C	65	3B	25	1A	10	4	3	3	3	

GOAL: Operates Grader — Output Basic	OBJECTIVE: Backfilling, scarifying, windrowing, cutting firebreak, maintaining haul road, snow removal

TASK: Operates grader manipulating controls to travel forward/back, turn, raise/lower blade, position wheels and blade at correct angles; follows work order and markings on grade stakes, drawing on knowledge and experience, monitoring the performance of the equipment and adapting to the changing situation, constantly alert to the presence and safety of other workers/equipment, in order to perform routine grader tasks such as backfilling, haul road maintenance, snow removal.

CODAP - TASK INVENTORIES

- Inventory of Job Tasks for Multiple Jobs
- Often Evaluated on Several Scales
  - Difficulty
  - Frequency
  - Time
- Used for many purposes including to assess training

EXAMPLE INVENTORY TASKS

- Apply safety awareness techniques
- Arrest individual for bookable violations and warrants
- Attend press conferences/media events on special projects
- Chart trainees' daily activities
- Check schedules for accuracy
- Correspond regularly with court officials

GENERALIZED WORK ACTIVITY QUESTIONNAIRE

- Often Based on a "Theory of Work"
  - Work Inputs
  - Work Processes
  - Work Output
- Meant to Apply to all or most Work
- Normative Data Collected

GENERALIZED WORK ACTIVITY RATING

If Yes, how OFTEN do you perform this activity? _Choose the one best answer_	How CRITICAL is this activity to accomplishing the main mission of your job? _Choose the one best answer_
a) Constantly to hourly b) Every few hours to daily c) Every few days to weekly d) Every few weeks to monthly e) Every few months to yearly	a) Part of my job, but of relatively minor importance b) Necessary, but not critical c) Absolutely critical

(if yes, check here and answer below)

As part of your job, DO YOU... Work in pairs?							
If Yes, how OFTEN do you perform this activity?					How CRITICAL is this activity?		
a	b	c	d	e	a	b	c

✓ As part of your job, DO YOU... Work in teams?							
If Yes, how OFTEN do you perform this activity?					How CRITICAL is this activity?		
a	b	c	(d)	e	a	b	(c)

In this example, there are two activity questions.

MAKING JOB COMPARISONS

- Metric is Important
- Level of Work Specificity Matters

E-66

JOBS GROUPED BY ABILITY LEVEL

TABLE 12.4

Partial List of Jobs Grouped According to Common Abilities Needed[a]

Static Strength	Explosive Strength	Dynamic Strength	Trunk Strength	Stamina	Extent Flexibility	Dynamic Flexibility	Speed of Limb Movement	Gross Body Coordination	Gross Body Equilibrium
							Officer		
Firefighter	Firefighter Officer			Firefighter			Firefighter		Firefighter
Attendant		Firefighter	Firefighter				Attendant		
Operator								Firefighter	Inspector
Officer				Officer	Mechanic	Firefighter		Officer	Officer
Clerk/Painter			Operator		Firefighter		Operator		Painter
Laborer/Mechanic			Laborer						
	Operator	Officer				Operator/Officer	Inspector	Operator	
	Attendant		Clerk/Officer	Operator	Attendant	Attendant		Attendant	Operator
Custodian	Mechanic	Painter	Attendant	Laborer	Painter	Laborer	Clerk	Painter	Laborer
	Laborer	Operator	Mechanic/Painter			Painter	Laborer/Nurse	Laborer	Attendant
	Clerk/Painter	Inspector		Attendant	Operator		Painter		
Nurse		Laborer	Custodian	Clerk/Painter	Laborer				

JOBS GROUPED BY ABILITY LEVEL

		Mechanic		Custodian	Officer/Clerk	Clerk	Mechanic	Inspector	Mechanic
		Attendant	Nurse	Mechanic		Mechanic		Clerk	
	Custodian	Clerk/Custodian				Custodian		Custodian	Custodian
	Inspector			Nurse	Custodian		Custodian		
	Nurse				Inspector	Nurse		Mechanic	Clerk
Inspector		Nurse	Inspector		Nurse			Nurse	Nurse
				Inspector			Social Worker		
				Attorney	Inspector	Clerical			
Accountant		Attorney	Clerical						
Clerical		Clerical	Social Worker		Clerical		Attorney	Clerical	Clerical
		Social Worker	Attorney				Accountant	Social Worker	Accountant
			Accountant			Clerical		Attorney	Attorney
	Clerical			Clerical	Social Worker	Attorney	Clerical	Accountant	Social Worker
	Accountant	Accountant		Social Worker	Accountant	Accountant	Social Worker		
	Social Worker			Accountant	Attorney	Social Worker			
Social Worker	Attorney								
Attorney									

[a]Adapted with permission from Hogan, J. C., Ogden, G. D., and Fleishman, E. A. *Assessing physical requirements for establishing medical standards in selected benchmark jobs* (ARRO Final Report 3012/R.78-8). Washington, D.C.: Advanced Research Resources Organization, June 1978.

Work Taxonomy and Classification Subcommittee

**Content Model and Classification Recommendations**

WORK TAXONOMY DEVELOPMENT METHODOLOGY OVERVIEW

- Definition
- Identify Existing Taxonomies
- Compare Existing Taxonomies
- Evaluate Dimensions for Disability Determination Sensitivity
- Progress Report

DEFINITION

- Definition of Work Taxonomy
  - Can be Rational or Empirical
  - Is Meant to be Comprehensive
  - Primary Purpose is Classification
  - Can Vary in Level of Detail
  - Can Be Based on Work Characteristics or Job Titles
  - Most Frequently not the Level at Which Information is Collected

IDENTIFICATION OF EXISTING TAXONOMIES

- Reviewed Scientific Literature
- Conducted Database and Web Searches
- Solicited Suggestions from Subcommittee Members and SSA Staff Advisors

CURRENT TAXONOMIES RETAINED FOR ANALYSIS

- Occupational Analysis Inventory (OAI)
- General Work Inventory (GWI)
- Occupational Aptitude Patterns Map (OAP Map)
- Job Element Inventory (JEI)
- Common-Metric Questionnaire (CMQ)

CURRENT TAXONOMIES RETAINED FOR ANALYSIS

- Worker Activity Profile (WAP)

- Position Analysis Questionnaire (PAQ)

- Professional and Managerial Position Questionnaire (PMPQ)

- The Occupational Information Network (O*NET)

- Management Position Description Questionnaire (MPDQ)

- Purdue Cognitive Task Analysis Questionnaire (PCTAQ)

COMPARE EXISTING TAXONOMIES

Work Taxonomy Dimension	OAI	GWI	OAP
1. Dimension 1 (OAI) 2. Dimension 6 (GWI) 3. Dimension 3 (OAP)	x	x	x
1. Dimension 4 (GWI) 2. Dimension 7 (OAP)		x	x
1. Dimension 2 (OAI) 2. Dimension 4 (OAP)	x		x

EVALUATE DIMENSIONS FOR DISABILITY DETERMINATION SENSITIVITY

Work Taxonomy Dimension	Physical	Cognitive	E, B, I
1. Dimension 1 (OAI) 2. Dimension 6 (GWI) 3. Dimension 3 (OAP)	x		
1. Dimension 4 (GWI) 2. Dimension 7 (OAP)		x	x
1. Dimension 2 (OAI) 2. Dimension 4 (OAP)	x	x	x

WORK TAXONOMY EVALUATION CRITERIA

- ☉ Does the dimension have obvious physical, cognitive, emotional, behavioral, or interpersonal relationship to world of work

- ☉ Even if it does not, is it a dimension which is relevant to determining transferability of skills

- ☉ Does the dimension show up in multiple taxonomies

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

WORK TAXONOMY EVALUATION CRITERIA

- Is the dimension legally defensible – can it be unambiguously measured as an "observable" or as having an observable outcome

- Is the Dimension sensitive to the Jobs SSA currently sees frequently

- Is the Dimension sensitive to the emerging characteristics of a knowledge/service intensive world of work

SUBCOMMITTEE PROGRESS REPORT

- Have Identified 11 Work Characteristics Taxonomies for Further Analysis

- Have Identified A Method of Analysis

- Have Identified 6 Evaluation Criteria

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Appendix E—Table of Concerns

Concerns

-Updating OIS

Many jobs are missing from the DOT database; include newer jobs that have evolved in the current world of work.

Many jobs listed in the current database have not existed in the current economy for many years.

-Requested OIS Content

Job descriptions in the DOT do not reflect the role of technology / automation in the current environment

Job descriptions in the DOT do not include ratings of such activities as pushing/pulling or the types of reaching and lifting required

Job descriptions in the DOT do not separate standing, walking, sitting, etc.

Job descriptions in the DOT do not include ratings which adequately address frequency & duration or activities

Job descriptions in the DOT do not include ratings of mental demands beyond the Data/People/Things categories. This is not especially helpful as it is non-specific and does not match the language found on the MRFC

Job descriptions in the DOT do not include ratings of many non-exertional or contextual factors associated with a job which may be important (e.g. exposure to heat, atmospheric particles, etc.)

Job descriptions in the DOT do not include ratings of stress associated with a job; this emerges as problematic based on the number of claims based upon mental impairment are now received

Consideration must be given to the role of education and training required in any new OIS

Should not attempt to directly measure constructs that are too abstract

The coding of non exertional factors which does exist in the DOT is not consistent with the language presented on the RFC

-Requested OIS Database Features

Need a searchable database that allows cross-matching of specific skills (e.g. data entry skills, operation of equipment/machinery, etc.)

Searchable database that allows for searching based upon exertional level, mental/cognitive demands (and any combination thereof)

Searchable database that allows for searching of key words/phrases beyond just job title searches. Searches should include work behaviors, equipment, industry, etc.

Concerns *(cont'd)*

Platform that has built-in thesaurus of similar terms/job titles

Platform that provides a structured operation that guides users through the steps of the vocational analysis in a systematic fashion

Dynamic database that is regularly updated with new jobs and information how the performance of existing jobs is changing

Ability to view reports in either bulleted or paragraph forms

-Other Requests

The language employed in the OIS should be consistent with what is found in the RFC, MRFC, 3369, etc.

Prioritize new system based upon the most frequently occurring jobs as reported on 3369s.

Provide comprehensive training to all adjudicators at all levels; use same platform at all levels of adjudication including ODAR

Job Counts Should be Accurate

The new OIS should meet high scientific standards and not be subject to political or agency pressure

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Appendix F—Empirical Work Taxonomies

Occupational Analysis Inventory (OAI)

Cunningham, J. W., et al. (1983). Systematically Derived Work Dimensions: Factor Analyses of the Occupation Analysis Inventory. *Journal of Applied Psychology, 68*, 232-252.

General Work Inventory (GWI)

Cunningham, J. W., et al. (1990). Some general dimensions of work among U. S. Air Force enlisted occupations. *Military Psychology, 2,* 33-45.

Occupational Aptitude Patterns Map (OAP Map)

Gottfredson, L. S. (1986). Occupational aptitude patterns map: Development and implications for a theory of job aptitude requirements [Monograph]. *Journal of Vocational Behavior, 29*, 254-291.

Job Element Inventory (JEI)

Harvey, R. J., et al. (1988). Dimensionality of the Job Element Inventory, a Simplified Worker-Oriented Job Analysis Questionnaire. *Journal of Applied Psychology, 73,* 639-646.

Common-Metric Questionnaire (CMQ)

Harvey, R. J. (2004, April). Empirical foundations for the Things-Data-People taxonomy of work. In Fleishman, E. A. (Chair), Things,
Data, and People: Fifty years of a seminal theory. Symposium presented at the Annual Conference of the Society for Industrial and
Organizational Psychology, Chicago.

Worker Activity Profile (WAP)

McCormick, E. J., et al. (1967). Job Dimensions based on factorial analyses of worker-oriented job variables. *Personnel Psychology, 20,* 417-430.

Appendix F—Empirical Work Taxonomies *(cont'd)*

Position Analysis Questionnaire (PAQ)

McCormick, E. J., et al. (1972). A study of job characteristics and job dimensions as based on the position analysis Questionnaire (PAQ). Journal of Applied Psychology, 56, 347-368.

Professional and Managerial Position Questionnaire (PMPQ)

Mitchell, J. L. (1978). Structure Job Analysis of Professional and Managerial Positions (Doctoral dissertation, Purdue University, 1978). Dissertation Abstracts International, 757226091, 228 pages; AAT 7905756.

Mitchell, J. L., et al. (1979). Development of the PMPQ. A structured job analysis questionnaire for the study of professional and managerial positions. PMPQ Report No. 1, July 1979.

The Occupational Information Network (O*NET)

Peterson, N. G., et al. (1997). O*Net Final Technical Report. Utah Department of Workforce Services, Contract Number 94-542.

Management Position Description Questionnaire (MPDQ)

Tornow, W. W., et al. (1976). The development of a managerial job taxonomy: A system for describing, classifying, and evaluating executive positions. *Journal of Applied Psychology, 61,* 410-418.

Purdue Cognitive Task Analysis Questionnaire (PCTAQ)

Wei, J., et al. (2000). Development of the Purdue Cognitive Job Analysis Methodology. *International Journal of Cognitive Ergonomics, 4,* 277-295.

Appendix G—Empirical Work Taxonomy Dimensions

OAI Dimensions

Human Development, Assistance, and Conflict Resolution
Sales, Service, and Public Relations
Routine Semantic and Symbolic Activities Clerical Activities
Biological/Health-Related Activities
Mechanical Repair, Maintenance and Operation
Activities Related to Visual Aesthetics
Utilization and Processing of Numerical Data
Botanical Activities
Activities Related to Physical Science and Technology
Electrical/Electronic Repair, Maintenance, and Operation
Building/Repairing Structures
Use of Technical/Scientific Devices
Working with Animals
Improving/Monitoring the Physical Performance, Capability and Adjustment of Others
Food Preparation/Processing
Technical Planning and Drawing
Assembly/Fabrication Activities
Environmental Planning and Maintenance
Performing Arts Activities
Activities Requiring Coordination, Balance, and Quickness
Vehicle and Mechanized Equipment Operation
Organizing and Supervising the Work of Others
Biological Testing/Inspection Activities
Instructing
Verbal Communication

$d = 25$

Appendix G—Empirical Work Taxonomy Dimensions (cont'd)

GWI Dimensions

Human Development & Interaction
Electrical, Electronic & Mechanical Activities
Spatial/Object Perception & Tracking
Working with Numerical/Symbolic Data
Structural/Construction Activities
Motivating work Conditions
Contracting/Merchandising Activities
Health Treating/Caring
Visual Aesthetics Activities
Working with Plant and/or Animal Life
Performing Arts Activities
Information Compiling Activities
Regulated/Standardized Work
Stockkeeping/Bookkeeping

$d = 14$

Appendix G—Empirical Work Taxonomy Dimensions (cont'd)

CMQ Dimensions (MDM = Managerial Decision Making, EC = External Contacts, IC = Internal Contacts)

MDM: Implementing
Hazardous/unpleasant work environment
EC: Regulators, Government
Physical activity
EC: mid-level, info/decide/supervise
High-level: info/decide/resolve
Prof/tech: info/decide/resolve
Lower-level: info/decide/resolve
MDM: POM/HR, lower-impact
Stationary machines
Treatment/therapy/safety
Enforcement/demanding conditions
Negotiation
Take info, orders, interview
Powered tools/equipment
Persuade/sell
MDM: Acquire/start/sell businesses
EC: public/customers/clients info
IC: mid-level info/decide
Heavy/offroad vehicles
EC: Entertain/persuade
Safety/damage to others
EC: mid-level exchange info
EC: press/media
MDM: products/services, lower-impact
EC: students/children/civic
MDM: POM/HR higher-level
MDM: prods/services, higher impact
Tech/scientific/computers-machines
Processing/moving machines
Stationary machines
Office equipment
EC: delegating/supervising
MDM: financial
IC: lower-level supervision
IC: middle-level supervision
IC: sales/service supervision
Language use/programming

Appendix G—Empirical Work Taxonomy Dimensions (cont'd)

CMQ Dimensions (MDM = Managerial Decision Making, EC = External Contacts, IC = Internal Contacts) *(cont'd)*

Language use/foreign
EC: PT/mid-level conflicts
EC: projects/people supervising
MDM: strategic planning, entire org

d = 42

Appendix G—Empirical Work Taxonomy Dimensions *(cont'd)*

OAP Map

Researching, designing, and modifying physical systems
Operating and testing physical systems
Crafting or inspecting complex objects; repairing, operating, or setting up equipment or vehicles
Crafting, finishing, assembling, sorting, or inspecting simple objects
Tending (machines, buildings, plants, animals) and attending (workers, the public)
Researching, planning, and maintaining societal systems
Persuading, informing, and helping individuals
Serving and caring for individuals
Maintaining bureaucratic rules, records, and transactions
Processing routine information
Manipulating records
Verbal arts
Spatial arts

$d = 13$

Appendix G—Empirical Work Taxonomy Dimensions (cont'd)

WAP

Decision Making and Communications Activities
Hierarchical Person-to-Person Interaction
Skilled Physical Activities
Mental vs. Physical Activities
Responsible Personal Contact
General Physical Activities
Unpleasant vs. Pleasant Working Conditions
Decisions Affecting People
Varied Intellectual vs. Structured Activities
Supervisory Activities
Man-Machine Control Activities
Planning and Decision-Making
Skilled Manual Activities
Intellectual vs. Physical Activities
Body Balancing Activities
Physical vs. Sedentary Activities
Clerical Activities
Knee-Bending Activities
Informative Communications
Communication of Data
Persuasive Communications
Public Contact Activities
White Collar vs. Blue Collar Situations
Job Security vs. Performance-Dependent Income
Apparel: Specific Uniform
Apparel: Optional vs. Work Clothes
Apparel: Formal vs. Optional
Hourly Pay vs. Salary
Annoying Environment
Unpleasant Environment
Outdoor Work

$d = 31$

Appendix G—Empirical Work Taxonomy Dimensions *(cont'd)*

PAQ

Visual input from devices/materials
Perceptual interpretation
Information from people
Visual input from distal sources
Evaluation of information from physical sources
Environmental awareness
Awareness of body movement/posture
Decision making
Information processing
Machine/process control
Manual control/coordination activities
Control/equipment operation
General body activity
Handling/manipulating activities
Use of finger-controlled devices vs. physical work
Skilled/technical activities
Communication of decisions/judgments
Job-related information exchange
Staff/related activities
Supervisor-subordinate relationships
Public/related contact
Unpleasant/hazardous physical environment
Personally demanding situations
Businesslike work situations
Attentive/discriminating work demands
Unstructured vs. structured work
Variable vs. regular work schedule

d = 27

Appendix G—Empirical Work Taxonomy Dimensions (cont'd)

PMPQ

Planning and Decision Making
Complex Analysis and Communication
Relevant Experience
Personal Job Requirements
Technical Activities
Processing of Information/Data
Second Language Usage
Special Training
Communicating/Instructing
Interpersonal Activities

$d = 10$

Appendix G—Empirical Work Taxonomy Dimensions *(cont'd)*

O*NET

Getting Information
Identifying Objects, Actions, and Events
Monitoring Processes, Materials, or Surroundings
Inspecting Equipment, Structures, or Materials
Estimating the Quantifiable Characteristics of Products, Events, or Information
Judging the Qualities of Objects, Services, or People
Evaluating Information to Determine Compliance with Standards
Processing Information
Analyzing Data or Information
Making Decisions and Solving Problems
Thinking Creatively
Updating and Using Relevant Knowledge
Developing Objectives and Strategies
Schedule Work and Activities
Organizing, Planning, and Prioritizing Work
Performing General Physical Activities
Handling and Moving Objects
Controlling Machines and Processes
Working with Computers
Operating Vehicles, Mechanized Devices, or Equipment
Drafting, Laying Out, and Specifying Technical Devices, Parts, and Equipment
Repairing and Maintaining Mechanical Equipment
Repairing and Maintaining Electronic Equipment
Documenting/Recording Information
Interpreting the Meaning of Information for Others
Communicating with Supervisors, Peers, or Subordinates
Communicating with People Outside the Organization
Establishing and Maintaining Interpersonal Relationships
Assisting and Caring for Others
Selling or Influencing Others
Resolving Conflicts and Negotiating with Others
Performing for or Working Directly with the Public
Coordinating the Work and Activities of Others
Developing and Building Teams
Training and Teaching Others
Guiding, Directing, and Motivating Subordinates

Appendix G—Empirical Work Taxonomy Dimensions *(cont'd)*

O*NET *(cont'd)*

Coaching and Developing Others
Providing Consultation and Advice to Others
Performing Administrative Activities
Staffing Organizational Units
Monitoring and Controlling Resources

$d = 41$

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Appendix G—Empirical Work Taxonomy Dimensions *(cont'd)*

SOC

Management Occupations
Business and Financial Operations Occupations
Computer and Mathematical Occupations
Architecture and Engineering Occupations
Life, Physical, and Social Science Occupations
Community and Social Services Occupations
Legal Occupations
Education, Training, and Library Occupations
Arts, Design, Entertainment, Sports, and Media Occupations
Healthcare Practitioner and Technical Occupations
Healthcare Support Occupations
Protective Service Occupations
Food Preparation and Serving Related Occupations
Building and Grounds Cleaning and Maintenance Occupation
Personal Care and Service Occupations
Sales and Related Occupations
Office and Administrative Support Occupations
Farming, Fishing, and Forestry Occupations
Construction and Extraction Occupations
Installation, Maintenance, and Repair Occupations
Production Occupations
Transportation and Material Moving Occupations
Military Specific Occupations

$d = 23$

Appendix G—Empirical Work Taxonomy Dimensions *(cont'd)*

MPDQ

Product, Marketing, and Financial Strategy Planning
Coordination of Other Organizational Units & Personnel
Internal Business Control
Products and Services Responsibility
Public & Customer Relations
Advanced Consulting
Autonomy of Action
Approval of Financial Commitments
Staff Service
Supervision
Complexity & Stress
Advanced Financial Responsibility
Broad Personnel Responsibility

d = 13

Appendix G—Empirical Work Taxonomy Dimensions *(cont'd)*

PCTAQ

Audio attention
General cognitive information processing
Combining and analyzing information; sensing problems
Search and receive information except visual and audio; identify objects, events, and actions
Motivation
Mental planning and scheduling
Cognitive attention; Decision making
Noninterpersonal communication

$d = 8$

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Appendix H—Dimension Consolidation

Initial List of Unique Work Taxonomy Dimensions
Resulting from Taxonomy Crosswalk

Rater 1	Rater 2	Rater 3
Apparel: Formal vs. Optional	Activities Related to Physical Science and Technology	Activities Related to Physical Science and Technology
Apparel: Optional vs. Work Clothes	Activities Related to Visual Aesthetics	Activities Related to Visual Aesthetics
Apparel: Specific Uniform	Activities Requiring Coordination, Balance, and Quickness	Advanced Consulting
Assembly/Fabrication Activities	Advanced Consulting	Apparel: Formal vs. Optional
Botanical Activities	Apparel: Specific Uniform Apparel: Optional vs. Work Clothes Apparel: Formal vs. Optional	Apparel: Optional vs. Work Clothes
Building/Repairing Structures	Assembly/Fabrication Activities	Apparel: Specific Uniform
EC: delegating/supervising	Attentive/discriminating work demands	Assembly/Fabrication Activities
EC: Entertain/persuade	Audio attention	Audio attention
EC: mid-level exchange info	Biological Testing/Inspection Activities	Autonomy of Action
EC: mid-level, info/decide/supervise	Botanical Activities	Body Balancing Activities
EC: press/media	Building/Repairing Structures	Botanical Activities
EC: projects/people supervising	Complexity & Stress	Building/Repairing Structures
EC: PT/mid-level conflicts	Developing and Building Teams	cognitive attention, decision making
EC: public/ customers/clients info	EC: delegating/supervising	Complexity and Stress
EC: Regulators, Government	EC: Entertain/persuade	EC: delegating/supervising
EC: students/children/civic	EC: mid-level exchange info	EC: Entertain/persuade
Electrical/Electronic Repair, Maintenance, and Operation	EC: mid-level, info/decide/supervise	EC: mid-level exchange info
Enforcement/demanding conditions	EC: press/media	EC: mid-level, info/decide/supervise
Environmental Planning and Maintenance	EC: projects/people supervising	EC: press/media

Table continues

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Initial List of Unique Work Taxonomy Dimensions
Resulting from Taxonomy Crosswalk *(cont'd)*

Rater 1	Rater 2	Rater 3
Food Preparation/Processing	EC: PT/mid-level conflicts	EC: projects/people supervising
Hazardous/unpleasant work environment	EC: public/customers/clients info	EC: PT/mid-level conflicts
Heavy/offroad vehicles	EC: Regulators, Government	EC: public/customers/clients info
High-level: info/decide/resolve	EC: students/children/civic	EC: Regulators, Government
Hourly Pay vs. Salary	Electrical/Electronic Repair, Maintenance, and Operation	EC: students/children/civic
IC: lower-level supervision	Enforcement/demanding conditions	Enforcement/demanding conditions
IC: middle-level supervision	Environmental awareness	Food Preparation/Processing
IC: mid-level info/decide	Environmental Planning and Maintenance	General cognitive info processin
IC: sales/service supervision	Estimating the Quantifiable Characteristics of Products, Events, or Information	Hazardous/unpleasant work environment
Internal Business Control	Evaluating Information to Determine Compliance with Standards	Heavy/offroad vehicles
Job Security vs. Performance-Dependent Income	Food Preparation/Processing	High-level: info/decide/resolve
Language use/foreign	Handling/manipulating activities & Use of finger-controlled devices vs. physical work	Hourly Pay vs. Salary
Language use/programming	Hazardous/unpleasant work environment	IC: lower-level supervision
Lower-level: info/decide/resolve	Heavy/offroad vehicles	IC: middle-level supervision
Manipulating records	High-level: info/decide/resolve	IC: mid-level info/decide
MDM: Acquire/start/sell businesses	Hourly Pay vs. Salary	IC: sales/service supervision
MDM: financial	IC: lower-level supervision	Intellectual vs. Physical Activities
MDM: Implementing	IC: middle-level supervision	Job Security vs. Performance-Dependent Income

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Initial List of Unique Work Taxonomy Dimensions
Resulting from Taxonomy Crosswalk *(cont'd)*

Rater 1	Rater 2	Rater 3
MDM: POM/HR higher-level	IC: mid-level info/decide	Knee-Bending Activities
MDM: POM/HR, lower-impact	IC: sales/service supervision	Language use/foreign
MDM: prods/services, higher impact	Improving/Monitoring the Physical Performance, Capability and Adjustment of Others	Language use/programming
MDM: products/services, lower-impact	Inspecting Equipment, Structures, or Materials	Lower-level: info/decide/resolve
MDM: strategic planning, entire org	Instructing	MDM: Acquire/start/sell businesses
Motivation	Interpersonal Activities	MDM: financial
Negotiation	Job Security vs. Performance-Dependent Income	MDM: Implementing
Noninterpersonal communication	Judging the Qualities of Objects, Services, or People	MDM: POM/HR higher-level
Office equipment	Knee-Bending Activities	MDM: POM/HR, lower-impact
Outdoor Work	Language use/foreign	MDM: prods/services, higher impact
Personal Job Requirements	Language use/programming	MDM: products/services, lower-impact
Persuade/sell	Lower-level: info/decide/resolve	MDM: strategic planning, entire org
Physical activity	MDM: Acquire/start/sell businesses	Mental planning and scheduling
Powered tools/equipment	MDM: financial	Mental vs. Physical Activities
Processing/moving machines	MDM: Implementing	Motivation
Prof/tech: info/decide/resolve	MDM: POM/HR higher-level	Negotiation
Regulated/Standardized Work	MDM: POM/HR, lower-impact	Office equipment
Relevant Experience	MDM: prods/services, higher impact	Performing Arts Activities
Safety/damage to others	MDM: products/services, lower-impact	Personal Job Requirements
Spatial/Object Perception & Tracking	MDM: strategic planning, entire org	Persuade/sell
Special Training	Mechanical Repair, Maintenance and Operation	Physical activity
Stationary machines	Negotiation	Physical vs. Sedentary Activities
Take info, orders, interview	Office equipment	Powered tools/equipment

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Initial List of Unique Work Taxonomy Dimensions
Resulting from Taxonomy Crosswalk *(cont'd)*

Rater 1	Rater 2	Rater 3
Tech/scientific/computers-machines	Outdoor Work	Processing/moving machines
Thinking Creatively	Perceptual interpretation	Prof/tech: info/decide/resolve
Treatment/therapy/safety	Personal Job Requirements	Relevant Experience
Updating and Using Relevant Knowledge	Persuade/sell	Safety/damage to others
Variable vs. regular work schedule	Physical activity	Spatial/Object Perception & Tracking
Verbal Communication	Powered tools/equipment	Special Training
White Collar vs. Blue Collar Situations	Processing/moving machines	Stationary machines
Working with Animals	Prof/tech: info/decide/resolve	Stationary machines
	Regulated/Standardized Work	Take info, orders, interview
	Relevant Experience	Tech/scientific/computers-machines
	Routine Semantic and Symbolic Activities Clerical Activities	Technical Planning and Drawing
	Safety/damage to others	Thinking Creatively
	Schedule Work and Activities	Treatment/therapy/safety
	Spatial/Object Perception & Tracking	Updating and Using Relevant Knowledge
	Special Training	Varied Intellectual vs. Structured Activities
	Stationary machines	White Collar vs. Blue Collar Situations
	Stockkeeping/Bookkeeping	Working with Animals
	Take info, orders, interview	
	Tech/scientific/computers-machines	
	Technical Planning and Drawing	
	Thinking Creatively	
	Treatment/therapy/safety	
	Updating and Using Relevant Knowledge	
	Utilization and Processing of Numerical Data	

Table continues

Initial List of Unique Work Taxonomy Dimensions
Resulting from Taxonomy Crosswalk *(cont'd)*

Rater 1	Rater 2	Rater 3
	Variable vs. regular work schedule	
	Verbal Communication	
	Visual input from devices/materials	
	Visual input from distal sources	
	White Collar vs. Blue Collar Situations	
	Working with Animals	
	Take info, orders, interview	
	Tech/scientific/computers-machines	
	Technical Planning and Drawing	
	Thinking Creatively	
	Treatment/therapy/safety	
	Updating and Using Relevant Knowledge	
	Utilization and Processing of Numerical Data	
	Variable vs. regular work schedule	
	Varied Intellectual vs. Structured Activities	
	Verbal Communication	
	Visual input from devices/materials	
	Visual input from distal sources	
	White Collar vs. Blue Collar Situations	
	Working with Animals	

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Initial List of Combined Unique Work Taxonomy Dimensions
Resulting from Taxonomy Crosswalk

Combined Unique Dimensions
Activities Related to Physical Science and Technology
Activities Related to Visual Aesthetics
Activities Requiring Coordination, Balance, and Quickness
Advanced Consulting
Apparel: Specific Uniform Apparel: Optional vs. Work Clothes Apparel: Formal vs. Optional
Assembly/Fabrication Activities
Attentive/discriminating work demands
Audio attention
Autonomy of Action
Biological Testing/Inspection Activities
Body Balancing Activities
Botanical Activities
Building/Repairing Structures
cognitive attention, decision making
Complexity & Stress
Developing and Building Teams
EC: delegating/supervising
EC: Entertain/persuade
EC: mid-level exchange info
EC: mid-level, info/decide/supervise
EC: press/media
EC: projects/people supervising
EC: PT/mid-level conflicts
EC: public/customers/clients info
EC: Regulators, Government
EC: students/children/civic
Electrical/Electronic Repair, Maintenance, and Operation

Table continues

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Initial List of Combined Unique Work Taxonomy Dimensions
Resulting from Taxonomy Crosswalk *(cont'd)*

Combined Unique Dimensions
Enforcement/demanding conditions
Environmental awareness
Environmental Planning and Maintenance
Estimating the Quantifiable Characteristics of Products, Events, or Information
Evaluating Information to Determine Compliance with Standards
Food Preparation/Processing
General cognitive info processin
Handling/manipulating activities & Use of finger-controlled devices vs. physical work
Hazardous/unpleasant work environment
Heavy/offroad vehicles
High-level: info/decide/resolve
Hourly Pay vs. Salary
IC: lower-level supervision
IC: middle-level supervision
IC: mid-level info/decide
IC: sales/service supervision
Improving/Monitoring the Physical Performance, Capability and Adjustment of Others
Inspecting Equipment, Structures, or Materials
Instructing
Intellectual vs. Physical Activities
Internal Business Control
Interpersonal Activities
Job Security vs. Performance-Dependent Income
Judging the Qualities of Objects, Services, or People
Knee-Bending Activities
Language use/foreign
Language use/programming
Lower-level: info/decide/resolve
Manipulating records

Table continues

Initial List of Combined Unique Work Taxonomy Dimensions
Resulting from Taxonomy Crosswalk *(cont'd)*

Combined Unique Dimensions
MDM: Acquire/start/sell businesses
MDM: financial
MDM: Implementing
MDM: POM/HR higher-level
MDM: POM/HR, lower-impact
MDM: prods/services, higher impact
MDM: products/services, lower-impact
MDM: strategic planning, entire org
Mechanical Repair, Maintenance and Operation
Mental planning and scheduling
Mental vs. Physical Activities
Motivation
Negotiation
Noninterpersonal communication
Office equipment
Outdoor Work
Perceptual interpretation
Performing Arts Activities
Personal Job Requirements
Persuade/sell
Physical activity
Physical vs. Sedentary Activities
Powered tools/equipment
Processing/moving machines
Prof/tech: info/decide/resolve
Regulated/Standardized Work
Relevant Experience
Routine Semantic and Symbolic Activities Clerical Activities
Safety/damage to others
Schedule Work and Activities
Spatial/Object Perception & Tracking
Special Training
Stationary machines

Table continues

Initial List of Combined Unique Work Taxonomy Dimensions
Resulting from Taxonomy Crosswalk *(cont'd)*

Combined Unique Dimensions
Stockkeeping/Bookkeeping
Take info, orders, interview
Tech/scientific/computers-machines
Technical Planning and Drawing
Thinking Creatively
Treatment/therapy/safety
Updating and Using Relevant Knowledge
Utilization and Processing of Numerical Data
Variable vs. regular work schedule
Varied Intellectual vs. Structured Activities
Verbal Communication
Visual input from devices/materials
Visual input from distal sources
White Collar vs. Blue Collar Situations
Working with Animals

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Edited List of Combined Unique Work Taxonomy Dimensions Resulting from Taxonomy Crosswalk and Their Original Taxonomic Source Sorted by Data, People, Things, and Other Rational Categories

Taxonomic Source	D/O/P/T	Consolidation of Dimensions Sorted by Data/Other/People/Things
PAQ	D	Attentive/discriminating work demands
OAI	D	Biological Testing/Inspection Activities
CMQ*, O*NET*	D	Computer Language use/programming
OAI	D	Environmental Planning and Maintenance
O*NET	D	Estimating the Quantifiable Characteristics of Products, Events, or Information
O*NET	D	Evaluating Information to Determine Compliance with Standards
PCTAQ*	D	Individual/Job-Related Decision Making
PCTAQ*, O*NET*	D	Individual/Job-Related planning
CMQ*	D	info/decide/resolve: High-level
CMQ*	D	info/decide/resolve: Lower-level
CMQ*	D	info/decide/resolve: mid-level
CMQ*	D	info/decide/resolve: Prof/tech
O*NET	D	Judging the Qualities of Objects, Services, or People
CMQ	D	Managerial Decision Making: Acquire/start/sell businesses
CMQ	D	Managerial Decision Making: financial
CMQ	D	Managerial Decision Making: prods/services, higher impact
CMQ	D	Managerial Decision Making: products/services, lower-impact

*Note: Wording May Slightly Differ

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Edited List of Combined Unique Work Taxonomy Dimensions Resulting from Taxonomy Crosswalk and Their Original Taxonomic Source Sorted by Data, People, Things, and Other Rational Categories *(cont'd)*

Taxonomic Source	D/O/P/T	Consolidation of Dimensions Sorted by Data/Other/People/Things
CMQ	D	Managerial Decision Making: strategic planning, entire org
OAI, WAP*	D	Routine Clerical & Administrative Activities
O*NET	D	Scheduling Work and Activities
GWI	D	Stockkeeping/Bookkeeping
CMQ	D	Take info, orders, interview
CMQ, O*NET*	D	Tech/scientific/computers-machines
OAI	D	Technical Planning and Drawing
O*NET	D	Updating and Using Relevant Knowledge
OAI, GWI, O*NET	D	Utilization and Processing of Numerical Data
PMPQ*	O	Educational Requirements
WAP	O	Hourly Pay vs. Salary
WAP	O	job-related/required APPAREL
CMQ	O	Language use/foreign
PMPQ	O	Relevant Experience
CMQ	O	Safety/damage to others
PMPQ	O	Special Training
PAQ	O	Variable vs. regular work schedule
PCTAQ*	O-Cognitive	cognitive attention, focus
PAQ, OAI	O-Cognitive	Environmental awareness
PCTAQ	O-Cognitive	General cognitive info processing
GWI, PAQ	O-Cognitive	Perceptual interpretation
GWI, OAP	O-Cognitive	Spatial/Object Perception & Tracking

*Note: Wording May Slightly Differ

Table continues

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Edited List of Combined Unique Work Taxonomy Dimensions Resulting from Taxonomy Crosswalk and Their Original Taxonomic Source Sorted by Data, People, Things, and Other Rational Categories *(cont'd)*

Taxonomic Source	D/O/P/T	Consolidation of Dimensions Sorted by Data/Other/People/Things
O*NET	O-Cognitive	Thinking Creatively
MPDQ	O-Context	Autonomy of Action
MPDQ	O-Context	Complexity & Stress
CMQ	O-Context	Enforcement/demanding conditions
CMQ, PAQ	O-Context	Hazardous/unpleasant work environment
WAP	O-Context	Job Security vs. Performance-Dependent Income
WAP	O-Context	Outdoor Work
GWI	O-Context	Regulated/Standardized Work
PMPQ, PCTAQ*	O-Interpersonal	Interpersonal Activities
WAP	O-Physical	Activities Related to Knee-Bending
OTHER	O-Physical	Activities Related to Lifting
OTHER	O-Physical	Activities Related to Pushing/Pulling
OTHER	O-Physical	Activities Related to Reaching
OAI	O-Physical	Activities Requiring Coordination, Balance, and Quickness
PCTAQ	O-Sensory	Audio attention
PAQ	O-Sensory	Visual input from devices/materials
PAQ	O-Sensory	Visual input from distal sources
MDQ	P	Advanced Consulting
CMQ*, WAP*, PAQ*, PMPQ*	P	Communication: mid-level exchange info
CMQ*	P	Communication: press/media
CMQ*	P	Communication: public/customers/clients
CMQ*	P	Communication: Regulators, Government
CMQ*	P	Communication: students/children/civic
OAI	p	Communication: Verbal

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Edited List of Combined Unique Work Taxonomy Dimensions Resulting from Taxonomy Crosswalk and Their Original Taxonomic Source Sorted by Data, People, Things, and Other Rational Categories *(cont'd)*

Taxonomic Source	D/O/P/T	Consolidation of Dimensions Sorted by Data/Other/People/Things
OTHER	p	Communication: Written
CMQ*	P	delegating
O*NET	P	Developing and Building Teams
CMQ	P	Entertain
OAI	P	Improving/Monitoring the Physical Performance, Capability and Adjustment of Others
OAI, PMPQ	P	Instructing
CMQ	P	Managerial Decision Making: POM/HR higher-level
CMQ	P	Managerial Decision Making: POM/HR, lower-level
CMQ	P	MDM: Implementing
CMQ, O*NET*	P	Negotiation
CMQ, WAP*, O*NET*	P	Persuade/sell
OTHER	P	Project Management
CMQ*	P	Resolving conflicts
CMQ*, OAI*, WAP*, PAQ*, MDPQ*	P	Supervision: lower-level
CMQ*, OAI*, WAP*, PAQ*, MDPQ*	P	supervision: middle-level
CMQ*	P	supervision: sales/service
CMQ	P	Treatment/therapy
OAI	T	Activities Related to Assembly/Fabrication
OAI, GWI, OAP	T	Activities Related to Botany/Plants
OAI, GWI, OAP	T	Activities Related to Building/Repairing Structures
OAI, GWI, O*NET	T	Activities Related to Electrical/Electronic Repair, Maintenance

*Note: Wording May Slightly Differ

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Edited List of Combined Unique Work Taxonomy Dimensions Resulting from Taxonomy Crosswalk and Their Original Taxonomic Source Sorted by Data, People, Things, and Other Rational Categories *(cont'd)*

Taxonomic Source	D/O/P/T	Consolidation of Dimensions Sorted by Data/Other/People/Things
OAI	T	Activities Related to Food Preparation/Processing
PAQ	T	Activities Related to Handling/manipulating & Use of finger-controlled devices
O*NET	T	Activities Related to Inspecting Equipment, Structures, or Materials
OAI, GWI, O*NET	T	Activities Related to Mechanical Repair, Maintenance
GWI	T	Activities Related to Performing Arts
OAI	T	Activities Related to Physical Science and Technology
OAI, GWI	T	Activities Related to Visual Aesthetics
OAI, GWI, WAP	T	Activities Related to Working with Animals
CMQ, OAI*, O*NET*	T	Operating Heavy/offroad vehicles
CMQ	T	Operating Office equipment
CMQ	T	Operating Powered tools/equipment
CMQ, OAP*, WAP*, PAQ*	T	Operating Processing/moving machines
CMQ, OAP*, WAP*, PAQ*	T	Operating Stationary machines

*Note: Wording May Slightly Differ

Work Taxonomy and Classification Subcommittee

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Appendix I—Initial Taxonomy Person Side Ratings

Rater 1 Person Side Crosswalk to Edited List of Combined Unique Work Taxonomy Dimensions

Job Side		Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Crystallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
D	Attentive/discriminating work demands			X					X
D	Biological Testing/Inspection Activities		X						X
D	Computer Language use/programming		X						
D	Environmental Planning and Maintenance	X	X	X					
D	Estimating the Quantifiable Characteristics of Products, Events, or Information		X	X					X
D	Evaluating Information to Determine Compliance with Standards	X	X	X					X
D	Individual/Job-Related Decision Making	X	X	X					X
D	Individual/Job-Related planning	X	X	X					X
D	info/decide/resolve: High-level	X	X	X	X				
D	info/decide/resolve: Lower-level	X	X	X	X				
D	info/decide/resolve: mid-level	X	X	X	X				
D	info/decide/resolve: Prof/tech		X	X					
D	Judging the Qualities of Objects, Services, or People	X	X	X	X				X

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Job Side		Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Crystallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
D	Managerial Decision Making: Acquire/start/sell businesses	X	X	X					
D	Managerial Decision Making: financial	X	X	X					
D	Managerial Decision Making: prods/services, higher impact	X	X	X					
D	Managerial Decision Making: products/services, lower-impact	X	X	X					
D	Managerial Decision Making: strategic planning, entire org	X	X	X	X				
D	Routine Clerical & Administrative Activities		X		X				
D	Scheduling Work and Activities	X	X		X				
D	Stockkeeping/Bookkeeping		X						X
D	Take info, orders, interview		X	X					X
D	Tech/scientific/computers-machines		X					X	
D	Technical Planning and Drawing		X	X					X
D	Updating and Using Relevant Knowledge	X		X					
D	Utilization and Processing of Numerical Data		X						
O	Educational Requirements		X						
O	Hourly Pay vs. Salary								
O	job-related/required APPAREL								
O	Language use/foreign		X		X				
O	Relevant Experience								
O	Safety/damage to others	X	X	X	X				X

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Job Side		Person Side							
DOT	Initial Work Taxonomy	Cognitive/Interpersonal				Physical			
D/P/T/O	Consolidation of Dimensions Sorted by Data/People/Things/Other	Fluid g	Crystallized g	Perception	Interpersonal	Strength	Stamina	Peripheral Manipulation	Sensory
O	Special Training	X	X						
O	Variable vs. regular work schedule								
O-Cognitive	cognitive attention, focus						X		X
O-Cognitive	Environmental awareness								X
O-Cognitive	General cognitive info processing	X	X						
O-Cognitive	Perceptual interpretation	X		X					
O-Cognitive	Spatial/Object Perception & Tracking		X						X
O-Cognitive	Thinking Creatively	X							
O-Context	Autonomy of Action								
O-Context	Complexity & Stress						X		
O-Context	Enforcement/demanding conditions					X	X		
O-Context	Hazardous/unpleasant work environment					X	X		X
O-Context	Job Security vs. Performance-Dependent Income								
O-Context	Outdoor Work					X			
O-Context	Regulated/Standardized Work								
O-Interpersonal	Interpersonal Activities				X				
O-Physical	Activities Related to Knee-Bending					X	X		
O-Physical	Activities Related to Lifting					X	X	X	
O-Physical	Activities Related to Pushing/Pulling					X	X	X	
O-Physical	Activities Related to Reaching					X	X	X	

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	Job Side	Person Side							
DOT	Initial Work Taxonomy	Cognitive/Interpersonal				Physical			
D/P/T/O	Consolidation of Dimensions Sorted by Data/People/Things/Other	Fluid g	Crystallized g	Perception	Interpersonal	Strength	Stamina	Peripheral Manipulation	Sensory
O-Physical	Activities Requiring Coordination, Balance, and Quickness					X	X	X	X
O-Sensory	Audio attention								X
O-Sensory	Visual input from devices/materials								X
O-Sensory	Visual input from distal sources								X
P	Advanced Consulting								
P	Communication: mid-level exchange info	X	X		X				X
P	Communication: press/media	X	X		X				X
P	Communication: public/customers/clients	X	X		X				X
P	Communication: Regulators, Government	X	X		X				X
P	Communication: students/children/civic	X	X		X				X
p	Communication: Verbal	X	X		X				X
p	Communication: Written	X	X		X				X
P	delegating	X	X		X				
P	Developing and Building Teams	X		X	X				
P	Entertain	X		X	X				X
P	Improving/Monitoring the Physical Performance, Capability and Adjustment of Others		X	X	X				
P	Instructing	X	X	X	X				X
P	Managerial Decision Making: POM/HR higher-level	X	X						

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Job Side		Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Crystallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
P	Managerial Decision Making: POM/HR, lower-level	X	X						
P	MDM: Implementing	X	X		X				
P	Negotiation	X	X		X				
P	Persuade/sell	X	X	X	X				
P	Project Management	X	X		X				
P	Resolving conflicts	X	X		X				
P	Supervision: lower-level	X			X				
P	supervision: middle-level	X			X				
P	supervision: sales/service	X			X				
P	Treatment/therapy	X	X	X	X				
T	Activities Related to Assembly/Fabrication		X			X	X	X	X
T	Activities Related to Botany/Plants		X					X	
T	Activities Related to Building/Repairing Structures		X			X	X	X	X
T	Activities Related to Electrical/Electronic Repair, Maintenance		X			X	X	X	X
T	Activities Related to Food Preparation/Processing		X				X	X	X
T	Activities Related to Handling/manipulating & Use of finger-controlled devices		X				X	X	X
T	Activities Related to Inspecting Equipment, Structures, or Materials		X					X	X
T	Activities Related to Mechanical Repair, Maintenance		X			X	X	X	X

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Job Side		Person Side							
DOT	Initial Work Taxonomy	Cognitive/Interpersonal				Physical			
D/P/T/O	Consolidation of Dimensions Sorted by Data/People/Things/Other	Fluid g	Crystallized g	Perception	Interpersonal	Strength	Stamina	Peripheral Manipulation	Sensory
T	Activities Related to Performing Arts	X	X	X		X	X	X	X
T	Activities Related to Physical Science and Technology		X						
T	Activities Related to Visual Aesthetics			X					X
T	Activities Related to Working with Animals	X	X			X	X	X	X
T	Operating Heavy/offroad vehicles		X			X	X	X	X
T	Operating Office equipment		X				X	X	
T	Operating Powered tools/equipment		X			X	X	X	X
T	Operating Processing/moving machines		X			X	X	X	X
T	Operating Stationary machines		X			X	X	X	X

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Rater 2 Person Side Crosswalk to Edited List of Combined Unique Work Taxonomy Dimensions

Job Side		Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Cristallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
D	Attentive/discriminating work demands	x	x	x					x
D	Biological Testing/Inspection Activities	x	x	x				x	x
D	Computer Language use/programming	x	x	x			x		x
D	Environmental Planning and Maintenance	x	x	x			x		x
D	Estimating the Quantifiable Characteristics of Products, Events, or Information	x	x	x					x
D	Evaluating Information to Determine Compliance with Standards		x	x			x		x
D	Individual/Job-Related Decision Making	x	x	x					x
D	Individual/Job-Related planning		x	x					x
D	info/decide/resolve: High-level	x	x	x					x
D	info/decide/resolve: Lower-level	x	x	x					x
D	info/decide/resolve: mid-level	x	x	x					x
D	info/decide/resolve: Prof/tech	x	x	x					x
D	Judging the Qualities of Objects, Services, or People	x	x	x	x		x	x	x
D	Managerial Decision Making: Acquire/start/sell businesses	x	x	x					x
D	Managerial Decision Making: financial	x	x	x					x
D	Managerial Decision Making: prods/services, higher impact	x	x	x					x
D	Managerial Decision Making: products/services, lower-impact	x	x	x					x
D	Managerial Decision Making: strategic planning, entire org	x	x	x					x
D	Routine Clerical & Administrative Activities		x	x	x	x	x	x	x
D	Scheduling Work and Activities		x						x

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

	Job Side	Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Cristallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
D	Stockkeeping/Bookkeeping		x						x
D	Take info, orders, interview		x		x		x	x	x
D	Tech/scientific/computers-machines	x	x	x				x	x
D	Technical Planning and Drawing	x	x	x				x	x
D	Updating and Using Relevant Knowledge		x	x			x		x
D	Utilization and Processing of Numerical Data		x	x					x
O	Educational Requirements	x	x						
O	Hourly Pay vs. Salary					x	x		
O	job-related/required APPAREL				x				
O	Language use/foreign	x	x						
O	Relevant Experience		x						
O	Safety/damage to others				x				
O	Special Training		x						
O	Variable vs. regular work schedule					x	x		
O-Cognitive	cognitive attention, focus	x	x						x
O-Cognitive	Environmental awareness		x	x					x
O-Cognitive	General cognitive info processing	x	x						x
O-Cognitive	Perceptual interpretation	x		x					x
O-Cognitive	Spatial/Object Perception & Tracking			x					x
O-Cognitive	Thinking Creatively	x	x	x					
O-Context	Autonomy of Action		x	x					
O-Context	Complexity & Stress	x			x	x	x		
O-Context	Enforcement/demanding conditions		x		x				

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

	Job Side	Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Cristallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
O-Context	Hazardous/unpleasant work environment					x	x		
O-Context	Job Security vs. Performance-Dependent Income								
O-Context	Outdoor Work					x	x		
O-Context	Regulated/Standardized Work								
O-Interpersonal	Interpersonal Activities				x				
O-Physical	Activities Related to Knee-Bending					x	x		
O-Physical	Activities Related to Lifting					x	x		
O-Physical	Activities Related to Pushing/Pulling					x	x		
O-Physical	Activities Related to Reaching					x	x		
O-Physical	Activities Requiring Coordination, Balance, and Quickness					x	x		
O-Sensory	Audio attention								x
O-Sensory	Visual input from devices/materials								x
O-Sensory	Visual input from distal sources								x
P	Advanced Consulting	x	x	x	x				
P	Communication: mid-level exchange info		x	x	x				
P	Communication: press/media		x	x	x				
P	Communication: public/customers/clients		x	x	x				
P	Communication: Regulators, Government		x	x	x				
P	Communication: students/children/civic	x	x	x	x				
p	Communication: Verbal		x	x	x				
p	Communication: Written		x	x					
P	delegating		x		x				

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Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Job Side		Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Cristallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
P	Developing and Building Teams		x		x				
P	Entertain		x		x				
P	Improving/Monitoring the Physical Performance, Capability and Adjustment of Others	x	x	x	x				
P	Instructing	x	x	x	x				
P	Managerial Decision Making: POM/HR higher-level	x	x	x	x				
P	Managerial Decision Making: POM/HR, lower-level	x	x	x	x				
P	MDM: Implementing		x	x	x				
P	Negotiation	x	x	x	x				
P	Persuade/sell	x	x	x	x				
P	Project Management		x	x	x				
P	Resolving conflicts	x		x	x				
P	Supervision: lower-level		x	x	x				
P	supervision: middle-level		x	x	x				
P	supervision: sales/service		x	x	x				
P	Treatment/therapy	x	x	x	x				
T	Activities Related to Assembly/Fabrication		x	x		x	x	x	x
T	Activities Related to Botany/Plants		x	x		x	x	x	x
T	Activities Related to Building/Repairing Structures		x	x		x	x	x	x
T	Activities Related to Electrical/Electronic Repair, Maintenance		x	x		x	x	x	x
T	Activities Related to Food Preparation/Processing		x	x		x	x	x	x
T	Activities Related to Handling/manipulating & Use of finger-controlled devices		x	x		x	x	x	x
T	Activities Related to Inspecting Equipment, Structures, or Materials		x	x		x	x		x

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Job Side		Person Side								
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**				
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Cristallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
T	Activities Related to Mechanical Repair, Maintenance		x	x		x	x	x	x
T	Activities Related to Performing Arts		x	x		x	x	x	x
T	Activities Related to Physical Science and Technology		x	x		x	x		x
T	Activities Related to Visual Aesthetics		x	x		x	x		x
T	Activities Related to Working with Animals		x	x		x	x	x	x
T	Operating Heavy/offroad vehicles		x	x		x	x	x	x
T	Operating Office equipment		x	x		x	x	x	x
T	Operating Powered tools/equipment		x	x		x	x	x	x
T	Operating Processing/moving machines		x	x		x	x	x	x
T	Operating Stationary machines		x	x		x	x	x	x

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Rater 3 Person Side Crosswalk to Edited List of Combined Unique Work Taxonomy Dimensions

Job Side		Person Side								
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**				
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Cristallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**	
D	Attentive/discriminating work demands	X	X	X					X	
D	Biological Testing/Inspection Activities	X	X	X					X	
D	Computer Language use/programming	X	X							
D	Environmental Planning and Maintenance	X	X	X						
D	Estimating the Quantifiable Characteristics of Products, Events, or Information	X	X							
D	Evaluating Information to Determine Compliance with Standards	X	X							
D	Individual/Job-Related Decision Making		X							
D	Individual/Job-Related planning		X	X						
D	info/decide/resolve: High-level	X	X	X						
D	info/decide/resolve: Lower-level		X	X						
D	info/decide/resolve: mid-level	X	X	X						
D	info/decide/resolve: Prof/tech	X	X	X						
D	Judging the Qualities of Objects, Services, or People	X	X	X	X					
D	Managerial Decision Making: Acquire/start/sell businesses	X	X	X	X					
D	Managerial Decision Making: financial									
D	Managerial Decision Making: prods/services, higher impact	X	X	X						
D	Managerial Decision Making: products/services, lower-impact		X	X						
D	Managerial Decision Making: strategic planning, entire org	X	X	X						
D	Routine Clerical & Administrative Activities		X							

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Job Side		Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Cristallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
D	Scheduling Work and Activities		X						
D	Stockkeeping/Bookkeeping		X						
D	Take info, orders, interview		X		X				
D	Tech/scientific/computers-machines		X						X
D	Technical Planning and Drawing		X						X
D	Updating and Using Relevant Knowledge		X						
D	Utilization and Processing of Numerical Data		X						
O	Educational Requirements		X						
O	Hourly Pay vs. Salary								
O	job-related/required APPAREL		X						
O	Language use/foreign		X						
O	Relevant Experience		X						
O	Safety/damage to others	X	X	X					
O	Special Training		X						
O	Variable vs. regular work schedule								
O-Cognitive	cognitive attention, focus	X	X	X					
O-Cognitive	Environmental awareness	X	X	X					
O-Cognitive	General cognitive info processing	X							
O-Cognitive	Perceptual interpretation	X		X					
O-Cognitive	Spatial/Object Perception & Tracking	X		X					X
O-Cognitive	Thinking Creatively	X							
O-Context	Autonomy of Action	X	X						
O-Context	Complexity & Stress	X		X			X		

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Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Job Side		Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Cristallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
O-Context	Enforcement/demanding conditions			X			X		X
O-Context	Hazardous/unpleasant work environment					X	X		X
O-Context	Job Security vs. Performance-Dependent Income								
O-Context	Outdoor Work								X
O-Context	Regulated/Standardized Work						X		
O-Interpersonal	Interpersonal Activities			X	X				X
O-Physical	Activities Related to Knee-Bending					X	X		
O-Physical	Activities Related to Lifting					X	X	X	
O-Physical	Activities Related to Pushing/Pulling					X	X	X	
O-Physical	Activities Related to Reaching					X	X	X	
O-Physical	Activities Requiring Coordination, Balance, and Quickness					X	X	X	X
O-Sensory	Audio attention			X					X
O-Sensory	Visual input from devices/materials			X					X
O-Sensory	Visual input from distal sources			X					X
P	Advanced Consulting	X	X	X	X				X
P	Communication: mid-level exchange info		X		X				
P	Communication: press/media		X		X				
P	Communication: public/customers/clients		X		X				
P	Communication: Regulators, Government		X		X				
P	Communication: students/children/civic		X		X				X
p	Communication: Verbal		X		X				
p	Communication: Written		X						

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Job Side		Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Cristallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
P	delegating	X			X				
P	Developing and Building Teams	X		X					
P	Entertain								
P	Improving/Monitoring the Physical Performance, Capability and Adjustment of Others	X	X	X	X				
P	Instructing	X	X	X	X				
P	Managerial Decision Making: POM/HR higher-level	X	X	X	X				
P	Managerial Decision Making: POM/HR, lower-level		X	X	X				
P	MDM: Implementing	X	X	X	X				
P	Negotiation	X	X	X	X				
P	Persuade/sell	X	X	X	X				
P	Project Management	X	X	X	X				
P	Resolving conflicts	X	X	X	X				
P	Supervision: lower-level		X	X	X				
P	supervision: middle-level		X	X	X				
P	supervision: sales/service		X	X	X				
P	Treatment/therapy		X	X	X	X	X	X	X
T	Activities Related to Assembly/Fabrication						X	X	X
T	Activities Related to Botany/Plants		X						
T	Activities Related to Building/Repairing Structures		X			X	X	X	X
T	Activities Related to Electrical/Electronic Repair, Maintenance		X				X	X	X
T	Activities Related to Food Preparation/Processing		X				X		X
T	Activities Related to Handling/manipulating & Use of finger-controlled devices		X				X	X	

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Job Side		Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Cristallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
T	Activities Related to Inspecting Equipment, Structures, or Materials		X	X					X
T	Activities Related to Mechanical Repair, Maintenance		X				X	X	X
T	Activities Related to Performing Arts	X	X	X					X
T	Activities Related to Physical Science and Technology	X	X						
T	Activities Related to Visual Aesthetics	X		X					X
T	Activities Related to Working with Animals		X	X				X	X
T	Operating Heavy/offroad vehicles		X			X	X	X	X
T	Operating Office equipment		X						X
T	Operating Powered tools/equipment		X				X	X	X
T	Operating Processing/moving machines		X			X	X	X	X
T	Operating Stationary machines		X				X	X	X

Composite Person Side Crosswalk to Edited List of Combined Unique Work Taxonomy Dimensions

Job Side		Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Cristallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
D	Attentive/discriminating work demands	2	2	3	0	0	0	0	3
D	Biological Testing/Inspection Activities	2	3	2	0	0	0	1	3
D	Computer Language use/programming	2	3	1	0	0	1	0	1
D	Environmental Planning and Maintenance	3	3	3	0	0	1	0	1
D	Estimating the Quantifiable Characteristics of Products, Events, or Information	2	3	2	0	0	0	0	2

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Job Side		Person Side							
DOT	Initial Work Taxonomy	Cognitive/Interpersonal				Physical			
D/P/T/O	Consolidation of Dimensions Sorted by Data/People/Things/Other	Fluid g	Cristallized g	Perception	Interpersonal	Strength	Stamina	Peripheral Manipulation	Sensory
D	Evaluating Information to Determine Compliance with Standards	2	3	2	0	0	1	0	2
D	Individual/Job-Related Decision Making	2	3	2	0	0	0	0	2
D	Individual/Job-Related planning	1	3	3	0	0	0	0	2
D	info/decide/resolve: High-level	3	3	3	1	0	0	0	1
D	info/decide/resolve: Lower-level	2	3	3	1	0	0	0	1
D	info/decide/resolve: mid-level	3	3	3	1	0	0	0	1
D	info/decide/resolve: Prof/tech	2	3	3	0	0	0	0	1
D	Judging the Qualities of Objects, Services, or People	3	3	3	3	0	1	1	2
D	Managerial Decision Making: Acquire/start/sell businesses	3	3	3	1	0	0	0	1
D	Managerial Decision Making: financial	2	2	2	0	0	0	0	1
D	Managerial Decision Making: prods/services, higher impact	3	3	3	0	0	0	0	1
D	Managerial Decision Making: products/services, lower-impact	2	3	3	0	0	0	0	1
D	Managerial Decision Making: strategic planning, entire org	3	3	3	1	0	0	0	1
D	Routine Clerical & Administrative Activities	0	3	1	2	1	1	1	1
D	Scheduling Work and Activities	1	3	0	1	0	0	0	1
D	Stockkeeping/Bookkeeping	0	3	0	0	0	0	0	2
D	Take info, orders, interview	0	3	1	2	0	1	1	2
D	Tech/scientific/computers-machines	1	3	1	0	0	0	2	2
D	Technical Planning and Drawing	1	3	2	0	0	0	1	3
D	Updating and Using Relevant Knowledge	1	2	2	0	0	1	0	1
D	Utilization and Processing of Numerical Data	0	3	1	0	0	0	0	1

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Job Side		Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Cristallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
O	Educational Requirements	1	3	0	0	0	0	0	0
O	Hourly Pay vs. Salary	0	0	0	0	1	1	0	0
O	job-related/required APPAREL	0	1	0	1	0	0	0	0
O	Language use/foreign	1	3	0	1	0	0	0	0
O	Relevant Experience	0	2	0	0	0	0	0	0
O	Safety/damage to others	2	2	2	2	0	0	0	1
O	Special Training	1	3	0	0	0	0	0	0
O	Variable vs. regular work schedule	0	0	0	0	1	1	0	0
O-Cognitive	cognitive attention, focus	2	2	1	0	0	1	0	2
O-Cognitive	Environmental awareness	1	2	2	0	0	0	0	2
O-Cognitive	General cognitive info processing	3	2	0	0	0	0	0	1
O-Cognitive	Perceptual interpretation	3	0	3	0	0	0	0	1
O-Cognitive	Spatial/Object Perception & Tracking	1	1	2	0	0	0	0	3
O-Cognitive	Thinking Creatively	3	1	1	0	0	0	0	0
O-Context	Autonomy of Action	1	2	1	0	0	0	0	0
O-Context	Complexity & Stress	2	0	1	1	1	3	0	0
O-Context	Enforcement/demanding conditions	0	1	1	1	1	2	0	1
O-Context	Hazardous/unpleasant work environment	0	0	0	0	3	3	0	2
O-Context	Job Security vs. Performance-Dependent Income	0	0	0	0	0	0	0	0
O-Context	Outdoor Work	0	0	0	0	2	1	0	1
O-Context	Regulated/Standardized Work	0	0	0	0	0	1	0	0
O-Interpersonal	Interpersonal Activities	0	0	1	3	0	0	0	1
O-Physical	Activities Related to Knee-Bending	0	0	0	0	3	3	0	0

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Job Side		Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Cristallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
O-Physical	Activities Related to Lifting	0	0	0	0	3	3	2	0
O-Physical	Activities Related to Pushing/Pulling	0	0	0	0	3	3	2	0
O-Physical	Activities Related to Reaching	0	0	0	0	3	3	2	0
O-Physical	Activities Requiring Coordination, Balance, and Quickness	0	0	0	0	3	3	2	2
O-Sensory	Audio attention	0	0	1	0	0	0	0	3
O-Sensory	Visual input from devices/materials	0	0	1	0	0	0	0	3
O-Sensory	Visual input from distal sources	0	0	1	0	0	0	0	3
P	Advanced Consulting	2	2	2	2	0	0	0	1
P	Communication: mid-level exchange info	1	3	1	3	0	0	0	1
P	Communication: press/media	1	3	1	3	0	0	0	1
P	Communication: public/customers/clients	1	3	1	3	0	0	0	1
P	Communication: Regulators, Government	1	3	1	3	0	0	0	1
P	Communication: students/children/civic	2	3	1	3	0	0	0	2
p	Communication: Verbal	1	3	1	3	0	0	0	1
p	Communication: Written	1	3	1	1	0	0	0	1
P	delegating	2	2	0	3	0	0	0	0
P	Developing and Building Teams	2	1	2	2	0	0	0	0
P	Entertain	1	1	1	2	0	0	0	1
P	Improving/Monitoring the Physical Performance, Capability and Adjustment of Others	2	3	3	3	0	0	0	0
P	Instructing	3	3	3	3	0	0	0	1
P	Managerial Decision Making: POM/HR higher-level	3	3	2	2	0	0	0	0
P	Managerial Decision Making: POM/HR, lower-level	2	3	2	2	0	0	0	0

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Job Side		Person Side							
DOT	Initial Work Taxonomy	Cognitive/Interpersonal				Physical			
D/P/T/O	Consolidation of Dimensions Sorted by Data/People/Things/Other	Fluid g	Cristallized g	Perception	Interpersonal	Strength	Stamina	Peripheral Manipulation	Sensory
P	MDM: Implementing	2	3	2	3	0	0	0	0
P	Negotiation	3	3	2	3	0	0	0	0
P	Persuade/sell	3	3	3	3	0	0	0	0
P	Project Management	2	3	2	3	0	0	0	0
P	Resolving conflicts	3	2	2	3	0	0	0	0
P	Supervision: lower-level	1	2	2	3	0	0	0	0
P	supervision: middle-level	1	2	2	3	0	0	0	0
P	supervision: sales/service	1	2	2	3	0	0	0	0
P	Treatment/therapy	2	3	3	3	1	1	1	1
T	Activities Related to Assembly/Fabrication	0	2	1	0	2	3	3	3
T	Activities Related to Botany/Plants	0	3	1	0	1	1	2	1
T	Activities Related to Building/Repairing Structures	0	3	1	0	3	3	3	3
T	Activities Related to Electrical/Electronic Repair, Maintenance	0	3	1	0	2	3	3	3
T	Activities Related to Food Preparation/Processing	0	3	1	0	1	3	2	3
T	Activities Related to Handling/manipulating & Use of finger-controlled devices	0	3	1	0	1	3	3	2
T	Activities Related to Inspecting Equipment, Structures, or Materials	0	3	2	0	1	1	1	3
T	Activities Related to Mechanical Repair, Maintenance	0	3	1	0	2	3	3	3
T	Activities Related to Performing Arts	2	3	3	0	2	2	2	3
T	Activities Related to Physical Science and Technology	1	3	1	0	1	1	0	1
T	Activities Related to Visual Aesthetics	1	1	3	0	1	1	0	3
T	Activities Related to Working with Animals	1	3	2	0	2	2	3	3
T	Operating Heavy/offroad vehicles	0	3	1	0	3	3	3	3

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

Job Side		Person Side							
DOT	**Initial Work Taxonomy**	**Cognitive/Interpersonal**				**Physical**			
D/P/T/O	**Consolidation of Dimensions Sorted by Data/People/Things/Other**	**Fluid g**	**Cristallized g**	**Perception**	**Interpersonal**	**Strength**	**Stamina**	**Peripheral Manipulation**	**Sensory**
T	Operating Office equipment	0	3	1	0	1	2	2	2
T	Operating Powered tools/equipment	0	3	1	0	2	3	3	3
T	Operating Processing/moving machines	0	3	1	0	3	3	3	3
T	Operating Stationary machines	0	3	1	0	2	3	3	3

Work Taxonomy and Classification Subcommittee

Content Model and Classification Recommendations

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APPENDIX F

Report of the

User Needs and Relations Subcommittee

User Needs and Relations Subcommittee
Content Model and Classification Recommendations

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User Needs and Relations Subcommittee

Subcommittee Chair

Sylvia E. Karman, Project Director

Subcommittee Members

Mary Barros-Bailey, Ph.D.
Lynnae M. Ruttledge, Director, WA VR Services
Nancy G. Shor, J.D.

September 1, 2009

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User Needs and Relations Subcommittee
Content Model and Classification Recommendations

Executive Summary

The User Needs and Relations (UN&R) subcommittee, established by the Occupational Information Development Advisory Panel (OIDAP or Panel), has analyzed the information, communication, and applied research needs of the Panel and the Social Security Administration's (SSA's) Occupational Information System (OIS) project. The following report describes the UN&R subcommittee's analysis and findings, and it outlines recommendations for the Panel to consider in the areas of communication, applied research, and data elements for the content model other than those recommended in the other Panel subcommittee reports.

Introduction

One of the objectives of SSA's OIS project is creating and maintaining a transparent development process that welcomes input from all interested parties. User input and communication is vital for SSA to develop a final product that meets its legal, programmatic, and technical requirements for valid and accurate data that are operationally usable. The Panel established the UN&R subcommittee to help the Panel advise SSA on ways to achieve this objective as follows:

- To obtain information regarding the concerns, advice, and input from the public, public- and private-sector stakeholders and experts, and SSA and non-SSA users of occupational information who are directly and indirectly involved in SSA's disability process.

- To communicate the Panel's mission and activities, as well as that of SSA's OIS project, to all interested parties within SSA and external to the agency.

- To review SSA's plans for conducting applied research to assess SSA user needs and program and operational effects of the OIS and to provide advice and recommendations on the applied research for Panel deliberation.

The following UN&R subcommittee report provides our analysis, methodology and findings, and our recommendations for the Panel's consideration regarding the information that the Panel and SSA need to obtain and communicate, as well as the applied research needed. We considered the information that is required

for the OIS content model and classification system, and information and communication for the OIS project in general.

Methodology and Findings

The UN&R subcommittee approached its task by analyzing: 1) the information that the Panel and SSA needs to obtain from users and others; 2) the communication needs and methods for the Panel and SSA; 3) the needs for applied research for the Panel and SSA; and, 4) data needs for SSA that are not already identified by the other Panel subcommittees. Gathering information differs from applied research in that applied research is activity that SSA initiates that follows a study design and protocol intended to address identified research question(s). Our analysis and recommendations fall into these categories:

- Communication: Analysis and recommendations to help SSA efficiently and effectively facilitate and manage communication relevant to OIS development between and among SSA, the Panel, and external individuals and professional organizations.

- Applied Research: Analysis and recommendations to help SSA conduct qualitative and quantitative studies or investigations to inform each stage of OIS project research and development.

- Content Model: Analysis and recommendations regarding additional data elements that are not identified by the other Panel subcommittees which SSA needs for disability adjudication and program evaluation purposes.

We considered the communication, applied research, and additional data needs that are relevant to the OIS content model and classification system, as well as those that we think would be helpful for the OIS project as a whole. As the project progresses, the needs of the Panel and SSA will change. We will monitor those needs and advise the Panel accordingly.

Analysis for Communication

A.   Information from Users and Others

Users and others can and do provide the Panel and SSA with critical information, advice, and ideas in the form of public comment and solicited and unsolicited

input from private- and public-sector individuals and entities. One of the most important types of information needed for the OIS content model and classification system, as well as the project in general, is user input. Not surprisingly, the users are also one of the most critical sources and audiences for the project. We discuss SSA's user needs analysis (UNA) of SSA adjudicative, review, and program staff in the Analysis of Applied Research section below.

We define users broadly, as follows:

- Members of the general public who may avail themselves of SSA's disability programs, including prospective and current SSA disability claimants and beneficiaries.

- SSA and non-SSA professional users (individuals and professional organizations) of occupational information who are directly involved in SSA's disability process, such as SSA disability adjudicators and reviewers, vocational experts, and claimant representatives.

- Non-SSA professional users (individuals and professional organizations) of occupational information who are involved in disability assessment, rehabilitation, and job placement or those who are indirectly involved in SSA's disability process, including vocational rehabilitation counselors, occupational and physical therapists, and disability case managers.

- Public- and private-sector stakeholders and experts who use occupational information or who can inform the OIS project specific to disability, such as academics, researchers, or professionals in relevant specialty areas (e.g., medical experts, labor market data experts, industrial occupational psychologists, occupational software developers, etc.); State and Federal agencies (e.g., workers' compensation programs, National Institutes of Health, Bureau of Labor Statistics, etc.); and, private-sector disability insurance programs.

Other sources and audiences that are not necessarily users of occupational information have substantial input into the project. These would include SSA management, OIDAP members, as well as monitoring authorities that review SSA's programs and activities, such as the Social Security Advisory Board, the U.S. Office of Management and Budget, the U.S. Government Accountability Office, the U.S. and SSA Office of the Inspector General, the Senate Finance

Committee, and the Congressional Ways and Means Subcommittee on Social Security.

B.   Public Comments

The SSA project staff already encourages public comment through the *Federal Register* notices it publishes before each Panel meeting. The notices announce the date and location of the upcoming meeting and invite the public to provide comments in writing to the Panel's designated federal officer (DFO) or to sign up to present comments in person or telephonically during Panel meetings. The public may submit written comments to the Panel's postal address or to its email address. To date, the public comments received in writing consist largely of inquiries about the Panel meetings or agendas, requests for information distributed at Panel meetings, and general disability program questions unrelated to the OIS project or the activities or mission of the Panel. The Panel's DFO responds to the written comments and requests. A number of individuals and representatives of interested professional organizations have provided public comments during the Panel meetings.

C.   Solicited and Unsolicited Input

In addition to relying on the formal public comment process, SSA and the Panel has solicited input from users and others since the inception of the OIDAP to address specific content model or classification issues by inviting:

- Individual professionals or representatives of professional organizations to present information or perspectives regarding the OIS content model or classification system at a public face-to-face Panel meeting.

- Subject-matter experts to present to Panel members during a closed information gathering session.[1]

- Subject matter experts to attend roundtables held by Panel subcommittees, and asking for their advice or input regarding literature, studies, and specified content model issues.[2]

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[1] Information presented by either Panel members or SSA staff at closed information gathering meetings for Panel members can be found in the Taxonomy subcommittee report. See presentations on taxonomy and classification by Mark Wilson and Robert J. Harvey, respectively.

[2] Subject matter expert input provided at Panel subcommittee roundtables are discussed in relevant subcommittee reports. See reports of the Work Experience Analysis and the Mental-Cognitive Demands subcommittees.

- Interested professional organizations to provide written comments to the Panel's Interim Chair regarding the type of occupational information that SSA should consider including in its OIS.

In addition, the Panel has received a variety of input from other interested external professional organizations. Several entities canvassed their membership for ideas and opinions regarding the type of occupational information SSA should collect and related concerns. The results of all solicited and unsolicited written input and the names of the professional organizations that submitted them are cited in the Summary of External Users' Input section.

D.   Intra- and Interagency Coordination

We note that SSA project staff has established an intra-agency workgroup to bring SSA's expertise to bear on the development of the OIS. Chaired by the OIS project director, the OIS Development Workgroup is comprised of representatives of key SSA offices[3] that are stakeholders in the use and development of occupational information in SSA's disability adjudication process. The OIS Development Workgroup meets regularly, and the members provide advice and agency-wide perspective to the Panel and the project staff. Workgroup members have presented extensive background at public face-to-face Panel meetings in 2009. They have also participated in a number of Panel and OIS project activities, such as Panel subcommittee roundtables, Panel member visits to State Disability Determination Services sites and Office of Disability Adjudication and Review hearing offices, and SSA user needs analyses. The OIS Development Workgroup will continue to meet throughout the life of the project.

Also, SSA's project staff is coordinating its activities with staff from the National Institutes of Health that has an interagency agreement with SSA's Office of Disability Programs to investigate effective ways to obtain more useful functional information from claimants and their medical providers. SSA has also met with representatives of the Department of Labor, Employment and Training Administration.

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[3] Other SSA offices represented on the OIS Development Workgroup include the Office of Operations, Office of Disability Determinations; the Office of Disability Adjudication and Review, Office of the Chief Administrative Law Judge and the Office of Appellate Operations; the Office of Quality Performance; and the Office of Retirement and Disability Policy, Office of Disability Programs and the Office of Medical and Vocational Expertise.

The UN&R subcommittee recognizes that there are other Federal and State agencies that use occupational information. We will seek their counsel during this project. Examples of such agencies include, but are not limited to, the Department of Labor, Bureau of Labor Statistics, Employment and Training Administration, Office of Workers' Compensation Programs, the US Census Bureau, the US Citizenship and Immigration Services, and state vocational rehabilitation and workers' compensation programs. Subcommittee members may meet with key agency officials as needed to discuss the OIS project and how the other agency could advise SSA or inform the project. The subcommittee will explore areas in which SSA and other agencies may collaborate on research. Federal and State agency representatives may also be invited to address the Panel at future meetings as needed.

E.   Summary of External Users' Input

The Panel was privileged to receive a variety of comments and suggestions from the following interested external professional organizations:

- American Board of Vocational Experts
- American Occupational Therapy Association
- American Physical Therapy Association
- International Association of Rehabilitation Professionals
- National Association of Disability Examiners
- National Association of Disability Representatives
- National Council of Disability Determination Directors
- National Organization of Social Security Claimants' Representatives

External input has been valuable to the Panel in developing its recommendations for the OIS content model and classification, and the comments will serve the Panel and SSA as the work to develop the OIS begins. The comments also provide the Panel with additional insight regarding the perspectives of a variety of users in the disability evaluation and forensic community. Below, we have summarized the comments by topic and provided our responses. Copies of the written communication that the Panel received from these organizations are included in Sub-Appendix A.

Finally, the external input also indicates the need for the Panel and SSA to clearly express the mission of the Panel and the goals of SSA's OIS project, including how SSA's adjudicative needs may differ from other forensic needs and how the OIS research and development phase of the OIS project is focused on data development only rather than the application of those data.

Specifically, we have identified eight themes that arise from external users:

1.   Update the DOT

   •   Update jobs

   •   Maintain the definitions and measures from the Revised
          Handbook for Analyzing Jobs

The fact that the last substantial revision of the DOT occurred in 1977 is not the extent of the limitations of the DOT. For example, the DOT does not contain information regarding the mental-cognitive requirements of work, nor is it a straightforward matter to build these new work demands (and other types of occupational information the users have identified) into the DOT's structure. While the DOT was a remarkable achievement for its time, advances in technology, psychometrics, job analysis, and taxonomic theory, as well as changes in the US labor market render the DOT's foundation problematic as a platform for an occupational information system suited to SSA's disability program needs. Merely updating the worker traits and occupations in the DOT will not serve SSA and its disability claimants for the long term. The National Research Council, for example, found as long ago as 1980 that the definitions and measures of the DOT's worker traits and work demands, including variables related to skills, pose psychometric concerns:

> Concern about the validity of the DOT's ratings of worker functions and worker traits arise from a number of reasons…the factors represented by this set of variables is vague and ambiguously defined. It is not readily apparent what the variables are intended to measure…Scales that more or less adequately reflected the state of the art of vocational trait measurement at mid-century are now outdated.[4]

SSA has charged the Panel with providing advice "on creating an occupational system tailored specifically for SSA's disability programs."[5] As such, the Panel may also recommend aspects of the DOT (and O*NET) that would be valuable for SSA to carry forward in its development of an OIS. For example, the DOT's classification system and the O*NET-SOC (Standard Occupational Classification) are obvious frameworks from which SSA can begin to develop a classification system for the OIS.

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[4] Miller, A.R., Treiman, D.J., Cain, P.S., Roos, P.A. (Eds.) (1980). Work, jobs, and occupations: A critical review of the Dictionary of Occupational Titles, pp. 164-168.
[5] Occupational Information Development Advisory Panel Charter, December 9, 2008.

2. Data vs. Their Application

- Suggestions regarding software and presentation, usability of the data

- Concerns raised regarding prospects of automated decision-making

- Suggestions regarding SSA adjudicative policy at Steps 4 & 5

We note a distinction in the OIS project between the occupational data SSA needs to develop and obtain versus the application or use of that data in the disability adjudication process and its implications for policy. Presently, SSA is working on the research and development (R&D) phase of the OIS project to identify and collect data needed for the OIS. The Panel is charged with advising SSA throughout the R&D phase of the project, and therefore, deliberation and recommendations for policy changes are considered outside of the Panel's charter. However, as the OIS project progresses (instrument development and testing, basic and applied research, and occupational data collection), the Panel will have an opportunity to review SSA's work, including the results of its basic and applied studies and data analyses. Having reviewed empirical results, the Panel will be positioned to consider ideas for further applied and basic research that could inform OIS development and various policy and process issues. The plans that SSA presented at the inaugural Panel meeting indicate that SSA intends to conduct studies using the new occupational data gathered for the OIS to inform any subsequent policy development that the agency believes are necessary. Social Security medical-vocational policy and Grid rules are based on a) the Social Security Act as interpreted in the Code of Federal Regulations; and, b) the technology, research, and information available at the time that the rules were published in 1978 regarding the vocational factors and their interplay with physical and mental function resulting from severe medically determinable impairments. The R&D related to the OIS project would provide SSA with the opportunity to update the medical-vocational evaluation policy and process as needed using the new technology and research that have emerged since the rules were published, including the results of the OIS R&D. SSA proposes future stages of the OIS project intended to integrate the OIS data into its disability systems and investigate usability issues.

It is important to note that the SSA project staff is capturing all policy-related suggestions and concerns submitted by external and SSA users for future studies and policy development consideration by the Office of Retirement and Disability Policy, as well as the OIS Development Workgroup. We also understand that SSA has plans to conduct studies regarding effects of

introducing new OIS data to SSA's disability adjudication process in stages as the data are collected and validated.

      3.   Classification: U.S. Labor Market Connection

- Need for crosswalks to other Federal occupational classifications

- Need for information to establish significant numbers of jobs in the economy

- Concerns regarding the number and type of occupations throughout the U.S. that the OIS will reflect

The OIS must have cross-walks to other Federal occupational classifications, such as the North American Industry Classification System. Also, to facilitate SSA's ability to derive some estimate of "significant numbers of jobs" (i.e., the existence and the incidence of work throughout the economy), the SSA will need to establish a linkage to the SOC. In addition, we think that it is possible for SSA project staff to work with the Bureau of Labor Statistics to investigate how its occupational and employment surveys may assist SSA. Other Federal agencies conduct national surveys for a variety of purposes that capture employment and occupational data. These sources may also prove to be viable avenues for identifying occupations and estimates of how many exist. However, SSA will need to consider the issues of data comparability and their linkage to the OIS or the SOC.

We understand the concern that users have raised regarding the number and type of occupations to be included in the OIS. SSA project staff is now initiating a study of previously adjudicated claims for adult disability benefits to identify, among other information, the types of occupations (DOT titles) that are reflected most frequently in claimants' work histories. Those occupations would be the most logical to target first in job analyses planned to test OIS instruments. However, we agree that the OIS should reflect the full range of work in the economy because SSA needs the information at Step 4 of its sequential evaluation process. Also, information regarding the full range of work existing in the economy may be useful for SSA's return-to-work initiatives.

4.   Content Model: Worker Traits and Work Demands

- Recommendations of elements better suited to vocational rehabilitation and job placement than SSA disability adjudication (e.g., motivation, interests, leadership, appearance, etc.)

- Recommended worker traits and work demands

- Suggestion to use current National Institute for Occupational Safety and Health (NIOSH) standards for relevant measures (e.g., boundaries for weights lifted associated with light, medium, and heavy strength categories)

- Call for deconstructed worker traits to enable more focused assessment of individual attributes (e.g., separate position (sitting, standing) from lifting, carrying, walking as now combined in DOT sedentary and light "strength" definitions)

- Concerns regarding ability to establish objective measures of "non-exertional" physical and mental-cognitive elements (worker traits and work demands)

While SSA disability adjudication and vocational rehabilitation share many similar needs regarding occupational information, some fundamental differences exist in how the information is used and why. SSA requires occupational information to enable an assessment of an individual's residual functional capacity resulting from a severe medically determinable impairment to determine his or her ability to do past work or other work for the period involved in the claim, without medical, therapeutic, or educational intervention. Vocational rehabilitation entails assessing an individual's current physical or mental-cognitive function, as well as developing an intervention plan (rehabilitation therapy (occupational, physical, or speech and language pathology therapy), placement assistance, skills development and training for job placement, individual accommodations, etc.). Therefore, while professionals in the vocational rehabilitation fields can use the same worker traits and work demand elements in their assessments that SSA disability adjudicators need, vocational rehabilitation professionals can make use of a variety of traits and demands that SSA cannot consider. We have shared the Content Model suggestions submitted by external professional organizations with SSA project staff and with the other Panel subcommittees for their consideration (see copies of communication in Sub-Appendix A).

One of the goals of the OIS content model is to reduce the inference between the worker-side and the work-side to provide for more objective medical-vocational

assessments of the ability to do work. By inference, we mean the degree to which the measures for one side (person or work) can be related to the other. We understand that the SSA project staff plans to test the constructs and measures selected for the OIS content model through its instrument development and testing process. In testing the prototype person-side and work-side instruments, SSA will learn how well the worker traits and work demands can be defined and measured, including how well the work-side measures may be linked or associated with the person-side measures. SSA will need to study other methods, such as job component validation, to determine how to obtain reliable occupational information about work demands and worker traits that cannot be directly or easily observed.

5. Data Suggestions for Work History and Transferability Assessments

- Suggestions for revisions regarding the DOT's Specific Vocational Preparation (SVP)

- Call to include additional educational levels and vocational training to the OIS to assess vocational preparation

- Call for occupational prerequisite information, such as the type and length of experience needed for occupations; and

- Range of opinions regarding whether to retain a category for "unskilled" work or to represent that work as "skilled" (e.g., low skilled)

The OIS project offers SSA an opportunity to conduct research and test methods to obtain the type of data that would enable adjudicators to conduct work history and transferability assessments (e.g., identifying ways to determine the complexity level of an occupation, the average time-to-proficiency for minimal level of satisfactory performance, work activities, etc.). This type of information has historically been addressed in existing literature through a proxy for skills, Specific Vocational Preparation.

6. Program Effects

- Concerns raised regarding the effects of using new occupational information on the claim outcomes

- Call for the Panel to issue a "beneficiary impact statement"

We agree that the effects of the use of the new OIS must be studied before it is introduced into SSA's disability process. We understand that SSA has plans to conduct studies of the definitions and measures developed for the content model, including the effects of using revised physical and mental worker traits to assess residual functional capacity resulting from a severe medically determinable impairment. Also, once SSA has collected new occupational information, it will be able to conduct studies on the effects of introducing new OIS data into the disability adjudication process.

       7.   Accommodations versus Work Options

- Suggestions to obtain information regarding a sit-stand option for occupations

- Confusion regarding occupational information regarding options for altering work activities

We differentiate between accommodations and work options. Accommodations involve retooling of work space or interventions that an employer may provide for an individual worker for any reason, but most typically the accommodation is made to enable an individual with a physical or mental-cognitive impairment to perform a work activity(ies). We agree that the OIS should not include accommodation information as SSA cannot use this data for disability adjudication. However, we think that it would be helpful for SSA if the OIS included data regarding options for performing work activities that are typically found among a number of occupations as they are generally performed throughout the nation. The sit-stand option is a prime example, as is the use of tools such as a nail gun instead of hammer, etc. However, we note that the study of some work options among occupations (particularly as the "options" relate to machinery or processes) may reveal that the work requirements have changed as technology has changed. For example, the use of computerized devices to replace heavy machinery on automobile production lines, for example, may reduce the overall strength requirement for the occupation while it increases the training time needed.

       8.   Data Collection

A number of external users offered suggestions regarding the use of various professionals to work with SSA to conduct occupational analyses for the OIS. We wholly support developing and testing the option of integrating professionals in vocational rehabilitation and related areas into the OIS data collection process. We have flagged this idea for further consideration with the Panel and SSA when the R&D phase of the project begins developing data collection methods to be piloted and assessed.

F.   Summary of External Users' Input

In 2009, SSA project staff developed and conducted qualitative user needs analyses (UNAs) to gather ideas and concerns regarding data for the OIS Content Model from SSA and DDS adjudicators, medical staff, quality reviewers, and program staff. With the assistance of the OIS Workgroup, SSA project staff was privileged to conduct UNAs with SSA occupational information users from the following offices:

- DDS, Clarksburg, West Virginia
- DDS, Greensburg, Pennsylvania
- DDS, Maryland
- Office of Disability Adjudication and Review, Office of Appellate Operations
- Office of Operations, Atlanta Regional Office, Center for Disability Operations
- Office of Operations, Chicago Regional Office, Center for Disability
- Office of Quality Performance, OQP Atlanta, Disability Quality
- Office of Quality Performance, OQP Baltimore, Disability Quality
- Office of Quality Performance, OQP Chicago, Disability Quality
- Office of Retirement and Disability Policy, Office of Medical and Vocational Experts

The results of the SSA UNA for the OIS Content Model can be found in Sub-Appendix C.[6] The results in Sub-Appendix C represent all of the comments received at these sites, regardless of the number of times a particular comment was made. Below, we have summarized the comments by topic, focusing on the themes that were consistently described. Some of the comments provided were outside of the scope of the current inquiry, Content Model. SSA project staff will forward any comments that reference existing SSA policy or processes through the OIS Workgroup to the responsible components for their consideration. SSA project staff will retain, for future consideration, those comments that reference future work on the OIS.

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[6] From report: SSA Working Paper (2009). *SSA User Needs Analysis for the Occupational Information System Content Model.* Baltimore, MD: Social Security Administration, Office of Program Development and Research.

Earlier, we identified eight themes that arose from external users. Six of these eight themes were consistently found among SSA occupational information users as well.

1. Update the DOT

   - Update jobs

   - Provide more detail for the worker traits and work demands already described in the DOT; develop new worker traits and work demands; and develop new measures for worker traits and work demands

While SSA users of occupational information consistently asked that occupational information be updated, they did not call for the agency to update the DOT, per se. In fact, the data requirements that they consistently described could not be accommodated by simply "updating the DOT," since these data requirements involve deconstructing existing DOT worker traits and work demands, using new measures for these worker traits and work demands, and adding new worker traits and work demands.

2. Data vs. Their Application

   - Suggestions regarding software and presentation, usability of the data

   - Suggestions for enhanced, computer-supported claim intake processes

   - Suggestions for enhanced, computer-supported decision-making

   - Concerns regarding SSA adjudicative policy at Steps 4 & 5

SSA users of occupational information are excited by the prospect of the development of a new OIS and related computer software, as it will provide an opportunity for streamlined and simplified claims intake processes. They identified multiple examples of benefits to both claimants for disability benefits and the agency. They also provided multiple examples of ways in which the new OIS can provide adjudicators with better support when deciding cases at Steps 4 and 5, which will improve the efficiency and consistency of the decision-making process.

As previously mentioned, the concerns that SSA users raised regarding SSA policy and procedures will be forwarded to the responsible components.

3. Classification: U.S. Labor Market Connection

- Need for information to establish significant numbers of jobs in the economy

- Need for crosswalks to other Federal occupational classifications

SSA users of occupational information consistently cited a need for information about the incidence of jobs in the national economy and other occupational classification systems. For example, they indicated a need for information about military occupations.

4. Content Model: Worker Traits and Work Demands

- Suggestions for developing worker trait and work demand information that is more appropriate for individuals with impairments

- Call for deconstructed worker traits to enable more focused assessment of individual attributes (e.g., separate position (sitting, standing) from lifting, carrying, walking as now combined in DOT sedentary and light "strength" definitions)

- Recommended worker traits and work demands

- Suggestions for measurement of worker traits and work demands

SSA users of occupational information consistently reported a need for more detailed information about worker traits and work demands. They commented on the lack of information regarding the mental demands of work and limited information about work activities. They advised that the aggregation of occupations into categories of sedentary, light, medium, heavy, and very heavy work obscures the actual requirements of work, and asked that these categories be deconstructed into separate data about occupational requirements for sitting, standing, walking, lifting, carrying, pushing, and pulling. They reported a need for more detailed and consistent measurements of worker traits and work demands and provide specific suggestions for types of measurements.

SSA users consistently reported a need for occupational information that is more appropriate for individuals with impairments. For example, it would be helpful to know if an impairment to one hand or one eye would prevent an individual from performing an occupation. It would be helpful to know if an individual could move around on the job, at will (e.g., sit-stand option), to relieve pain in his back. While information about an occupational requirement for "occasional" handling is helpful, it is often more important to know whether an occupation requires a worker to repetitively handle.

Specific suggestions for worker trait and work demand information are presented in Sub-Appendix C.

5. Data Suggestions for Work History and Transferability Assessments

- Suggestions to improve the manner in which SSA obtains work history information from the claimant

- Suggestions for development of a common language or terminology to describe skills (work activities) across occupations so that comparisons can readily be made between occupations

- Suggestions for development of information about an occupation's core skills (work activities)

- Suggestions for development of information about the amount of time (e.g., percentage of the day) spent on each of the occupation's skills (work activities)

- Suggestions to deconstruct the concept of skill level (i.e., unskilled, semi-skilled, and skilled); instead, provide information about the occupation's educational requirements, training needed, the degree of complexity involved, the number of steps involved, etc.

- Suggestions for development of detailed work context information

SSA users of occupational information consistently reported, first, that the agency's existing process for obtaining work history information from the claimant is unnecessarily complex and difficult. They believe the development of the OIS provides the agency with an opportunity to simplify this process and provide greater support to the claimant as he or she is filing a claim for disability benefits. Second, SSA users consistently reported a need for more detailed information

about skills (work activities), job complexity, and occupational requirements for education and training. SSA users advised that SVP does not provide adequate information for either evaluation of skills and their transferability or assessment of the ability to work for individuals with mental impairments. Third, SSA users reported a need for more specific and comprehensive information about work context, for example, work setting, work processes, technology, and tools, equipment, and machines used.

6. Work Options

- Suggestions to obtain information regarding work options for taking a break when needed

- Suggestions to obtain information regarding a worker's ability to change position when needed (e.g., a "sit-stand" option" for occupations)

- Suggestions to obtain information regarding workplace options such as flexible schedules and flexible work locations (e.g., telecommuting or working from home)

SSA users of occupational information consistently reported a need for information about work options that are available to workers in a given occupation. Information about existing work options is important to disability evaluation since these options potentially provide an opportunity for workers with impairments to continue working despite their impairments, without requiring a worker to request reasonable accommodation for an impairment or disability.

G.   Communication Needs and Methods

One of the goals of the UN&R subcommittee is to engage as many occupational information stakeholders, experts, users, and others in the education of the Panel members and SSA project staff. We are also interested in generating a public dialogue regarding the creation of a new OIS. Alternatively, we recognize how critical it is for the Panel to communicate clearly its mission and activities. The UN&R subcommittee will pursue many methods to encourage a two-way communication between the Panel and SSA/non-SSA audiences, including solicitations through the *Federal Register* as noted above, notices in professional journals regarding Panel website and email addresses, use of internet resources such as the Panel website, professional conference attendance, and outreach through professional organizations.

SSA has initiated several activities to communicate its mission and activities and those of the Panel to SSA and non-SSA audiences. In 2008, SSA established

intranet and internet websites for the OIDAP (www.ssa.gov/oidap), as well as an OIDAP email address (OIDAP@ssa.gov). SSA project staff routinely broadcasts Panel meeting information through an OIDAP email distribution list. SSA project staff also posts to the external OIDAP website relevant analysis and methods papers that have been shared with the Panel. Other messages posted to the OIDAP website include information regarding Panel activities (e.g., subject-matter expert Roundtable meetings) and updates from the Panel's Interim Chair.

Panel members and SSA project staff also give presentations at conferences of professional organizations to explain the Panel and OIS project missions and activities. Many professional organizations hold webinar series that may serve as a platform for outreach and education regarding OIDAP activities. We have included a list of organizations and upcoming conferences in Sub-Appendix B.

We have also investigated a number of electronic methods to encourage the free exchange of ideas between and among users, the Panel, and SSA staff.

Outreach to the general public is the most difficult to engineer and organize. The Panel intends to maintain an open door policy and values public input. The Panel's website includes a link that invites interested persons to send comments to the Panel. However, while the website and email address have been active since January 2009, they have not elicited the amount of relevant input or communication that the OIS project staff anticipated. It is possible that users may view an email address of an entity rather than a specific individual in SSA as impersonal, and this could discourage people from using such a medium. Also, managing the flow of communication via email may pose challenges in terms of reaching all target audiences and the staffing needed to respond to inquiries. Therefore, we have investigated several internet resources such as message boards, "wikis,"[7] and social networking sites to learn if any of these would be an appropriate tool for public outreach and exchange of information. The subcommittee is mindful that the use of internet resources may require SSA to dedicate staff to moderate the postings.

Social media include a variety of communication platforms for online communities, social networking sites, wikis, and blogs. These media can be either open to modification or comment by anyone accessing the media (i.e, open-authoring) or restricted with only the moderator posting changes to the media (closed-authoring).

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[7] According to Wikipedia, a wiki is a website that uses wiki software and allows creation and editing of a number of interlinked Web pages. Wikis are often used to create collaborative websites as it allows "open editing" of content.

User Needs and Relations Subcommittee
Content Model and Classification Recommendations

The UN&R subcommittee reviewed a variety of social media platforms, including their advantages and disadvantages, to arrive at recommendations regarding their use with the public. Although some social media may not present viable formats for interaction with the general public, they may present potential platforms for interaction with other populations, including users or the scientific or academic communities. Also, for this analysis, we did not consider more traditional forms of online communication (e.g., listservs) that may present venues for online communities of users or professionals to interact regarding the development of the OIS.

Review of Social Media Options

We reviewed the following platforms:

- Social network sites (e.g., Classmates, Facebook, Flickr, LinkedIn, MySpace, Plaxo, Twitter, etc.)

  - Advantages

    - Cost to users

    - Credibility through connections

    - Connections through professional and personal nodes

  - Disadvantages

    - Blocks by some federal government agencies

    - Lack of anonymity of users

    - Scams and harassment

    - Time consuming

    - Mixes professional with personal

    - Control of content

    - No open/closed authoring

- Wikis

  - Advantages

    - Idea sharing

    - Collaborative work on projects

    - Information dissemination

    - Anyone can edit

    - Easy to use and learn

    - Instantaneous so there is no need to wait for a publisher to create a new edition or update information

    - People located in different parts of the world can work on the same document

    - The wiki software keeps track of every edit made and it's a simple process to revert back to a previous version of an articles

    - Widens access to the power of web publishing to non-technical users

    - No predetermined structure - a flexible tool

    - Wide range of open source software wiki's

    - Discussion platform

    - Open/closed authoring

  - Disadvantages

    - Vandalism

    - Incorrect information

    - No independent fact checking/quality control

    - May be too open for some applications

- ▪ Open to SPAM and vandalism if not managed properly

- ▪ Information can become disorganized

- Blogs

  - o Advantages

    - ▪ Developed with simple procedures

    - ▪ Accessed and read by almost everyone with Internet access

    - ▪ Contemporary

    - ▪ Convenient

    - ▪ Open/closed authoring

  - o Disadvantages

    - ▪ Time to update and post entries

    - ▪ Blogging on day to day issues is different from writing on the subject

    - ▪ Public forum

    - ▪ Not suited for issues requiring immediate solution

Due to the nature of the inquiry, such multimedia formats, such as iTunes, Vimeo, and YouTube, found to be used by other government sources (e.g., White House) were not researched. At this juncture in the OIDAP's process, these media are found to be of limited value.

Online Behavior

Interactive social media, whether synchronous or asynchronous, may elicit different online behavior than in other forms of communication. Unlike other forms of communication, anything done online has the potential to be intercepted, captured, stored, transmitted, copied, and easily altered.
Other Government Sites Reviewed/Contacted

- www.whitehouse.gov

  - o Makes use of blogs and social networks

- o Blog with closed authoring and no comments is the main source of communication

- NASA (http://colab.arc.nasa.gov/ http://colab.arc.nasa.gov/) Public Affairs

  - o Public interaction

  - o Research/Scientific v. client service/regulatory where constituency response expectations are different

  - o History

    - Started involvement in online interactive media with the public two years ago

    - No federal policy for agency use of social media

  - o Audiences

    - Public – strong outreach through social media

    - Scientific/research community – closed to the public, more use of traditional media (e.g., email interaction, closed listservs)

  - o Forms

    - Social networks (e.g., Facebook, Twitter)

      - — Questionable growth in audience
      - — Twitter from spacecraft about a year ago

    - Wikis

      - — Internally driven
      - — High staff time for monitoring of content

    - Blogging – main form of public interaction/input

      - — Closed authoring
      - — No organizational structure – bloggers based on staff interest
      - — Accepts comment (several hundred per week) and range widely from "Cool!" to substantive

- o Technical

- o Use of any style – NASA uses *Associated Press* for public relations print media but has no particular adopted style for social or online media.

- o Staffing considerations

Only 1% to 2% of comments through open authored media involve inappropriate material that needs to be edited by moderator. Six employees involved in blogging and other outreach media. During peak times (e.g., launches), maximum time between all staff is 0.5 Full Time Equivalent. Daily time commitment per staff member involves a few minutes.

Applied Research

The development of the OIS should be informed by qualitative and quantitative studies at each stage of R&D that are designed to obtain user input and to test the effects of the OIS Content Model, Classification, instruments, and development methods on SSA's disability programs and process. We describe below the studies that SSA project staff have underway or completed in 2009 to support SSA's occupational information needs, particularly those related to the development of the OIS.

SSA User Needs Analysis: As described in the previous section, *Summary of Internal Users' Input*, SSA project staff developed and conducted a qualitative user needs analysis (UNA) to gather ideas and concerns regarding data for Content Model from SSA adjudicators, medical staff, quality reviewers, and program staff. The results of the SSA UNA for the OIS Content Model can be found at Sub-Appendix C.

Occupational and Medical-Vocational Information Claims Study: SSA project staff is now developing a study of adult disability claims, at the initial and appellate levels, to capture occupational and medical-vocational information. We understand that the Occupational and Medical-Vocational Information Claims study will be conducted by SSA reviewers and is intended to address these questions:

- Which occupations are most frequently found in the work histories of disability claimants whose claims are decided at Steps 4 or 5 of the SSA sequential evaluation process?
- What physical and mental limitations are associated with claim outcomes, both allowances and denials?

- What occupations does the agency cite (either claimant's past work or other work cited SSA cites as examples) when it finds that the claimant has the residual functional capacity to work?

The Occupational and Medical-Vocational Information Claims study is intended to inform the development of the Content Model and Classification system, as well as to target first those occupations that are most relevant to SSA when job analysis instrument testing and data collection begin. The study design and instrumentation are expected to be completed by the end of August 2009, when the study pre-test with reviewers is scheduled to begin. SSA expects to finish the study by the beginning of January 2010.

Review of the Use of Occupational Classifications Internationally: SSA project staff has initiated an investigation of the use of occupational information by classification system internationally. A report on the results in expected in the Fall 2009.

Short-Term Project: In September 2008, SSA began a contracted evaluation of a private-sector update to the DOT to determine if an updated DOT-based data set exist that meet SSA's criteria that may be integrated into its disability process seamlessly while the OIS is developed. On June 30, 2009, SSA received the final evaluation report from contractor, ICF International, regarding the existing, updated DOT-based data and methods of another contractor, Career Planning Software Systems, Incorporated. At the time of this writing, the final evaluation report remains under legal review in SSA.

Other Data Elements Considered for OIS Content Model

In addition to data regarding the physical and mental-cognitive demands of work and worker traits, as well as data needed for work history and transferable skills assessment, SSA needs other types of occupational information for disability adjudication. Users noted data elements such as literacy and requirements to communicate in English. We list our recommendations below.

We recognize that it might also be beneficial for SSA to collect occupational information solely for program evaluation and research purposes. Such data elements include the incumbent's (worker's) birth year and education level. In fact, these data elements might serve not only SSA in its long-term oversight and evaluation of its disability programs, but the data elements may also serve external users in the research and academic arenas. We list our recommendations below.

Recommendations for Communication

A.   Public Comment Process

We submit the following recommendations for the Panel's consideration:

1.   SSA should explore more extensive use of *Federal Register* notices to solicit public comments. We offer two possible options for consideration:

- SSA should investigate the protocol and feasibility of publishing the Panel's recommendations in the *Federal Register*, inviting the public to comment for a designated period.

- SSA should publish *Federal Register* notices independently of Panel meeting announcements. The notices could request public comment regarding specific topics of timely interest to the Panel or SSA that may inform Panel deliberations and meeting agendas, as well as SSA's OIS project work.

2.   SSA should notify the public periodically (as determined by the Panel) of the nature of the public comments received between and during Panel meetings. SSA should summarize the comments and make the summaries available to the public. They may be posted to the OIDAP website, disseminated at face-to-face public Panel meetings, and broadcast to subscribers of OIDAP email. Comments received in response to a *Federal Register* notice may be summarized and published through the *Federal Register*.

B.   Communication Methods and Venues

We submit the following recommendations for the Panel's consideration regarding ways to solicit input, to inform users and others about the Panel and SSA missions and activities, and to provide a platform for unsolicited input and an open exchange of ideas:

1.   Publish notices in relevant professional publications advertising the OIDAP website and email addresses.

2.   Explore social media, yet tread lightly and thoughtfully. Of all social media currently available, a closed authored blog may be the best contemporary method to reach a variety of audiences with

information about the Panel's activities and help engage public consideration on a variety of issues pertinent to the Panel's work.

3.   Maintain basic static/receptive media

- OIDAP e-mail

- Website that serves as the Panel's virtual billboard but is not interactive

4.   Push media

- E-mail distribution list

- Public service announcements through SSA that has its own distribution list

5.   Develop consistent structure for any online social media use

- Develop a "branding" style

- Develop a style sheet for all print media to help brand the project and the Panel.

- Develop presentation materials and PowerPoint slides regarding the project and Panel activities that can be modified to suit audience needs.

- Develop criteria for moderators of social media sources regarding content, clearance, style, and online behavior.

- Help set expectations and boundaries with disclosure statements notifying participants regarding authoring, anonymity, expected response, behavior, etc.

6.   Monitor developments in new and emerging public media through ongoing SSA and Federal government efforts, including:

- SSA's Future Systems Technology Advisory Panel (http://www.socialsecurity.gov/fstap/)

- The Federal Knowledge Management Initiative

7.   Develop FAQ sheets for the public to address Frequently Asked Questions regarding OIS project and Panel activities.

Recommendations for Applied Research

A.   User Needs Analyses

We submit the following recommendations regarding user needs analyses for the Panel's consideration:

SSA should develop a formal plan to conduct UNA's throughout the R&D phase of the OIS project.

- The UNA plans and study designs should address various stages of OIS development (e.g., Content Model and instrument development) to capture user reactions and concerns, including operational and programmatic information.

- The UNA's should target as many SSA users as possible, as well as external users of occupational information who are directly involved in SSA's disability process (e.g., claimant representatives, vocational experts). We understand that the OMB Paperwork Reduction Act guidelines would apply for any studies or surveys that SSA conducts with external users.

B.   Applied Studies of Program and Process Effects

We submit the following recommendations regarding studies of program and process effects for the Panel's consideration

SSA should study the effects of using OIS Content Model data elements

- SSA should conduct a study of the effects of the OIS Content Model data elements in SSA's disability process by comparing the use of prototype person-side instruments which include newly identified OIS Content Model person-side constructs and measures with the use of the current physical and mental residual functional (RFC) assessments using a sample of disability claims that have already been adjudicated. The results would inform SSA's RFC development, the claims intake process, other assessment

models (e.g., computer assisted technology), as well as the Content Model and the prototype work-side job analysis instruments. The study should involve SSA adjudicators and medical staff applying the new Content Model's physical and mental data elements.

- When the results of the field tests of the work-side instruments are available, SSA should conduct studies of the application of these data in SSA's disability process to assess the validity and effects of the data on both its disability process and programs. These studies would include effects of using physical and mental work demands data, as well as work activity and other occupational data critical to work history and transferable skills assessment.

Recommendations for Other Content Model Data Elements

A.   Other Content Model Data Elements—For Adjudicative Use

We submit the following recommendations for the Panel's consideration regarding additional OIS Content Model data elements that may be helpful for disability adjudication:

- Literacy (Does the occupation require the worker to be able to read or write? If so, in what language(s)?)

- Communication in English or other languages (Does the occupation require the worker to be able to communicate in English? Other language(s)?)

- Options for how work is performed (e.g., sit-stand option), including options for use of tools or technology to perform work activity

- Core tasks (or work activities)

B.   Other Content Model Data Elements—For Program Evaluation and
        Research Only

We submit the following recommendations for the Panel's consideration
regarding additional OIS Content Model data elements for program evaluation
and research[8]:

- Worker's year of birth

- Worker's educational attainment

- Worker's chronological work experience (e.g., last
  occupation or up to the last three occupations, including
  duration, work activities performed)

- Worker's primary language and secondary, if any

- Worker's mode of transportation to the occupation

- Zipcode of worker's residence

- Worker's gender

- Worker's race and ethnicity[9]

- Worker: number of hours worked weekly or daily in
  occupation

- Worker: other jobs or occupations worked concurrently (Is
  worker holding down more than one job at once)

- Is occupation seasonal?

- Alternative work arrangements (e.g., telecommuting, part-
  time, job-sharing, flexible schedules, job reassignment)

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[8] All of the recommended OIS Content Model data elements for program evaluation and
research must be collected according to the Health Information Portability and
Accountability Act guidelines to protect Personally Indentifiable Information.
[9] Pursuant to the OMB government-wide standards for Federal agencies collecting race
and ethnicity data (62 *Federal Register* (FR) 58782, October 30, 1997, "Revisions to the
Standards for Classification of Federal Data on Race and Ethnicity"). See also SSA's
notice of a proposed system of records, Race and Ethnicity Collection System, 74 *FR*
41962, August 19, 2009.

- Zipcode of employment entity

- Occupation's average shift(s) (Time of day and number of hours, various shifts?)

- Does employer offer health insurance? If yes, does worker participate in that program?

Evaluation Criteria

Regarding information and communication needs, we will evaluate the success of our communication strategy for the Panel and that of the SSA project staff with continual feedback from SSA and external users. Evaluation criteria for applied research must be stipulated in the study designs of SSA projects.

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User Needs and Relations Subcommittee
Content Model and Classification Recommendations

Sub-Appendix A—User Comments

The Panel was privileged to receive, and has included here, a variety of comments and suggestions from the following interested external professional organizations:

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Comments Received
from the

**AMERICAN BOARD OF VOCATIONAL EXPERTS
(ABVE)**

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COMMENTS RECEIVED FROM THE
AMERICAN BOARD OF VOCATIONAL EXPERTS (ABVE)

RECEIVED July 20, 2009

I received this today, so hope my comments can still be included. I have few because I agree with those provided below. I particularly agree with the need to look at repetitiveness as well as frequency in relation to physical demands. I would also like to express a concern about how we define job stressors since, obviously, what is stressful to one individual is not necessarily so for another. It might be helpful to add an instrument to have an individual identify preferences, perhaps something like an expanded interest inventory but possibly more open-ended, in which the person describes their likes and dislikes in the work environment (set their own goals/schedules, etc. versus knowing what is expected each day, being able to do different tasks in a day versus assigned tasks, working independently versus working with others, etc.). In addition, occupational descriptors should more clearly define the job requirements, such as frequent to constantly repetitive (assembly line worker), frequent unpredictable changes (ER doc/nurse), unpredictable changes with periods of relative inactivity (firefighter, police officer), typically responsible for meeting set goals, i.e. budget, quotas (managers, sales representatives, quality assurance, etc.
Thanks for the opportunity of participating

RECEIVED July 13, 2009

Overall all the comments basically related to any useful revision dealing with data that is more specific and better defined in terms of functional limitations. In my observations, the terms concentration, persistence, pace, stress, social functioning all come up in ODAR hearings and are used in different ways by all participants. If these terms and others could be more operationally defined it would help everybody. I have my own way of dealing with these terms based on by experience at hearings, through psychological examinations, etc. However, we all need to be on the same page. I will break down the comments in three sections: physical, mental, and miscellaneous.

<u>PHYSICAL</u>

1. Sit/Stand Option was a concern for many people. We are in bad need of explicit positional factors for stand/sit/walk, and combinations of such during a work day.

2. Exertional factors, i.e. light =10-20 pounds, etc. may need to be re-examiner. Also repetitiveness of lifting in addition to frequency. Example: Occurs x times per hour up to occasionally (1/3 of day).

3. We need a comprehensive, updated taxonomy of acquired skills, maybe similar to the GOE descriptions in Selected Characteristics companion to DOT, in order to answer questions about transferability of skills.

4. The boundaries between unskilled and semi-skilled work need to be better defined. A SVP of 3 is often interrupted as being unskilled and not semi-skilled and this often makes vocational sense if not regulation sense.

5. Need some specific factors to address neck conditions---does lift/carry or stoop/crouch really address neck conditions?

6. Pain factors continue to be problem for everybody while the pain scale of 1 to 10 is helpful it really isn't specific enough.

7. Vision factors are not well addressed b current descriptors. Could use better acuity measures based on vision chart outcomes.

MENTAL

1. As indicated above, terms such as concentration, persistence, pace, memory, etc. need better definition and we need a way of relating these to functional limitations in the work place.

2. Mental factors need to be updated and types of job stressors need to be broken out and categorized. An assembly line worker is under much different types of job stress than an accounting supervisor. Also stress is an subjective term and it needs to be assessed in terms of how useful it really can be in decision-making.

MISCELLANEOUS

Note: This section included references to proprietary software that have been removed from this public document.

Comments Received
from the

**AMERICAN OCCUPATIONAL THERAPY ASSOCIATION, INC.
(AOTA)**

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The American
Occupational Therapy
Association, Inc.

AOTA®

Occupational Therapy:
Living Life To Its Fullest.

Social Security Administration Content Model
Comments of the American Occupational Therapy Association

Submitted
August 10, 2009
to the

Social Security Administration
Occupational Information Development Panel

1. **What moderate-specificity elements, on the job- and person-side, should SSA consider including in its OIS?**

To better illustrate responses, both the levels of specificity and job and person related elements are described below as per questions 3, 5, and 8. Appropriate job-person alignments can occur if data collected about job demands can be linked to data collected from client performance skill evaluations. The person must possess the required skills and abilities to perform the essential functions in his or her job area based on the work contexts. While this document addresses several areas related to job side and person side elements, the level of specificity needed in these areas is moderate to low.

The job examples provided for each element below are used only as descriptions and not necessarily based on direct interview or observation.

Job Side

- **Safety sensitivity** is an important component in industry and must be considered as medications, cognition, psychosocial, sensory, physical and emotional regulatory factors may limit a person's ability to perform certain positions safely. A safety sensitive job can be identified as an occupation which:
  - o presents a clearly significant life threatening danger to the employee, his fellow employees, or the general public and is performed in a manner or place inherent with or inseparable from such danger
  - o requires the exercise of discriminating judgment or high degree of care and caution
  - o is separate from the ability to discern impaired or enhanced performance by direct supervision and is not reasonably subject to other valid and available means of observation and evaluation
    (http://www.ctdol.state.ct.us/wgwkstnd/laws-regs/highrisk-regs.htm)
  - o Examples:
    1. Air Traffic Controller – safety sensitive
    2. City Bus Driver – safety sensitive
    3. Sales Manager – Not safety sensitive
- **Physical demands** – physiological functions of body systems that are required to support the actions used to perform the activity. Current Dictionary of Occupational Titles (DOT) categories of sedentary, light, medium, heavy, very heavy should be kept.
  - o Examples:
  - o Office Advisor – sedentary
  - o Construction Worker - heavy

- **Cardiovascular demands** – the level of required cardiovascular endurance differs widely among jobs and can be separate from the description of physical demands currently offered by the DOT. A simple rating scale can be used to identify areas of higher cardiovascular requirements. Jobs may be classified as having low, medium or high cardiovascular demands or can be reported as variable based on work contexts in a given profession.
    - Examples:
        1. Plant supervisor – Low: minimal level of cardiovascular demand, no noticeable increase in heart rate or breathing rate with job or task performance
        2. Hospital Nursing – Medium: moderate level of cardiovascular demand, some increased heart rate and/or breathing rate with job or task performance.
        3. Fire Fighter – High: high level of cardiovascular demand, significant increased heart rate and/or breathing rate with job or task performance
- **Hand, dexterity, and coordination demands**–. The Classification of Jobs (COJ) rating scales for dexterity (1 being high level skill and 5 being low level skill) can be used. Additional rating scales or assessments for coordination should also be used.
    - Examples:
        1. Surgeon - Dexterity level 1, bilateral coordination
        2. Yard Foreman – Dexterity level 3
- **Cognitive demands** –actions or behaviors used to plan or manage the performance of an activity. Levels can be kept general with ratings of low, medium and high based on consideration of the following mental functions:
    - Judgment
    - Attention
    - Memory
    - Sequencing or time organization – e.g. whether the job has task or deadline flexibility
    - Multitasking
    - Task variability (how many different types of tasks the job requires and the ability to switch between tasks quickly to meet demand)
    - Analytical ability
    - Examples:
        1. Low – Copy Assistant (making copies): low level of judgment or decision making required, moderate level of time organization, low level of multitasking, very low task variability
        2. Medium – Mason: moderate level of judgment required, moderate level of time organization, moderate level of multitasking, moderate task variability
        3. High – Scientist: high level of judgment required, high level of sequencing and time organization, high level of multitasking, high analytical ability, high task variability
- **Social demands** - social environment and cultural contexts that may be required by the activity. A simple rating scale of low, medium and high can be used to define social demands within jobs based on consideration of the following components:
    - Social standards or rules associated with performance and work culture
    - Expectations of others in the group (e.g., use of language, level of interaction, sharing of information or resources)
    - Social participation expectations

- o Examples:
    1. Medium - Software Game Developer: moderate to low associated social standard, moderate group expectations
    2. High – Sales: high social standards, high group expectation
- **Space demands** – physical environmental requirements of the activity (e.g., size, arrangement, surface, lighting, temperature, noise, humidity, ventilation). Special considerations related to intensity of sensory stimuli in the work environment should be given. Also, the ability to control or regulate the environment (such as temporarily leaving or altering the environment) and special situations such as work in confined spaces, elevated spaces or shift demands must be considered.
    - o Examples:
        1. Transcriptionist - Low space demands: low sensory stimuli, high ability to regulate environment, no special considerations
        2. Commodities Trader – High space demands: high sensory stimuli, low ability to regulate environment, no special considerations
- **Specialty sensory or perceptual skill demands** - actions or behaviors required to locate, identify, and respond to sensations and to select, interpret, associate, organize, and remember sensory events based on discriminating experiences through a variety of sensations that include visual, auditory, proprioceptive, tactile, olfactory, gustatory, and vestibular.
    - o Examples:
        1. Touch sensation needed for mechanics working in areas where they cannot see their hands (stereognosis)
        2. High visual acuity for airplane pilots
- **Level of supervision available**- should be considered for its effect on cognitive, social and potentially other areas related to job demands.

Person side
- **Motor and Praxis Skills**
    - o *Motor:* Actions or behaviors a client uses to move and physically interact with tasks, objects, contexts, and environments (adapted from Fisher, 2006). Includes planning, sequencing, and executing new and novel movements.
    - o *Praxis:* Skilled purposeful movements (Heilman & Rothi, 1993). Ability to carry out sequential motor acts as part of an overall plan rather than individual acts (Liepmann, 1920). Ability to carry out learned motor activity, including following through on a verbal command, visual–spatial construction, ocular and oral–motor skills, imitation of a person or an object, and sequencing actions (Ayres, 1985; Filley, 2001). Organization of temporal sequences of actions within the spatial context, which form meaningful occupations (Blanche & Parham, 2002).
    - o Examples
        1. *Lifting* a box of materials
        2. *Bending* and *reaching* for a piece of equipment
        3. *Pacing* tempo of movements to clean the room
        4. *Coordinating* body movements to complete a job task
        5. *Maintaining balance* while walking on an uneven surface
        6. *Anticipating or adjusting posture and body position* in response to environmental circumstances, such as obstacles
        7. *Manipulating* keys or lock to open the door

- **Sensory and perceptual skills** – actions or behaviors required to locate, identify, and respond to sensations and to select, interpret, associate, organize, and remember sensory events based on discriminating experiences through a variety of sensations that include visual, auditory, proprioceptive, tactile, olfactory, gustatory, and vestibular.
    - o Examples
        1. *Positioning the body* in the exact location for a safe jump in a firefighting drill
        2. *Hearing and locating* the sound of equipment alarms
        3. *Locating* the right screw in the underbelly of a car when it cannot be seen (i.e., *stereognosis*)
        4. *Timing the appropriate moment* to change lanes by determining one's own position and speed relative to the speed of traffic
        5. *Regulating sensory information so work can be accomplished without distraction.*
- **Emotional regulation skills** – Actions or behaviors a client uses to identify, manage, and express feelings while engaging in activities or interacting with others.
    - o Examples
        1. *Persisting* in a task despite frustrations
        2. *Controlling* anger toward others and reducing aggressive acts
        3. *Recovering* from a hurt or disappointment without lashing out at others
        4. *Displaying* the emotions that are appropriate for the situation
        5. *Utilizing* relaxation and adaptation strategies to cope with stressful events
- **Cognitive skills and mental functions**– actions or behaviors used to plan or manage the performance of an activity.
    - o Examples
        1. Selecting tools and supplies needed to clean the work area
        2. Organizing activities within the time required to meet a deadline
        3. Prioritizing steps and identifying solutions
        4. Creating alternate solutions to a given problem
        5. Multitasking- doing more than one thing at a time, necessary for a variety of work tasks
- **Communication and social skills** –actions or behaviors a person uses to communicate and interact with others in an interactive environment (Fischer, 2006).
    - o Examples:
        1. Looking where someone else is pointing or gazing
        2. Gesturing to emphasize intentions
        3. Maintaining acceptable physical space during conversations
        4. Initiating and answering questions with relevant information
        5. Taking turns during an interchange with another person verbally and physically

2. **Are there conceptual frameworks in which these moderate-specificity elements can be grouped and, if so, what are they?**

- The International Classification of Functioning, Disability, and Health (ICF) is the World Health Organization's framework for measuring health and disability at both the individual and population levels. These classifications are widely accepted.
    - o Classifies health and health-related domains into the structures and their functions, activity and participation
    - o Includes list of environmental factors since an individual's functioning and disability occurs in a context

- o Can provide the framework for a comprehensive and coherent disability-related social policy at the individual, institutional, and societal levels
- o According to the ICF Beginners Guide:
  - In both the health sectors and other sectors that need to take into account the functional status of people, such as social security, employment, education and transportation, there is an important role that ICF can play. It goes without saying that policy development in these sectors requires valid and reliable population data on functional status. Legislative and regulatory definitions of disability need to be consistent and grounded in a single coherent model of the disability creation process. Whether it is devising eligibility criteria for disability pensions, developing regulations for access to assistive technology, or mandating housing or transportation policy that accommodates individuals with mobility, sensory or intellectual disability, ICF can provide the framework for comprehensive and coherent disability-related social policy.
    http://www.who.int/classifications/icf/training/icfbeginnersguide.pdf

3. **What degree of specificity should be described for the elements on the job-side of the content model?**

   - Addressed under question 1

4. **How can SSA ensure that the language of its OIS content model reflects terminology common to human medical and functional assessment?**

   - Using existing language that is widely accepted is important and should be used over inventing new terminology. Existing language should be pulled from:
     - o The ICF
     - o The DOT
     - o O*NET

5. **What degree of specificity should be described for the elements on the person-side of the content model, both in the OIS database and in the RFC assessment process?**

   - Addressed under question 1

6. **How can these elements be described so that they can be readily associated or compared with an individual's physical or mental functioning or with an individual's vocational profile?**

   - Cross matching existing resources, such as O*NET and the ICF would provide unity and reduce duplication of existing material. For example, using O*NET's behavior anchor scales and the ICF functions and activities measures together would unify the two systems to provide the degree of specificity needed for SSA.
   - Where applicable, rating scales used above to describe job requirements can mirror existing scales derived through standardized testing.

7. **Should SSA consider including demographic elements describing job incumbents' age, education, and work experience for policy development purposes? What other data might be useful for us to collect for such purposes?**

- It can be in the SSA's interest to collect this information to monitor trends and guide policy. However, there is significant concern regarding appropriate use and regulations should be in place to safe guard against discrimination.

8. **To what degree should the person-side domain be expanded beyond its current focus on physical abilities?**

- In addition to information listed under question #1, the effect of pain should be considered. Not only is the existence of pain and its effect on physical function important, but the effect of pain on mental functions and emotional regulation can also significantly alter work performance.

9. **To the extent that the content model will include worker traits and work demands that SSA did not have access to before, what will SSA need to consider regarding claimant information it may need to make the best use of this new occupational information?**

- With the Custom Report area of the O*NET now available, the level of performance for relevant activities, skills, abilities, and activities is presented, and detailed levels of performance for these areas are available using the 7-point behavior-anchored scales. These provide us with the level of demand of the job, similar to the previously used 'Classification of Jobs' handbook.
- Multiple factors, such as the context in which the occupation is performed, the specific demands of the activity being attempted, and the client's body functions and structures, affect the client's ability to acquire or demonstrate performance skills. Performance skills are closely linked and are used in combination with one another to allow the client to perform an occupation. A change in one performance skill can affect other performance skills. as can change of context.(Occupational Therapy Practice Framework, p. 639)

10. **What information should SSA include regarding general accommodations available within and among occupations or industries that offer workers options for performing the core tasks, such as a sit/stand option?**

- While becoming more common, ergonomic equipment such as sit/stand desks and lifting devises are not universal. Ability to accommodate will depend significantly on the resources of the employer.
- General ability to accommodate (such as low, medium, and high) related to areas of demand described in the job-side elements above is beneficial for both simple and complex recommendations.
  - o Low – minimal ability to accommodate but does not preclude it
  - o Medium – moderate ability to accommodate depending on employer, location, and disability
  - o High – High ability to accommodate most disabilities in this area

- Some examples might include:
    - University professor:
        1. Cognitive accommodation – low
        2. Physical accommodation – high
        3. Social accommodation – medium
        4. Supervision/coaching - low
    - Off-shore drill operator:
        1. Physical accommodation – low
        2. Hand / dexterity accommodation – medium
        3. Space accommodation - low
    - Stock clerk:
        1. Supervision – high
        2. Cognitive accommodation – medium
        3. Sensory/space accommodation – high
        4. Physical accommodation –medium

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Comments Received
from the

**AMERICAN PHYSICAL THERAPY ASSOCIATION
(APTA)**

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August 6, 2009

Occupational Information Development Advisory Panel
Mary Barros-Bailey, PhD
Interim Chair

To the Occupational Information Development Advisory Panel:

The Occupational Health Special Interest Group (OHSIG) of the Orthopaedic Section of the American Physical Therapy Association (APTA) is writing this letter to provide feedback to the Panel related to creating an occupational information system (OIS).

OHSIG understands that the goal of the Panel is to provide independent advice and recommendations on plans and activities to replace the Dictionary of Occupational Titles (DOT) used in the Social Security Administration's (SSA) disability determination process. We also understand that the Panel will advise the agency on creating an OIS tailored specifically for SSA, with the goal to improve the speed and quality of the disability process over the next five years.

We understand that work is in progress related to evaluation of the physical demands and environmental conditions under the sub-group chaired by physical therapist, Deborah E Lechner. We have not been involved in this process and therefore do not know if our concerns have been addressed.

The OHSIG applauds the initiative to develop an alternative taxonomy to replace the DOT. This is relevant not only for disability determination, but also for job placement and return to work efforts. Unfortunately, the O*NET system that replaced DOT has not proven to be of much practical use for physical therapists who evaluate and treat injured workers. Not only do physical abilities comprise a very small part of O*NET's Content Model, the descriptors for physical abilities are vague and general and do not relate directly to our functional evaluation process or methods to measure physical job demands. For example, dynamic flexibility is defined as "maneuvering a kayak through swift rapids." Trunk strength is defined as "the ability to use one's abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or "fatiguing." As a result, the Content Model cannot objectively describe a worker's function or work activities and therefore is problematic in return to work, in the hiring process, or when making placement decisions.

Appendix F, Sub-Appendix A-17

There are aspects of the older DOT system that are used more commonly by physical therapists who specialize in industrial therapy. However, some of these factors need adjustments in definitions, and others need more appropriate rating scales. For example, the overall STRENGTH physical classification system wording in the Dictionary of Occupational Titles is overly broad in grouping strength and positional tolerances and does not provide repetition guidelines. In addition this categorization does not recognize the variability in human performance encompassed by the NIOSH lift equation that recognizes variability of performance based on deviations from ideal. Lastly the categories are very broad (for example 20-50 pounds). Some of the physical demand factors should be rated with scales that relate better to how occupational health professionals measure these physical abilities. For example, it would be more appropriate to use Snellen charts to screen near and far visual acuity, rather than rating a person's ability by frequency during the work day.

OHSIG welcomes the opportunity to be more directly involved in providing constructive feedback during this important process.

Thank you for your time.

Professional Regards,

OHSIG, Orthopaedic Section, APTA
Bill O'Grady, PT, Interim President
Dee Daley, PT, VP/Ed Chair
Margot Miller, PT, Advisor
Drew Bossen, PT, Practice Chair
Rick Wickstrom, PT, Advisor, Membership Chair
Kathy Rockefeller, PT, Research Chair
John Lowe, PT, Nominating Chair

Comments Received
from the

**INTERNATIONAL ASSOCIATION OF
REHABILITATION PROFESSIONALS
(IARP)**

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**International Association of
Rehabilitation Professionals**

Case Management
Disability Management
Forensic
International Academy of Life Care Planners
Social Security Vocational Experts

Public Comment to the OIDAP
September 17, 2009
Lynne Tracy, IARP OIDAP Liaison Committee Chair
Angela Heitzman, IARP OIDAP Committee Member and IARP Board
Member

Good morning.

We would like to take this time to comment on the draft report and
recommendations as we have listened over the last 1+ days to the Panel and
performed a review of the Panel's report obtained yesterday. This is a
cursory review due to the size of the document. We will respond in greater
detail at a later date.

Taxonomy Subcommittee& other General Comments

1. We support a quality study and measure of variables. We
   would like to add that we are concerned that the process
   could be mired down by studies and caution having too many
   pilot studies.
2. We support the use of Vocational Experts (VEs) in the pilot
   study to conduct job analyses.
3. SSA VEs can also assist in the collect information to avoid
   the need for OMB approval.
4. We would like to suggest that any data collection pilot
   studies of physical demands and cognitive/mental demands
   be done together.
5. Recommendation B. 1. b) ii. States that job incumbents
   would be surveyed   during the pilot survey. We wish to
   raise the potential issue of access to job incumbents through
   employers, and suggest consideration be given as to how this
   will be accomplished.
6. Under the Glossary of Terms, 'Holistic Rating' states that "-
   rating of a whole occupational construct or trait (Level 5 or
   4) on some metric, as opposed to separating said activity into
   its observable (Level 2 or 3) parts for purposes of analysis."
   We would request some clarification on this point as it was
   our understanding that part of the problem with the DOT was
   rating data at different levels. Does this definition not imply
   that there will still be different levels of data used in the new
   OIS? We may have a basic misunderstanding and therefore
   respectfully request some clarity on this point.

Appendix F, Sub-Appendix A-21

Work Experience Assessment Subcommittee

1. During the voting, the research and methodologies sections were removed from the WEA recommendations. We feel it is important to include research and methodologies in the final recommendations so they do not fall to the wayside.
2. We appreciate the sub-committee's in-depth look at the definitions of "skill" and "transferable skills."
3. We support the continued use and expansion of Work Fields, Materials, Products, Subject Matter and Services (MPSMS), and Machines, Tools, Equipment, and Work Aids (MTEWA).
4. We support changing or eliminating the idea of "unskilled" work and using low-skilled or some similar type of identifier.
5. We are concerned with the idea of predicting the viability of an occupation. It is difficult to predict when technology will become obsolete or when a new theory/process will be developed.
6. The draft report mentions the word "accommodations" in several areas. This concerns us because it is a very specific term related to the ADA, and may cause problems from a legal standpoint.
7. We are confused about the concept of combining work activities with other work elements that might rise to the level of a skill. If skill is on a continuum and all occupations require at least a low-level of skill, we are uncertain what this means.

Mental/Cognitive Demands Subcommittee

1. We agree that the current Mental/Cognitive RFC format needs retooling and support the 15 abilities developed/recommended by the sub-committee.
2. We whole-heartedly agree with the recommendation that clinical judgment must be preserved.
3. Some of the language in the recommendations was clearer in meaning in the draft report than in the voting schematic.
4. We are concerned that the current M/C RFC is based too much on the subjective information gathered from applicants.
5. There are several concepts that are worded poorly or appear problematic. The concept of attendance/punctuality gives as an example "leaving the residence/home." The use of this example detracts away from more likely reasons for attendance or punctuality problems such as transportation, child care, pain, etc. Leaving the residence is perhaps more related to psychiatric disorder.
6. Criticism is a very subjective concept and as a variable difficult to measure.
7. The self-management variables appear difficult to measure in a job analysis process. These may be better placed on the RFC but not on a job analysis form.
8. We are concerned about the ability to adequately measure and capture symptoms that wax and wane (such as many psychiatric disorders).

Physical Demands Subcommittee

1. We agree with the need for operational definitions, but suggest that they need to be in terms that can be easily understood by employers and others.
2. We would like to clarify that on Page 11, 2nd paragraph of the Subcommittee's report, IARP did not make the recommendation regarding a scheme for repetition.
3. We would anticipate problems addressing factors such as mold/mildew exposure in work setting with an employer(s) when collecting data for the OIS and subsequently when put into practical use. Such information could potentially expose an employer to litigation.
4. Likewise, factors of an ability to "alternate position" such as a sit/stand option and use assistive devices can be employer-specific and could again expose an employer to litigation. Although as a profession, we would find this information valuable to have, we also see the difficulty in documenting this in such a widely used OIS.

User Needs and Relations Subcommittee

Although we have not yet heard this committee present, we do have several comments.

1. We appreciate the openness of this process and the ability to voice our supports, concerns, etc. via direct presentation, public comment, our membership survey results, and the recently published article "A Call to Update the DOT" by an IARP committee.
2. We support the multiple methods that are recommended to keep users in the loop and involved in the process.
3. We primarily support the extra data elements recommended but do have concerns that these elements, such as assistive devices and the sit/stand option—when gathering this data from employers—may be treading too closely to the ADA.

General Comment/Offer of Assistance

With regard to the Data Analytic study completed of SSA Disability Research Files, we would like to offer to also gather data for the OIDAP from Social Security VEs with the intent of providing SSA and the OIDAP with additional information on the frequency of occupations seen in disability claims at the hearing level.

We would propose to ask IARP VEs to gather the following data at every hearing they participate in for approximately the next one to two months:
1. Job title listed by the claimant as their past relevant work (PRW);
2. VEs classification of the job title (PRW);
3. Exertional classification of the occupation per the claimant's report;
4. Exertional classification of the occupation per the DOT;
5. Exertional classification of the occupation per the VE if differing from the DOT;
6. Notation as to whether the work history was adequately reflected on the work history form to allow proper classification.

IARP OIDAP Liaison Committee
Public Comment, September 17, 2009

In closing, we would again ask that the Panel continue to keep in mind that we are dealing with individuals, not just data and statistics. We look forward to continued dialogue.

IARP OIDAP Liaison Committee
Lynne Tracy, Chair, OIDAP Liaison Committee
Angie Heitzman, Forensic representative to the OIDAP Liaison Committee and Forensic Section Representative to the IARP Board
Scott Stipe, SSVE representative to the OIDAP Liaison Committee
Ann Neulicht, IALCP representative to the OIDAP Liaison Committee
Pam Warren, CM representative to the OIDAP Liaison Committee
Rick Wickstrom, DM representative to the OIDAP Liaison Committee
Amy Vercillo, IARP Board representative and SSVE Section Chair

Q1: Please provide your recommendations regarding inclusion of the following DOT items in the new OIS:

Occupations in the database:
    Modify:
1. update job descriptions to include modern technological innovations, e.g. Computer Operator is Light in DOT, should be Sedentary since PC's came on the scene.
2. Data is 20-30 years old. doesn't address many of the occupations found in today's labor market
3. update (6)
4. In the index, it would be helpful to also show the strength and SVP next to the DOT title.
5. The DOT items don't accurately reflect a field or multiple professional definitions and/or objective data. Without this, the sustained miscommunication and inaccuracy of measurement of objective data will continue
6. Current info in the DOT is hopelessly outdated and inapplicable to the 21st Century
7. All categories need modification, revision, updating, and in many cases, use of more than one benchmark for fuller description and validity of the particular attribute(s) that are being presented

    Retain:
1. I think maintaining what most folks are used to will make the transition easier.

Coding:
    Modify:
1. Coding system needs to align with SOC
2. Current coding is too large and unwieldy. Impossible to maintain and keep current
3. current coding system is too confusing
4. Base coding system on SOC codes BUT expand to include occupation-specific code to create unique occupational code
5. The specific breakdown of coding information is not something that I regularly use. To be honest, I look up a position title in ONET and do the crosswalk to find the corresponding position with DOT. It is an easier search.
6. Modify the coding system to include a digit for strength demand

7. The coding system is not efficient and there are so many overlaps with occs that it is not appropriate either. A new coding system that is more user friendly needs to be developed
8. Coding could be modified to be more compatible with O*net,
9. too restrictive
10. It should be consistent with other national coding, SOC
11. relate easier to SOC and other coding systems.
12. Unskilled, semi-skilled and skilled occupations should have separate soc codes
13. system could be simplified such as the SOC codes

Eliminate:
1. coding system thwarts proper id of specific occ and industry designation appears less than useless now

Physical requirements:
Modify: Update: 1

1.descriptions should be modified to included repetitive tasks performed while sitting, issues of fatigue and endurance.
2. address the amount of time spent sitting, walking and standing
3. Need to specify repetitions related to frequency terms used, e.g.1-12 reps/hour for Occasional, 13-30 reps per hour for frequent, 31-60 reps per hour for constant - this would be more applicable to materials handling tasks
4. Should evaluation Sit, Stand, Foot controls as separate work tolerances and limit this category only to materials handling forces.
5. SEDENTARY be changed to "Exerting up to 10 pounds of force occasionally and a negligible amount of force frequently to move objects".
6. Should the label SEDENTARY be changed to VERY LIGHT
7. Definition for LIGHT be modified to "Exerting up to 25 pounds of force occasionally, or up to 10 pounds of force frequently, or a negligible amount of force constantly to move objects.
8. The definition for MEDIUM be modified to "Exerting up to 40 pounds of force occasionally, or up to 25 lb. of force frequently, or up to 10 lb. of force constantly to move objects."
9. The definition for HEAVY be modified to 70 pounds of force occasionally, up to 40 pounds of force frequently, or up to 25 lb. of force constantly to move objects.
10. Definition for VERY HEAVY be modified to "Exerting in excess of 70 pounds of force occasionally, or in excess of 40 pounds of force frequently, or in excess of 25 lb. constantly to move objects."
11. The label VERY HEAVY be changed to EXTRA HEAVY?"
12. Reaching with both extremities/ & overhead reaching
13. Need to be much more specific

14. For strength levels, include light-medium category
15. Further refine definitions of strength requirements
16. Separate sedentary exertional force from sedentary postural description so that sedentary refers ONLY to posture and some other descriptor be used for lifting of < 10 lbs.
17. STANDING, SITTING and WALKING should be entered separately in the physical descriptions
18. Physical strength - modify to be specific to lift/carry, push/pull only
19. Specific to the strength requirements I think there should be more of an emphasis on sitting and sitting duration. I see a lot of lower lumbar disc issues with limitations on sitting. Same is true for keyboarding related and cervical disc issues.
20. Specifically include "bending" as a physical demand.
21. Consider a 0 to 10% "seldom" category for physical demands analysis to enhance the occasionally, frequent and continuous.
22. Different strength levels for the same job needs to be addressed.
23. Should include a strength category of semi-sedentary as an independent category for jobs that require one to sit and stand through out the day.
24. In physical strength requirement- investigate additional physical demands other than just sitting, walking or lifting, include standing, reaching and at what levels
25. More detail for each job.
26. Strength should be a two letter code with one letter indicative of strength and the other indicative of predominant body posture
27. May want to include sit/stand option info
28. Add s-l and l-m depending on weight lifted and standing, walking & sitting
29. I'm not sure how to do it but the physical strength categories need some more generalization
30. In addition to physical strength, the amount of sitting, standing, and walking should be identified for occupations
31. Physical Strength Requirements should include 'Semi-sedentary' Physical Strength Requirement has gaps that are too wide. For example, the max. weight amounts for Light (20#) and Medium (50#) is too wide.

32. Physical strength demand should include variations for sitting and standing other than current
33. **DEFINE REPETITVE**
34. Strength requirement is often too global to be useful since there is a significant number of jobs that may be combination - i.e. sed/light or light/med."

Data, People, Things:

Modify:

1. The D-P-T and task statements need to be modernized to take into account computers, technology and the variety of potential work arenas from office to mobile to telecommuting.
2. DPT- more clearly defined qualitative and quantitative
3. DPT - Try to establish the numbers as a true hierarchy.
4. The Data, People, Things categories could be expanded to include more information.
5. DPT needs to be updated to current standards

Retain:

1. Data, people, things is useful to the idea of working with similar processes for transferrable skills analysis

Task Statements:

Modify:
1. Update (10)
2. Task-modify to differentiate material from non material and which can be ""self"" modified/controlled
3. Essential job functions as well as non essential should be considered
4. overly broad
5. The task statements should be even more generalized to make the definitions fit better what people actually do in the jobs
6. Task statements need to reflect current day activities in an ever changing job market.
7. Task Statements should be less general, listing only the Essential Functions of the Job

Industry:

Modify:
1. Update: (8)
2. Industry designation should match NAICS
3. relate more directly with NAICS designations
4. Industry designation is important only for purposes of how it relates to the job analysis. Any industry designations provide a wider application for occupations particularly in the current job market
5. The industry designation should be modified to be more specific and to do away with "any" industry and N.e.c. classifications
6.

SVP:

Update:1
Modify:

1. SVP is a time to proficiency composite and should be considered in its elements and within work complexity, not necessarily in the present form that is limiting within the skills transfer
2. Have fewer SVP categories, to make simpler
3. Clarify that past experience may be a component in training time which equates to SVP. Examples: someone who has cooked at home can go into an SVP 6 cook job. Inclusion of education level requirements would be helpful
4. Further refine definitions of SVP
5. be more specific about type of preparation & degrees or experience
6. SVP should also be reclassified such that SVP 1 or 2 jobs are not ""unskilled"" but rather ""low skilled"". Also SVP should somehow correlate with total training or an educational requirement. There should be no SVP 8 medical doctors and SVP 6 housekeepers ...
7. There needs to be more consistency on SVP levels in regards to GED levels like reasoning being 3 while SVP is a 2 unskilled. It does make is really confusing. I think that there needs to be more of a SVP 1 and not 1 and 2. I would move the SVP level to 2-5 as middle of the road and reflect it into more entry level jobs with 2 being the end of semi-skilled jobs. Seldom do we have a SVP 1 job and this is a joke 1 & 2 are still unskilled. There should be a skill level designation to identify profession or highly specialized occupations."
8. SVP needs to be updated for many jobs. Many jobs with svp3 or semiskilled are actually entry level, SVP 1or2
9. SVP- tie to an educational attainment level and training. i.e. HS/GED, OTJ, Technical, Associate, Bachelor's, Master's, Doctorate etc
10. SVP should be more definitive when getting into skills that require training or education. Designate certificate, AA, OJT, etc and the timeframe

May Items:

Modify:

1. "May" statements should be broken down into essential/non-essential tasks to align better with post ADA standards
2. Separate the "may" items from the body of job tasks.

Eliminate:

1. too many

Others:
1. Begin to use certain critical factors from the ONET, such as Work Context Information.
2. The skill level needs to have separate designations
3. Allow greater flexibility for increased numbers of jobs
4. These things should be updated with new job analyses and new job titles done by analysis experts and industrial psychologists.

Q2: Please provide your recommendations regarding inclusion of the current DOT General Education Development definitions in the new OIS:

Represent actual job requirements:
1. Should be more realistic relative to actual requirements to perform specific job - i.e. some jobs do not require reading/writing English at all and are learned by demonstration.
2. May want to include "English" required.
3. Again, the definitions do not accurately reflect the objective information into the definition itself. Thus, the definition is meaningless.
4. Language level 1 is a problem; the definition needs to include information that deaf people and non-English speakers often perform the occupation and the reading and writing elements should be eliminated.
5. All should be modified. There are jobs that can be performed without ANY level of math or language, yet the current definitions include an unrealistic level functioning to perform the job.
6. Realistically, these definitely need modifications as they prove not useful in applying to transferrable skills or achievement testing. I find a big discrepancy from what the RML says and what a client is actually capable of doing.
7. The current RML codes do not seem to truly reflect the job requirements and are too broad, especially at the higher levels.
8. I believe that the current definitions far exceed the actual job demands for the unskilled and semi-skilled jobs as actually performed.
9. There might be a need to identify what kind of computer proficiency is expected.

Accuracy:
10. These do not always appear accurate in describing the job. Many jobs do not require reading, yet they may carry a 2 or 3 in the Language area. This appears to need better descriptors.
11. I do not believe these levels are accurate many times. We have many second language learners or those that have limited education that often do a particular job without coming close to the levels stated for job performance.
12. The language is difficult for Spanish speaking populations and the grid rules are influenced by Spanish speaking claimants. For instance, down on the boarder you can be a Spanish speaking housekeeper.

13. Tighten up the definition for Language=1. An attorney recently argued that his illiterate client could not perform any L1 work as L1 is defined. In reality, there are many illiterate persons doing very basic L1 work
14. Some of the unskilled jobs have inappropriate GED levels. Look at surveillance system monitor

Understandability:
15. As is the GED do not make since, still this information or some type of information is needed
16. "Many confuse this with Reading. Clarification should be made."
17. We understand the R and L designations, but are often asked to explain. For example, R is often confused and thought to represent "reading" which it does not. Rather than have to teach a course in the DOT, those elements could possibly re-named or expanded to be clear

Level of Detail:
18. Too simplistic. Needs to be expanded to capture more information and be more flexible. Change can be made to expand categories, not as much as ONET, but along those lines.
19. Add information on reading comprehension levels.
20. Need more categories and more specific details.
21. The levels as they are now defined do not show a clear progression.
22. Literacy and verbal communication thresholds should be detailed, as well as thresholds for non-English speaking workers.
23. These areas should be explained more fully, for example, the "Reasoning" section in the description of "Production Assembler"...carry out detailed but uninvolved instructions.
24. EXPAND EXAMPLES
25. Smaller increments such as 0 (none) to analytical (10) recommended

Grade level equivalents:
26. Academic achievement levels, in terms of grade level or percentage would be more useful.
27. Give a reference to percentiles or grade levels.
28. Please relate the GED codes to Grade level proficiency, i.e.: L:1 =<1st grade, M:6=HS+, etc. This would be extremely helpful (11)
29. Tie to an educational level. Add a level for those that have less than a HS education, Don't speak English, Lower IQ, etc
30. I believe that different levels would be helpful. The current level 1 equates to 1st to third grade level. There are some positions that can be completed, even if illiterate, a suggestion for more categories to include the first level being minimal English or reading/language skills might help.
31. I would tie these categories to actual grade levels either tested or assumed based on PRW.
32. Should be modified to include approximate grade level.
33. Give a grade level.

34. We need actual reading, math levels by grade more clearly defined.
35. More school grade appropriate would help. But actual educational skills would be the best.

Update:
36. Examine to reflect current labor market standards/ requirements.
37. Update reasoning to a newer term; language now is variable, English, etc.
38. Needs to be updated based on current educational standards.
39. Update to today's technology and usage. There are some definitions that don't make sense--many unskilled hands-on jobs that can clearly be done by non-English speakers that judges will eliminate if the Language is above a 1!
40. Keep the GED factors in but modify them to be certain that they reflect up-to-date criteria.
41. The definitions are 19 years old. Education has changed in this time period.
42. These seem to hold true and if anything they need to be brought up to date in terms on technical abilities which is a key factor in the job market today.
43. Update to current education.
44. All should be updated and various attributes added to this area, such as "critical thinking", "decision making", etc.

Q3: Please provide your recommendations regarding inclusion of the current DOT Physical Demand elements in the new OIS:

General Comments;
1. Physical demands fairly well delineated
2. it should be made patently clear that these ratings do not guarantee that a particular required task can be performed because they do not speak to the possibility of reasonable accommodation
3. include activity qualifiers for each (i.e., negligible, occasional, frequent, constant)"
4. Consider a 0 to 10% "seldom" category for physical demands analysis to enhance the occasionally, frequent and continuous
5. These are all helpful and should be updated to current standards, but the biggest area to maintain and update is the strength levels. Modification I am assuming to mean change in terms of an update, which I believe is required due to advances in how jobs are performed
6. These are all important, however in a practical usage the extent that the demands of the job are involved need a more specific definition
7. CLARIFY ALL ITEMS
8. I believe that a potential additional category of rare, occasional, frequent and constant might be beneficial. Constant is considered repetitive but there is a good argument that the later end of Frequent is also repetitive. Having 4-5 categories might help define the amount of time further
9. Again, all job descriptions are very outdated.
10. those marked modify need more precise explanation.

11. These seem to cover the bases in terms of the characteristic physical demands of a particular job
12. Need to be better defined
13. Additional measures of each attribute are essential, including validation of importance of each to performance of job tasks/requirements, etc. Considerations of environmental accommodations, task modifications, applications of Assistive Technology, etc., are also relevant and extremely important to each - How do these approaches/conceptual approaches apply to the worker requirements/characteristics identified?
14. Need to add neck
15. levels of frequency do not appear appropriate for the vision descriptors. stoop and kneel need better definitions i.e. to what levels
16. need to add keyboarding
17. neck flexion requirements

Sit/Stand/Walk:
1. add sit, stand, walk
2. add standing and walking
3. Needs greater detail to address standing, sitting, walking endurance
4. STANDING, SITTING and WALKING should be rated individually and not be lumped together
5. More specific information about duration of standing, sitting, walking
6. What about WALKING????"
7. sit/stand/walk options
8. add amount of time spent standing/walking and add a category which allows for alternation of position at will
9. Standing/walking should also be addressed
10. Consider adding standing, sitting
11. Should also include sit, stand, and walk requirements. They come up all the time in hearings
12. We also need to address, standing and sitting as additional categories.
13. I don't think any of them need to be eliminated, we need to expand them to include more activities like sit, stand and walk
14. ability to alternate positions

Climb:
15. I checked climbing because I'd like to see specifics regarding what is to be climbed, i.e. steps, ladders, etc.
16. should be rated using skill or aptitude levels rather than by frequency of occurrence because that is how medical professionals evaluate these factors
17. climb: it would be helpful to break out climbing stairs from climbing ladders from climbing step stools
18. Climbing stair versus ladders would be helpful
19. - differentiate between stair climbing and ladder
20. climb - differentiate on what (ladder, ropes, scaffold, stairs)
21. should be further defined. Do they climb stairs or ladders?

22.   climb should be designated in two categories: ladder climbing; step climbing.
23.   Climb - ropes and scaffolds need not be a separate category.
24.   require more explanation

Bend/Stoop/Crouch/Kneel
25.   Replace "stoop" with "bend"
26.   Kneel and crouch should be combined as a single factor because in most cases the person has the latitude to choose between these methods.
27.   Bending should be added; crouching should be replaced with squatting
28.   Crouch and Stoop are not especially important compared to Bend.
29.   Kneel and crouch should be combined as a single factor because in most cases the person has the latitude to choose between these methods
30.   Need to add bend
31.   Crouch and Stoop are not especially important compared to Bend.
32.   A general static/dynamic posture catagory could include these with bending/twisting
33.   Stooping and bending should be completely separate items
34.   stoop - modify/rename in order to include medical terms (squat and twist)
35.   Specifically include "bending" as a physical demand.
36.   Crouch/squat= full or partial squat
37.   stoop - rename as bend
38.   stoop/bend should be noted as being same. there should be a designation for twisting.
39.   Crouch and stoop are same body posture. DOT defines bending as stooping which is incorrect from physical perspective
40.   Add bending
41.   Modify stoop to bend; need to clarify balance
42.   Balance can be a judgment call based on the occupation and factors such as climbing
43.   Change stoop to bend
44.   Stoop should be changed to BEND AT WAIST
45.   Kneeling and crouching could be consolidated since both involved knee flexion.
46.   clarify stooping vs bending from the waist
47.   Stoop & crouch are debated as separate categories; better to combine (i.e. ""stoop OR crouch"").
48.   Could Stoop/Crouch be combined into bending (flexion or extension) or something like that
49.   Need clarification on stoop and climb
50.   Balance needs to be better defined. Perhaps using the examples listed in the Handbook for Analyzing Jobs would help
51.   Climb, balance and stoop require more explanation. current job description utilize such activities as bend and twist
52.   Consider changing stoop to bend or stoop/bend
53.   stoop and crouch similar definitions should combine

Reach, Handle, Finger, Feel:

54. Provide details how far in front of body or overhead
55. On reaching, need to differentiate above shoulder, at shoulder, below shoulder
56. With reaching, I'd like a breakout on reaching below shoulder and above shoulder height.
57. Handle, Finger, Feel should be eliminated because there is not a good quantitative way to measure these on a person or job
58. Reach: needs expanded definition including overhead & extended.
59. Reaching needs to be addressed as dominant hand, overhead, above waist, below waist, and directionally (in front, to the side, behind the body.
60. need to change r/h/f/f to differentiate between dom/non-dom hands/arms.
61. Reach needs to be clarified in def
62. Reach how? i.e. overhead, front, side
63. Reaching should be modified to include below, at and above the shoulder with right arm, left arm or with both arms. dominant or non-dominant arm. The reason is due to single upper extremity limitations.
64. Would be helpful to have breakdown of reaching requirements in different planes, especially overhead. Bi-manual handling and fingering or one handed tasks would be helpful.
65. reaching/handling/fingering need to be further refined
66. Needs greater detail to address upper extremity functions
67. Need to add one handed.
68. Reaching outward with extension should be more clearly differentiated from simple manipulation of objects near body--which may need a reach, but not requiring extension
69. reach - modify to allow differentiating below shoulder level; at shoulder level; and above shoulder level
70. add "reach up" above shoulder level
71. Reach: separate in to reaching outward and reaching overhead
72. outline reaching in different directions (overhead, etc)
73. reaching upward and downward
74. Reaching needs to be more specific relative to reaching at desk level, above desk, at shoulder, and above shoulder
75. Handling (simple versus power) and one handed versus bilateral.
76. Fingering one hand or bilateral.
77. Should include a physical demand for bi-lateral use of hands and one for one-handedness in the physical requirements
78. reaching= include bilateral or unilateral, distance and height
79. handle= unilateral or bilateral, fingering= unilateral or bilateral stoop/bend= at waist and what distance
80. reaching should specify the direction
81. reach - state in which direction; handle and finger - define if bilateral or not
82. there should be a designation for repetitive hand movements somewhere
83. Reach where? Overhead? In front of body? Down?

84. reaching should be further defined: Do they reach in front or above shoulder level?
85. Handle, Finger, Feel are very important but they seem to become meaningless if >90% require frequent. Tighter definitions and description of use.
86. Please add or include specifics regarding overhead reaching requirements.
87. Forceful Grasp, Push/Pull Required
88. Reaching should be modified to include reaching at desk level, above shoulder level.
89. In addition to the definition of "reach," include and element for "reaching overhead."
90. Clarify what part(s) of the body are involved with 'feel.'
91. Reaching should be separated from over-shoulder reaching
92. Clarification of Repetitive process for reach, handle, finger, feel
93. may want to carve out bi-manual (dominant vs non dominant hand)
94. Need more details, reach how, up, OVH, Down, Out, with dominant hand. One handed job information is very important and not currently addressed.
95. add if reach overhead is necessary
96. Reach: distinguish between lateral vs. vertical reach direction.
97. Need additional elements concerning manual & finger dexterity. Add overhead reach.
98. One-handed as well as bi-lateral use should be addressed in reach, handle and finger.
99. Reaching level should be specified (above shoulder, waist level, etc.).
100. 80 Manual tasks should be further defined as one-handed or bimanual
101. define reaching in terms of overhead, at shoulder level, in front, and whether it is repetitive (which is different than frequency)
102. define whether a job requires handling and fingering repetitively (again different than frequency)
103. Add directional information regarding reaching: overhead, above shoulder, between waist and shoulders, below waist, to the floor, in front of the body only.
104. Reach - should be specified (overhead, over two feet in front, behind, to either side, etc.).
105. Handle - should be specified (grasp, hold, manipulate, items over one pound, six inches in length/width dimension, etc.).
106. Finger- also specify (e.g., grasp, hold, manipulate, items less than 3 ounces, smaller than 3 inches in diameter, etc.).
107. Include overhead reach and whether handle is simple grasp vs. power grip
108. overhead reaching needs to be included
109. Reach should be subdivided into overhead, dominant hand, one hand etc.
110. define overhead, forward, lateral reaching...define repetitive handling and fingering. Add keyboard to fingering
111. Differentiate between upward reach and desk level reach
112. Reaching may be variable and a distinction between desk level, beyond desk level, and reaching involving the shoulder

113. Reaching should be modified to describe how far and what direction reaching would be done. Reach less than 20" or more than 20" for example, overhead should be included when possible
114. Consider adding both above & below shoulder level reach
115. Handle finger feel are often combined together as part of job, should consider combining terms as well
116. Would be helpful to have the REACH demand separated into OVERHEAD vs. regular forward reaching.
117. Direction reached (up, down, forward)
118. Reach needs to be more specific about overhead vs. in front/waist level.
119. These items should be explained in more detail overhead reaching, reaching forward, etc.
120. activities requiring upper extremities should be modified to address reaching above shoulder or below waist as well as repetitive vs non repetitive activities.
121. Designation should be expanded to include overhead reaching or added as a separate physical demand

Senses:
122. how smell or color vision relevant to position
123. Near acuity, and Far acuity factors should be rated using skill or aptitude levels rather than by frequency of occurrence because that is how medical professionals evaluate these factors
124. Taste/smell, depth perception, accommodation, color vision, and field of vision should be eliminated because there is not a good quantitative way to measure these on a person or job
125. Vision: Need more specific definitions including data routinely encountered on Vision Exams
126. vision descriptors
127. I don't know what accommodation is
128. Color vision is an aptitude
129. vision could be collapsed to fewer specifics
130. The term "Accommodation" is too vague and needs clarification
131. talk - include hearing requirement
132. Talking - Attorneys make a point in regards to communication for the job. There really needs to be some type of definition of what ""talking means"" A telephone solicitor talks but not the same as a front desk clerk
133. Visual tasks should be more functional - near acuity to read printed materials, computer screens, etc. Far acuity to drive, etc
134. Maybe change 'talk' to converse or speech or something that has more clarity.
135. What about HEARING???
136. Vision-broken down more specifically on acuity
137. Taste/smell rarely used
138. may want to distinguish bi ocular vs one eye
139. Perhaps an intermediate definition OR clarification between Near Acuity (20 inches or less) and Far Acuity (20 feet or more). What to do with visual requirements between 20 inches and 20 feet?

140.   The vision requirements should state actual corrected acuities. When not available then on assumed acuities based on PRW.
141.   You left out listening. Please include it.
142.   Taste/smell - need is obvious to job title
143.   Visual - So many variables can apply to this; better to list broad exclusionary parameters (or, possibly categories A, B and C), for visual demands."
144.   talking is an obvious physical demand per job description
145.   We also need a vision definition for type size.
146.   Hearing needs to be added with decibel and frequency demands, and dangerous levels

Q4: Please provide your recommendations regarding inclusion of the current DOT Environmental components in the new OIS:

General:
1.   combine all of these items and comment, if applicable only
2.   an indication of frequency is desirable
3.   exposure to high intensity stress, biohazards
4.   include environmental condition of exposure to exposure to other dangerous work conditions not other wise listed
5.   show a degree of exposure, not just the extremes
6.   Get rid of "Other Environmental Conditions."
7.   more detail would be useful in all categories
8.   specify temperatures
9.   "extreme" needs to be defined. This term means different things to different geographical regions
10.   Concentrated exposure to dust, fumes and gases is missing. Uneven terrain should be added.
11.   All job descriptions are very outdated.
12.   Again these seem to cover the bases, the only one I think of to add would be for people with extreme environmental sensitivity to non toxic substances.
13.   Most of these are implied by the job itself...
14.   Lump the hazards together?
15.   Add and define stressful work
16.   All need review, consideration of expansion or deletion, etc. Not all will apply to each job task or complete occupation - how to handle more efficiently and effectively in performance of Transferable Skills Assessments and in use as an occupational information resource
17.   More detail is needed in all areas of the DOT
18.   working in high exposed places should be modified to working at heights. Exposure to radiation, chemicals, explosives, shock, etc, should be combined and defined as dangerous or risky environment. Would combine heat/cold, weather/atmospheric conditions. would add other environments-office, shop/manufacturing, etc

Weather:

    19.   Exposure to weather includes heat, cold wet humid and often used together in job descriptions

Exposure to Cold:

Exposure to Heat:

Wet/Humid:

    20.   Could include wet and humidity with weather exposure
    21.   Wet and/or humid, does it mean indoor exposure or outdoors. Usually it deals with weather or walking. For instance, someone who doesn't have the ability to walk on a wet floor.

Noise Intensity Level:

    22.   Noise should be scaled by level
    23.   More specifics about noise are relevant (i.e. need for hearing protection).
    24.   noise-modify to reflect current work settings
    25.   Noise intensity should have more levels which might include restaurant, traffic, etc.

Vibration:

    26.   Need to separate hand/arm versus whole body vibration
    27.   vibration should be scaled
    28.   vibration: separate upper extreme vibration from whole body or lower extremity; degree of vibration would be useful as well.

Atmospheric Conditions:

    29.   If you keep cold and heat, the atmospheric conditions is redundant
    30.   Need to clarify atmospheric conditions
    31.   Atmospheric conditions is vague and if it is going to continue to be used should be clarified
    32.   Separating out atmospheric conditions would be beneficial.
    33.   Atmospheric conditions should be better defined for the asthma problems.
    34.   Vibration should include vibrating tools
    35.   Atmospheric conditions does not adequately describe environments as is. Should be broken down to the components and each one assessed. It should consider persons with breathing difficulties in addition to persons with healthy lungs.

Proximity to Moving Parts:

    36.   for proximity to moving parts, if there is a safety guard or conveyor belt, it doesn't specify

Exposure to Electrical Shock:

High Exposed Places:

Exposure to Radiation:
    37.   it would be helpful to add in an item for electro-magnetic fields exposure

Explosives:
    38.   Working with explosives should be noted under tasks and is not a common requirement. Same with radiation. Need to wear protective clothing or to take protective measures should be noted in description of tasks

Chemicals:
    39.   Identify some of the chemicals

Q:5 Please provide your recommendations regarding inclusion of the current DOT Aptitudes in the new OIS:

General:

1. Modify name to something more specific such as "Wrist-Finger Speed" or "Keyboarding Speed" that can be evaluated by a typing test or other means
2. Aptitudes should include additional aptitudes for mechanical aptitude, and social aptitudes
3. These are useless in Social Security applications but very helpful in WC and Forensic cases.
4. allow for adjustment based upon vocational testing.
5. All of these items need to be placed on a 5 point scale with 1 being low and 5 being high. This will allow other calculations to be made
6. These are all either cognitive or psychomotor. Therefore, if cognitive demands of jobs that are considered, these would be included in that area. Likewise, the psychomotor aspects should be included under the physical demands.
7. These are important factors but need to be based on measurable criteria
8. Again, helpful to have, but they need to be reviewed/updated in relation to current duties.
9. Again, the DOT needs updating to include modern jobs with technological advances.
10. updated standards and norms are needed
11. Have a general IQ level, and a non-verbal abstract reasoning level. Include an aptitude that deals with dexterity for one-handed people.
12. finger and manual dexterity= differentiate if unilateral or bilateral
13. These categories were fine until the GATB was no longer a valid testing measure. Therefore, these aptitudes should be renamed or changed to fit

better with current most commonly used testing methods, such as the Career Ability Placement Sorter (CAPS) and CareerScope.

14. Possibly consolidate into fewer rankings and levels
15. How about adding computer literacy?
16. better descriptors and more realistic relative to specific jobs -
17. Many of these items are from a purely physical perspective, however, in reality, there are multiple neuropsychological measurements that must be included to define as well as evaluate an individual fully
18. More detail as it applies to job would be useful.
19. The categories for this are 1-5.   For level 4, this is anywhere from 56-91 for a standard score. A suggestion would be to separate this category into 2 categories to better match the typical bell curve. Someone with an IQ of 56 would greatly differ from someone with an IQ of 90 on the later end of the scale.
20. All need to be stated in standard measures such as stanines, percentiles, etc. Again based on actual measurements or PRW
21. Include explanation of what is extreme
22. All other aptitudes (possibly including the above as well) should relate to one or more standardized instruments - NOT the obsolete GATB).
23. These are really not helpful unless claimants are specifically administered aptitude tests
24. Modify with overhead activities
25. From a practical standpoint some jobs don't need these abilities or aptitudes, yet the current DOT assigns values to them. They are then used by reps to eliminate jobs if the claimant doesn't have match those abilities or aptitudes.
26. Has no place in SSA cases and very little value outside of this arena.
27. Need to be better defined
28. Scales need to be fully reviewed, additional indicators considered for application, multiple indicator use to provide fuller range of conceptual and practical areas covered by each attribute, etc.
29. could be better defined. Would consider adding mechanical aptitude, logic

General Aptitude:
30. General learning ability - should have a broad category listed for e.g. 6th grade educ, 8th grade educ, 12th grade educ, assoc degree, bachelor's, and advanced degree.
31. General learning ability, define/add IQ levels

Verbal Aptitude:

Numerical Aptitude:

Spatial Aptitude:

Form Perception:

Clerical Perception:

Motor Coordination:
    32.   Motor coordination and dexterity have changed greatly in recent times due to all the use of computers and technology. Typing test and use of a mouse seem much more relevant in today's job market

Finger Dexterity:
    33.   the finger dexterity measure should be tied to keyboarding to some degree
    34.   define repetitive for manual and fine finger dexterity; and about keyboard functioning ability

Manual Dexterity:
    35.   Indicate that the manual dexterity level assumes BIMANUAL dexterity.

Eye, Hand, Foot Coordination:

Color Discrimination:

Q6: Please provide your recommendations regarding inclusion of the current DOT Temperaments in the new OIS:

General:

1.   add psychological factors
2.   Task are important, but need clearer definitions of temperaments
3.   If behavioral and cognitive demands of jobs are considered, then most of these would be included in those categories.
4   The areas marked for modified may be lumped together and I don't really use these areas as I see these being used more in management areas and many of the position used for SSD or other industries are primarily in the semi skilled or unskilled area and really are not relevant to many of the occupations
5.   ONET has a good list of behavioral/interpersonal traits. Work with those and reduce to a manageable number
6.   The words "repetitive" and "stress" need to be better defined in vocationally relevant terms. One could also address a working definition of "rare or rarely." And, while I am attacking terminology, how about the concept of "twist."
7.   This section needs to be enhanced for a clearer statement of work temperaments and adjustment.
8.   I think that much of this is depending on individual personality and highly variable in application in the workplace. It's very difficult to predict how personality factors will play out - especially "stress" and "influencing" factors.

9. Add working with high workload demands requiring calm and uncontrolled overtime
10. I find that some of these areas are more helpful than others (repetitive tasks, working alone, dealing with people, judgments), but all would be helpful to have updated.
11. I think this can be broken down into a few different types of stress, e.g. productivity demands versus high volumes of work, etc.
12. better definitions are needed
13. This section could be greatly expanded to cover a lot of different behaviors that are relevant for people with psychiatric disabilities, brain injuries, Depression and PTSD.
14 develop instead a cognitive/emotional scale required for successful work in that job such as: need to understand & remember short simple directions, need to understand detailed instructions, etc
15. Repetitive - better definition - are these 1 -2 step tasks?
16. Alone - show a range of collaboration, teamwork required
17. Tolerances and under specific instruction - never knew what these meant
18. Again, this isn't simply a physical issues, but requires the inclusion of psychological as well as psychosocial concerns as well. Moreover, stress is a normal part of everyday life. Thus, it isn't really important to note whether an individual can perform "under stress" since essentially all people do. Stress is something that has become medicalized and is used all too frequently as a basis for perceiving as being unable to work. This is iatrogenic disability in the process
19. Again more detail as to how it applies to each job
20. Adding categories as typically seen on the SSA Mental RFC might be helpful, such as ability to concentrate,   complete detailed work, etc.
21. Temperaments mean little in job evaluation. Can that be made more "REAL"?
22. Explanation of what degree of dealing, (in depth, superficial, etc.)
23. Replace the present yes/no with a 5 point scale (0-4) indicating the importance of this temperament to occupational performance.
24. It would be VERY helpful if temperaments were rated using the not present, occ, freq, constant system.
25. Clearer definition of what type of repetitive tasks
26. Always lots of discussion about "public contact" versus working with people. Perhaps that could be expanded, like with co-workers, supervisors, etc.
27. Most of these characteristics are never considered in SSD hearings.
28. Need better definition of these items to clarify the values
29. Need to be more clearly defined
30. Variety of duties by specific industry designations allows better explanation based on type of work industry etc
31. These all need to be better clarified
32. More detail is needed

Directing, Controlling, Planning:

Performing Repetitive Tasks:
33.   Types of repetitive tasks should be included and a specific definition of repetitive included

Influencing People:
34.   Influencing = supervising people?
35.   More clarification regarding influencing people

Performing a Variety of Duties:

Expressing Personal Feelings:
36.   "Expressing personal feelings" should be changed to relate to job performance

Working Alone:
37.   Working alone should be changed to working independently

Performing Under Stress:
38.   Not sure of "working under stress." Stress level may be different for each person
39.   Stress needs a better definition
40.   Stress needs scaling & behavioral anchors
41.   Stress - enhance to include work situations such as working under deadlines, mandatory overtime, travel, etc
42.   Stress - better range of stress levels
43.   Perform under stress - what constitutes stress? Define?"
44.   Define levels of stress
45.   Stress- explain what is stressful in the occupation
46.   Stress needs to be defined. What is "stressful" to one is not to another. Is defined in the COJ
47.   Performing under stress or deadlines
48.   Perhaps a redefinition of Stress and addition of a Stress category as pertaining to production demands, probability of work burnout and similar.
49.   Maybe we need two "stress categories. One to reflect "danger" as it is and one to reflect work stressors
50.   Stress - Should be characterized & defined.
51.   Work stress needs clarification and a more specific definition. All jobs should be rated regarding stress (ex, high, medium or low)
52.   Define stress
53.   Stress can mean a lot of things. We ALL work under some stress. More details required.
54.   Greater need for enhanced definition of stress to include non life threatening situations which induce stress upon the average person
55.   Performing under stress subjective mental conditions may be better category would better define stress, tolerances

Attaining Tolerances:
56. Attaining Tolerances is poorly defined. Most would think it is related to a precision measurement, but it is found in many occupational descriptions where someone is simply counting.
57. Tolerances - Should be characterized & defined

Working Under Specific Instruction:
58. Working under specific instruction - change to following directions

Dealing With People:
59. Dealing with people.... maybe interacting with people
60. Deal w/ people- clarify co-worker, supervisor, public; attain tolerance-clarify
61. people - show level of interaction with coworkers and supervisors as well as public
62. Dealing with people could be broken out to dealing with customers and others outside organization AND dealing with supervisors and co-workers. Or, this could be aligned with working independently

Making Judgments and Decisions:
63. Judgments - define the level

Q7: Please provide your recommendations regarding inclusion of the current DOT Interests in the new OIS:

General:
1. Again, need more user friendly, clearer definition
2. I have very limited use of this area.
3. include if the purpose of the OIS is for vocational planning
4. I do not use these
5. It should fit with the Holland system
6. Not sure that interests have any bearing on SSA eligibility
7. Although the option of "no opinion" is what I checked for several (that could also be better defined), I have a very strong opinion that these factors play a relatively small part in developing a job description. The exceptions might be "attention to detail" and "knowledge of selling techniques."
8. Allow adjustment based upon vocational testing.
9. expand by updating
10. Best left for interest inventory enthusiasts ...
11. This is not information that I typically use through the DOT. In my practice, personal interviews and interest inventories are helpful in working through this information.
12. Much prefer Holland's codes, plus those codes are already matched with DOT codes, plus has the advantage of having been tested and researched with good validity and reliability.

13   Artistic should be elaborated to mean creative expressions. For example, a web developer needs artistic ability.
14.   Honestly, accommodating is really confusing to me and the definition is really vague.
15.   I think the term industrial should go if you keep mechanical"
16.   Industrial could be Technical
17.   Humanitarian could be Service
18.   Leading could be managing
19.   Physical could be Outdoor
20.   Should be redefined into occupational categories, such as business, sales, medical, mechanical, etc. or eliminate.
21.   Use the Holland codes
22.   These need to be aligned with the new Interest areas defined by the US Dept of Labor.
23.   Not relevant
24.   Good to mention but hard to establish as post injury interest
25.   No opinion concerning these matters
26   Although we as VR specialists consider interests to be important, they are not considered in SSD or virtually any other fields relating to disability. Since this OIS is for SSD only, eliminate what is not necessary.
27.   Interest categories are useful for career counseling; irrelevant for SSA.
28.   Again still useful as they are
29.   Substitute the Myers Briggs Type Indicator II
30.   Not helpful for vocational expert work
31.   Electronics
32.   Not relevant to SSA ODAR
33.   This is not significant in terms of assessing most jobs.
34.   These appear to be superfluous data to a VE
35.   These are more for matching/identifying interests. A claimant's interests are not considered when an ALJ formulates a decision
36.   Again has no value for SSA.
37.   Seems like accommodating and humanitarian could be combined.
38.   This entire area (temperaments) needs to be reevaluated regarding not just theoretical, but practical/real world application to individual occupations and individuals career experiences, etc.
39   Add in Service
40.   This is not needed for ODAR purposes
41.   These are too broad. Would expand them, or use similar categories to those used in interest assessments (COPS, SDS, etc)

Q8: Please provide your recommendations regarding inclusion of the current DOT components in the new OIS:

General:

1.   Retain the transferrable skills. Very helpful.

2 The activities that someone does (WF) with how someone does them (materials, processes, tools, technologies, etc.) need to be included in how the data is collected, not as generalized work activities.

3 ONET "Knowledge" categories work well

4 SOC especially

5 Include consideration of O'NET criteria. Database TSA's can be overly restrictive if limited to the traditional coding of Work Fields and MPSMS.

6 Expand to include information technology

7 Since the BLS OES data is based on SOC codes, Categorization of the new OIS should match to those codes to be able to better estimate the number of each job, the wages, and other data that DOL reports

8. This is simply too general. If there are going to be transferable skills, then why not use the broader based inclusion of physical and psychological/cognitive.

9. Bring Work Fields and MPSMS up to date. Make them reflect today's work activities and work objects.

10. With so many new and different jobs more information so all VE's can be uniform in making opinion.

11. I use the worker fields and the material, products, etc. for transferable occupations. .

12 made current

13. Will depend on how much the new system differs from the older, and whether those documents will be changed to new system.

Crosswalks:

14. Crosswalk to O*Net, SIC codes

15. With fewer coding systems, there may be less need for crosswalks

16. Crosswalks are essential

17. Crosswalks are important for vocational advice more than for SSVE work.

18. Crosswalks always help when looking up jobs I am unfamiliar with

Q9: Please provide your recommendations regarding inclusion of the current DOT Rating Scale choices in the new OIS:

1. include "Rarely"

2. DOT uses % of time. Need to include consistent number of repetitions.

3. Scaling needs to be more granular so that it makes better sense in the person-work match.

4. The use of never should be replaced by Rare, it is very seldom that the word never should be used and it seems rather restricting to a persons abilities.

5. Seldom, meaning 1 to 10% of the time

6. Add infrequent for range between 0-10%

7. I believe we should add Rarely and Moderately and define them accordingly. Need to have a scale between Never and Occasionally, as well as between Occasionally and Frequently.

8. There should be an area where one could expound on the specifics of a disability/injury/illness and how that impacts on the job tasks, etc. AND how

the job tasks, etc. impact or may impact on the disease/injury/disability. For instance, one amputee is not another amputee------it makes a big difference in looking at jobs depending on their level, function achieved, what kind of prosthetics their wearing, proper fit......BIG ISSUE.

9. Never needs to be changed to 'rare' with a better definition i.e. 1% to 10%.
10. Please include Seldom as an in-between with Never and Occasionally.
11. Add additional level, e.g. Extra Time to address > 8 hours per day exposure to physical demands. Some physical therapists use the term Rare; however, that is really splitting hairs. Should add repetition ranges to supplement percent of day as that might be more relevant to stooping or other factors, e.g. 0 reps/hour for Never, 1-12 reps/hour for occasionally, 13-30 reps/hour for frequently, 31-60 reps per hour for constantly, and > 60 reps/hour for extra time. Could drop the "ly" at end of Occasionally, Frequently, and Constantly.
12. I recommend Seldom
13. The term "never" should mean not at all rather than a negligible amount. Occasionally meaning between 0-33 1/3 % of the time is, as the kids say, bogus. We need much better definitions of this type of function. If I go drinking 1% of the time, I am probably an upright and safe citizen. If I go drinking 33 % of the time, I am likely to earn a DUI or a lengthy prison sentence. What were those folks thinking when they originally defined "occasional"????
14. Improve accuracy. I.e. motel cleaner "never" has to bend or stoop if I recall correctly. There should be another category between never and occasionally as defined - perhaps a rating of "less than 10% of the day"
15. another category of "rarely" needs to be added
16. include number of times per day of lifting, if possible, rather than these categories. These categories work well for standing, sitting, etc., but not lifting, reaching, or grasping.
17. Never should be included but means NEVER. There should be another category of RARE which would be "once to 5%" and occasionally "5-33%"
18. It would be helpful to break up the percentages into smaller amounts, say 20% increments instead of 33% increments.
19. Specifically include "bending" as a physical demand. Consider a 0 to 10% "seldom" category for physical demands analysis to enhance the occasionally, frequent and continuous.
20. Include clarification of cumulative and intermittent vs. continuous (i.e. 2 hours continuously)
21. Some FCE's refer to a 5th designation - "rarely", which is defined as something less than 1/3 of the work day. The question comes up in hearings from time to time.
22. Never should be changed to infrequently.
23. These are vital, but should be defined by hours in an 8 hour day or percentage of an 8 hour day.
24. make more specific
25. add rarely <5%
26. needs more categories with shorter durations or frequencies

27. may want to add rare-up to 10%
28. Would much prefer a numerical or percentage of work day rating. I rarely go to the bathroom at work, I frequently go to Florida, although the frequency for either is much different. Scale used is misleading.
29. Get rid of current nomenclature because inexperienced personnel (such as treating MDs) have no concept of what occasional means other than everyday parlance- use specific measures of time
30. modify the whole ball of wax here
31. clarify that "constant" means "repetitive"
32. As long as they are defined (i.e., Occ = up to 1/3rd of the day, etc.)
33. Never is very difficult to use in the real world of work.
34. With each category defined with a % of time spent doing activity.
35. Add Rare
36. Should modify Occ to mean 11-33% and add Seldom (0-10%) because the occasional range is too large a range to describe some job functions that happen very seldom.
37. Recommend adding and providing a clear definition of RARE or Limited levels which current vary from 3% up to 10% of the time.
38. I would like to see some definition of repetitive
39. Tighten up on the definitions if these terms stay. Maybe add categories for intermittent/interchangeable or some other 'combo' term that may include any two or of the current choices.
40. difference between never and occasionally, as currently defined is too great - suggest having a category for "rarely" that would be less than 5% of the work day, for example
41. There must be another choice between never and occasionally. From Never to Occasionally (1/3 of a day) is a range absurdly large. Another choice such as "Rarely" for up to 5% would be helpful. Vocational people need to create that level in our work though the DOT lacks it
42. We need another category – seldom
43. These are actually quite meaningless in terms of responding. For example, what is the true objective difference between occasionally and frequently? How can this be quantified better?
44. need something more quantifiable - than thirds
45. include a new definition, "Rarely." This would be 0 to 10% of the day and Occasional should be >10% to <=33 1/3% of the day. Otherwise, it could easily be argued from the existing definition of Occasional that if one performs handling (for instance) 1% of the day, it is "occasional."
46. Add something less than occasionally.
47. Very Important
48. What do these terms really mean? Over the past twenty years they have been modified and re-defined by ALJ's ME's treating doctors, and VE's so many times it is difficult to go back to the original definitions without being challenged. Everyone has decided their definition is the "Right" one and that makes it difficult for VE's to provide consistent testimony.
49. Rarely instead of never or Rarely in addition to never

50. CLEARLY DEFINE IN TERMS OF CONSISTENCY, SCHEUDLED VS UNSCHEDULED, PERHAPS INCLUDE INTERMITTENT
51. I believe that there should be 1-2 categories added. One for "Rare use" of 5% or less. The occasional at 6-25%, Frequent at 25-50, another category 50-75 and then constant over 75%. The Frequent Category is too broad. consideration also needs to be made for rare activities.
52. Expand to add rarely (>5%)
53. My inclination is to eliminate the NEVER category as many of the "nevers" makes the person essentially bedridden or totally disabled. Occasionally could be used for 0-33%
54. occasionally covers such a broad range, would be helpful to break into two or more categories.
55. Provide explanation of more specific terms
56. Seldom should be included to interface with functional capacity assessments. It is defined as 1% to 5%. Occasionally would be 6% to 33%.
57. there needs to be something between occasional and frequent.
58. All three checked items should be better defined.
59. Include rarely
60. Modification to provide more detail
61. These are well established standards in the industry and changing these would only cause confusion in my perspective.
62. Plus include 'Infrequently'
63. Consider a category between occasional and never.
64. Should be improved from portions of work day to specific numbers of hours a task/activity is performed.
65. Do you want to add a category, RARE/SELDOM that includes the low end of Occasional, 5-10% of work day?
66. The range for frequent is too broad.
67. Again, the ranges are too wide. For example, the time difference between occasional and frequent is too great.
68. Hours per day? quantifiable definitions?
69. add or define better repetitive
70. This has its limitations but changing it would lead to more confusion. There is no way you can classify occupations in more specific terms and have it apply to the whole country.
71. Big controversy since each cover "up to" statements. Maybe break down further the categories to lessen the time intervals (e.g. 1%-33% is too broad)
72. I think that there needs to be one additional category here. There is too much of a gap between the occasional and frequent categories to fit most occupations well.
73. Consider changing never to "rarely"
74. Need to be better defined.
75. This must be with consistent industry standards.
76. "Better definitions not just percentages; employers often describe these functions as part of job but often have difficulty with % assigned to them

maybe scale such as 10%, 20% 30% of job etc". Perhaps adding a sale for rarely - i.e. may not occur more than 1 time/day or month, but is essential.

77. Add limited definition, (less than 1 hour).
78. Need to deal with not only overall duration and frequencies of occurrence, but on a more appropriate integrative basis, dealing with such issues as "cumulative trauma" and ergonomic concerns.

Q 10: What new Occupational Preparation information is needed for the Social Security Administration OIS?

1. Show that SVP is valuable if job proficiency was held,
2. Less than high school
3. Masters level
4. Unskilled,
5. Graduate/professional level training
6. The skill set rather than the degree
7. For what SSA is doing no occ prep info is needed
8. No training
9. Apprenticeship
10. Not needed. this pertains to hiring requirements not performance issues,
11. Poorly worded question - should be "which TO INCLUDE" in the OIS
12. These all should be tied in with SVP
13. Be sure to clarify "or reasonably equivalent experience
14. Post graduate degree would be sufficient beyond the Bachelor's degree
15. Industry certification ie HR certificate, A+ certification, first aid, medication administration certificate, CPR, teaching assistant certificate, not necessarily obtained at an Voc Tech school etc.
16. Years work experience
17. Preferred rather than required
18. Occupational preparation needs to be evaluated in depth. Most jobs state preference for degrees, then qualify that experience can be utilized instead. Would hate for this analysis is preclude entry level work due to preferences, not practice
19. Military training
20. "brief demonstration" = less then 30 day,
21. Professional Training - paralegal, RN,
22. This can't be done accurately
23. Certification/Licensure (if applicable),
24. Some are either degree and/or experience,
25. Eliminate this category as it is not needed
26. Related work experience, not necessarily OJT
27. Continuing Educational Requirements -- often as a result of State Licensure or National
28. Vocational or OJT training certifications,
29. SVP needs to be clarified,
30. Self taught info; Languages

Q 11: What new Occupational Prerequisite information is needed for the Social Security Administration OIS?

1. Salary earned
2. Amount of time of experience (PT, FT),
3. Length of experience would be reflected by SVP,
4. Familiarity with relevant industry
5. This gets tricky as often people can access a job with no experience and acquire and be able to learn and perform the job. I would hate to see something that states that a person cannot enter a particular entry level job unless they had experience. Otherwise, how would people ever become waitresses, store clerks, order fillers, etc.
6. Specific to particular disabilities/injury/illness---specialists,
7. Does participating in an educational program qualify as experience
8. Certifications, apprenticeship, Occupational, professional licenses
9. Type of experience which is beneficial (not needed),
10. Legal age requirements and eliminators such as felony convictions.
11. strength levels
12. prerequisite job titles,
13. Vision, Excessive Postural Requirement,
14. Development of new objective measurement/tools/techniques that are scientifically-based.
15. If a sit - stand option at work is provided,
16. Performance outcomes, did they really do this job or was this a special situation where they could not find a qualified person and settlement for someone not qualified.
17. Alternative experiences - not just one particular path,
18. Specific duties performed and the frequency of those duties,
19. Work at home opportunities in the industry
20. task-based skills
21. Interest ; Needs : Perhaps working part time is more desirable

Q 12: What new SVP information is needed for the Social Security Administration OIS?

1. This varies on demands of labor market. Need more accurate range
2. Time to proficiency (SVP) needs to be well studied in all dimensions that might result in any of these three, or something different.
3. SSA needs to be aware of previous achievements-to compare where the person is now. A 20 pt or % drop in IQ might not be much for a lower IQ,pre-inj.....but may be significant in pre-inj documented higher IQ
4. SVP is time to learn the job BUT there should also be the educational component stated
5. If no special training is required and the job can be learned on the job that needs to be reflected

6. SVP should be a combination of education and job experience.
7. SVP should be all of the above, with possible focus on what the mode of training is. like OJT, AA degree or experience + OJT etc
8. Include acceptable transferable skill attainment
9. Facility w/ English language
10. Average time to gain acceptable job performance is THE critical variable.
11. SVP should imply journey level status, education or experience.
12. SVP is a nightmare. The present system is difficult but how do you define what it takes to learn a job. Rather than change SVP give better examples so we can understand the differences between unskilled and semi-skilled and semi-skilled and skilled.
13. Consider how workplace methods impact on background (training and experience) needs, etc., as well as alternative ways by which effective training with appropriate outcomes can be made.
14. Separate what is needed to get job vs to be proficient in it
15. Still has to demonstrate "judgment" required for semi-skilled or skilled jobs.
16. Personal interest and choices

Q 13: What new information related to Mental Demands is needed for the Social Security Administration OIS?

1. Fatigue
2. DOT jobs assume good mental capabilities
3. -Executive function, problem solving
   -High, med, low executive functioning.
4. Use ONET descriptors
5. -This looks like a can of worms and would really need very good definitions. All jobs require some degree of concentration, persistence and pace. How will things be quantified. A little concentration, deep concentration, etc.
   -Additional detail can result in overly restrictive criteria for transferability or exclusion from own occupation
6. Cognitive endurance.
7. Adaptation
8. Language ability
9. 1-2 step jobs are virtually gone from the American economy;
10. -High, med, low interpersonal communication/interaction
    -Frequency/quantity of public contact, co-worker contact, supervisor contact
11. Ability to multi-task, ability to follow sequential instructions or steps,
12. Addition of definition for simple/repetitive; and time expected to learn job through demonstration & repetition.
13. These will need 'tight' definitions including maybe time frames i.e. occasional, frequent, etc. What about multiple step directions? I can't imagine how these factors will be defined! Would computer literacy fit in here somewhere? Would there be some type of a 'grid' that would demonstrate how these factors 'interact' to achieve occupational success? And/or at what level of 'absence' of these factors

would an indiv be precluded from an occupation. Could these pls be called something else other than 'mental' demands?

14. Short and long term memory, not just memorization, reasoning, judgment, sincerity of testing effort, spatial organization, visuospatial analysis, learning, sensory acuity, attention and processing speed, ability to learn, abstract thinking, executive functioning, mood and temperament, objective assessment versus subjective perceptions/ verbalizations of impairment in functioning based on reported mental diagnosis, calculations, intelligence (pre-morbid and current), motor performance.
15. Creativity and memorization may be difficult to measure
16. Response to authority
17. Most of the above can be deduced from the RML levels of the job, specifically Reasoning for complex vs simple , etc.
18. As much information as possible about cognitive functioning, These are probably more important than aptitudes.
19. Ability to handle interruption and regain focus.
20. Initiation

Q 14: What new information related to Personal Qualities is needed for the Social Security Administration OIS?

1. -Tthese are intangibles, not easily measured,,,
   -All the above personal qualities all good to know, but it would appear they would be very difficult to quantify.
2. These should be eliminated as not used in real-life disability determinations.
3. How do you measure these on the job or with the individual to be able to include them in an OIS? These are best left to the qualitative analysis done by the rehabilitation counselor or vocational expert not in an OIS.
4. -"Attitude" would need further clarification, as would "Flexibility", cognition: plan, organize, direct, control.
   - Attitude: how to rate it: Good, Bad, indifferent???
   -The problem with some of these, like attitude....may be highly subjective.
5. Additional detail can result in overly restrictive criteria for transferability or exclusion from own occupation.
6. NONE ... this is highly variable and personality-dependent.
7. These are qualities all employers would like, I do not believe you can define based on job title. I believe that SVP and job tasks cover job demands. These are personal qualities desired and behaviors learned as a result of being in the world of work. How can these be measured?
8. Get along with co-workers, follow instructions, transfer knowledge to new or different departments or processes.
9. Too subjective. Who is going to evaluate? What employer is going to say efficiency and reliability and honesty and team are not required? Who will evaluate the job candidate for these qualities?
10. Time organization.

11. Detail oriented vs. quality oriented; ability to work alone; work with public; many factors above are judgment based and very challenging to measure or quantify.
12. Operational definitions needed, eg.: What attitude?
13. Perseverance
14. All need better - clearer and more definitive, more consistently understood operational definitions, etc., of each.
15. Security clearance
16. oral or written communication skills?
17. Problem solving, decision making, work with people
18. I checked frustration tolerance, but I don't think this is possible to identify in a particular job, as individuals have differing frustration tolerances, and it is as difficult to identify as "stress" as stress is relative and different tolerances for everyone. Plus, the other qualities are preferred by all employers, and VE's can assess which ones, such as communication skills, are actually required for the job.
19. Ability to meet deadlines, problem solving skills

Q 15: What new SSA-related items are needed for the Social Security Administration OIS?

1. There are often tasks that can be performed but are not recommended or may harm client.
2. Additional detail can result in overly restrictive criteria for transferability or exclusion from own occupation.
3. Ability to communicate in Spanish/Multilingual language requirements/
4. Read and understand directions written in English
5. These are covered in the current definitions, based on RHAJ and VE experience in analyzing jobs and placement. The job description itself covers what is done. It is up to the VE to understand the world of work and how it is performed. The current PD cover this.
6. WALKING
7. We need neck limitations and upper extremity guidelines too/Hands/fingers are attached to arms and potentially involve neck positioning.
8. Repetitive hand use should be quantified/ Repetitive hand/finger movement is already indicated in the handling & fingering requirements/Keyboarding
9. Simple routine should be separated from repetitive and repetitive an hand movement should be separate
10. Enhanced objective data pertaining to mental concerns that are in-line with current professional standards of evaluation of impairment of functioning. SSA does not currently do this and accepts minimal and subjective information as "proof" of impairment. Moreover, there isn't a requirement of assessment of symptom exaggeration and/or malingering.
11. Near and far vision are already covered - this is duplicative.
12. This is by far the most important info needed by SSA VE's
13. Voc. expert should interpret transferable skills
14. MET level will really complicate the SSA hearings/ MET level would not consider diseases such as MS

Q 16: What new information related to Barriers to Employment are needed for the Social Security Administration OIS?

1. Drug Medication side effects.
2. -Do not consider things that are functions of the workers choice, not a matter that
     cannot be changed
   -These are hireability issues
   -This is discriminatory and arbitrary. Employers make these decisions and there is
   -Always an interaction with other qualities. Not a disability determination need.
   -Like #14, most of these are intrinsic to the clinical qualitative part of the VE's
     analysis, not to the OIS for SSA purposes.
   -I am concerned about these. I think these can confuse employability with
     placeability.
   -None, employment is not the issue with SSA.
   -I'm not convinced that Barriers should be included. The list could be limitless
     and seems to be based substantially on judgment calls based on consideration/
     quantification of all the other factors.
   -Consideration of the criminal record will just further back up social security as
     while this may limit specific industries, it should not be a consideration
   regarding skills, or ability to work.
   -These are factors which should be addressed in counselors individual labor
     market surveys, no way you can address them on a national basis for all
     occupations, in my opinion.
   -Not all individuals with criminal records are the same, just as monocular vision
     varies with the individual.
   -If too subjective would not be possible to address and issue is not being hired but
     capacity to do work.
   -Additional detail can result in overly restrictive criteria for transferability or
     exclusion from own occupation
   -Way too specific to study in a constellation of jobs
3. Wouldn't adaptive devices be an aspect of MPSMS that could be tied to potential
   accommodations that are inherent in an occupation or across a group of
   occupations?
4. Cognition: plan, organize, direct, control
5. -Disease/illness/or injury/disability expected restrictions or complications.
   -The use of adaptive devices is not a barrier to employment, but a tool to improve
     functionality.
   -Reasonable accommodations/Adaptations necessary or possible.
   -In today's world if someone has a prosthetic device and they have proven
     effective at using it then it should be looked at as acceptable to due their job.
6. Child Care, Salary, Benefits.
7. Sex offender history.
8. Pre-existing restrictions/medical conditions.
9. One-handedness, blindness, deafness, psychiatric disabilities, Level of cognitive
   ability.
10. Driving Record/Driver's License.

11. Ability to interact with coworkers & supervisors in minimally est. standard.
12. Legal status to work in the United States
13. Assessment of poor work ethic and desire to work.
14. Obesity.
15. Lack of employment within the last (specify time) months/years.
16. Past drug use/abuse, ethical violations, loss of licensures or certifications, etc.
17. Security clearance.
18. Transportation issues.
19. Age
20. Primary language
21. Ability to take care of personal needs (bathroom related issues)

Q 17: What changes or additions do you recommend to the Rating Scales? (check all that apply)

1. Changing the ratings will require job analyses of the exemplars for groups of similar jobs and needs to be done by trained VRC's or CVE's
2. -Add Seldom or Rarely, defined as 1 to 10% of the time.
   replace never with 'rare'.
   -Add NEVER. Add RARE to be "once to 5%" making OCCASIONAL defined as "6-33%"
   -I recommend infrequently, occasionally, frequently and continuous.
   -Use a rarely rating for less that 10% of work day.
   -Use of seldom which is 1% to 5% which moves occasionally to 6% to 33%. This would make the DOT in line with most functional capacity evaluation systems.
   -Modify the rating scale to break the percentages into smaller categories based on 20% as opposed to 33%.
   -As stated previously, define Rarely as >=0 and<=10% and Occasionally as >10% and <=33.3%
   -"rarely" category would be good. But consider the diminishing returns by adding too many variables. We could end up arguing how many angels can dance on the head of a pin at hearings. I know attorneys who would love to engage in such sophistry.
   -Consider either additional categories for never, occ, frequent and continuous, to have 1-2 more categories.
3. Determining the rating scales should be based on how the data falls once it is collected. Those decisions could be made through cut score analysis so they make the most sense to work as it is performed in the US labor market, not limited through a presupposition of how those ratings should cluster or fall.
4. sedentary, light, etc..... these have become meaningless
5. Jobs should be described in terms of what the task demands and productivity expectations are. This is what the ADA is all about. Describe what is required, not how it is done. Human capacities need to be measured in a realistic manner. -- Getting too technical and detailed isn't feasible as the medical/functional capacity community can't respond. Given the lack of reliability that exists for functional capacity estimates I am not sure how far you can go with this.

6. The ability to push/pull is generally much greater than lift/carry.
7. Additional detail can result in overly restrictive criteria for transferability or exclusion from own occupation. It is all in how these criteria are allowed to be used for understanding the potential job demands vs exclusion from opportunity.
8. Work with the FCE folks about what is measurable and explainable.
9. Body position and strength need to remain linked.
10. Push/Pull strength definition and rating factors would be nice.
11. -If you understand the definitions, there is no need to confuse or make them more rigid. Who is to say how many reps are occasional or frequent? The whole RHAJ would have to be rewritten. Unlinking may help clarify some job demands with some jobs.
   -Unlinking the body positions from the lifting requirements would effectively eliminate the primary difference between light, medium, heavy and very heavy. While this may work for voc rehab counselors, the medical world uses these categories of physical demand.
   -Eliminating light, medium, heavy and very heavy would create the situation where not only the voc rehab profession would change but the medical profession would be challenged to change...no small undertaking!
12. While I do believe that there should be definitions for what repetitive means, as well as occasional, etc..., I believe that you should keep it as simple as possible and avoid creating too many combinations for scenarios. I would encourage you to try to streamline the process versus make it more complicated. The current rating scale should be kept with definitions to the descriptors.
13. Alternating position frequency would also be helpful.
14. This takes much more thought than a quick checking of box. Needs a full sub committee discussion.
15. Keep the lifting rating scales of sed, light, med, hvy, very hvy but unlink them as mentioned above
16. Repetitive motion should be added.
17. I think this would be very helpful as often someone can do a job that allows for standing but cannot lift over 10 lbs.
18. Instead of portion of the day, should be number of hours per work day. reps would be too specific and tedious. hours would work well...it is specific enough to be very helpful and not too specific (reps) to get bogged down and make things more cumbersome than need be.
19. -Unlinking body positions from strength factor would be good as some light duty positions require minimal lifting but require considerable walking which places the occupation into Light PDL
   -I wouldn't unlink position from strength but would modify it to include frequency.
   -The unlinking of body position from the strength requirements is a big step and one that will help. Also, add in work categories that include 5 lbs. or less.
20. Rating scales should not be such that they provide an impression of a more precise measure, when they result in pretty much guessing on the part of the job analyst, etc., beware of "false impressions of precision" which do not mean or add anything to the process, etc.

Q 18: The force levels for lifting and carrying should be adjusted in the descriptions for Strength physical demands levels. (e.g., application of the NIOSH revised lifting equation suggests that 40 lb. occasionally may be a more appropriate as an upper limit for Medium physical demands and that 70 lb. may be a more appropriate upper limit for Heavy physical demands.)

1. As above, this is one area that could be studied. The decision of where it should fall (35#, 40#, 50#, other) should be considered in context of not only NIOSH, but also with how the data collected by the OIS indicates it should cluster.
2. There should also be a way to distinguish body habitus and gender for allocating RFC strength. A sixty year old woman or any woman should not be given a Medium or Heavy RFC
3. It is lifting, not the same as physical demands. just a subset
4. Again it may be specific to disease/injury, etc. Often overhand or underhand lifting is involved. Amputees can lift if off to side, but rather difficult if out in front where we lose proprioception input. Our population is getting less fit and because of safety there are fewer jobs that require occasional lifting in the range specified for HEAVY or VERY HEAVY physical demands. What a worker can lift frequently is a much higher percent of the occasional lift than 50%...probably closer to 70-75%.
5. Any changes in weight classifications must be backed up by updated job analyses to see where the breakdown of weights is occurring by occupation.
6. Seems more appropriate.
7. It is still highly dependent on the FREQUENCY that lifting is performed.
8. 70 lbs. seems to be a defining requirement for post office and FEDEX type jobs.
9. The NIOSH is good for understanding limits of human exertion and fitness for job; however changing the definition would not accomplish anything for SSA purposes. Leave as is.
10. I find that many job leads ask for a 50lb lifting ability. You rarely see 40lbs. I would keep the current descriptions and add a category for light/medium (30 or 35lbs) and perhaps medium/heavy, as these are restrictions that we are seeing endorsed by physicians.
11. I don't know enough about this. Just make sure it ties in with what doctors are used to selecting.
12. With technological advances, jobs are getting lighter, not heavier. What is the significant difference in 10 lbs (i.e. 40 for medium) This would cause too much adjustment and would not be reasonable to the American employer/employee without much benefit.
13. Arguments for both sides appear valid. By changing the system there would be more consistency in usage and between agencies. This would mean maybe ease of communication and understanding. On the other hand, it would require a new job analysis re-evaluating every job in the DOT to modify strength levels. IT would also require some time for all parties (ALJ, Attorney, ME, VE, treating source, etc.) to make the change to a new system.
14. For the most part, agree but I'd like to see much more data on this point.
15. I would suggest consideration for light work to be increased to 25 lbs.

16. As technology improves so does the physical strength needed to perform jobs. Making this shift would have the effect of classifying jobs more toward the lower limits that doctors may release clients to. The problem is employers have little knowledge of these ratings and don't seem to care about adhering to them once established.
17. A five-gallon bucket of water or paint weighs around 40 lbs. which remains within the "medium" definition; likewise, a UPS driver is generally limited to lifting up to 75 lbs. which falls nicely within the "heavy" range. The same principle applies to airline check-in clerks, taxi drivers, etc.
18. it's really six-and-on-half-dozen-of-the-other, isn't it. What really needs to happen is that the DOT needs to be updated to be contemporary. NIOSH is not a vocational authority. If the jobs were all reevaluated, some eliminated, others added, it would be contemporary and then we would know if it was really 20, 50 or 100 or needed to be 30 60 an maybe 75???
19. But, how will this speed up the process or in fact change anything in VE testimony? We deal basically in the Sedentary and Light arena.
20. How were these levels determined? Do they reflect current scientifically derived measures, such as information that has been developed from human factors/ergonomic research? What about use of alternative methods of performing physical requirements of job tasks, more than 1 person involved in performance of a lift, etc.? Requirements should not exceed current labor standards (e.g. from state commissions on workplace safety, OSHA, and ergonomic/human factors research regarding lifting capacities, etc. Any exceeding of these "real" and "truer" standards should include alternatives used by worker(s) to perform physical tasks (e.g. use of forklift or multiple workers to perform lift of certain amounts, eg. lift of 75 lb object (which could be difficult to control due to dimensional characteristics, lack of places to grasp the package, etc.) by means of multiple workers assisting each other, use of lifting devices, other methods, etc.
21. Stay with standard definitions for strength demands as defined by the Classification of Jobs and other sources
22. You maybe able to include 75 lbs in medium considering the airlines and parcel services require 75 lifting capacity.
23. All industry would have to adapt to this or placing people on jobs at medium could result in more injuries. For example, I always hear in testimony that a nurse aide is Heavy to Very Heavy, when it is rated as Medium. It seems that the physical demands levels are appropriate, but some DOT titles need to be changed
24. Distinguish between left and right hand . A person may be limited with the right hand but can still lift 40 lbs using both hands.
25. As well as, frequency of lifting. For example, lifting 25lbs frequently or 10lbs occasionally. These are more frequent in the Medium and light exertions than the maximum lift.

Q 22: Are there any other needs or gaps in information that you recommend for consideration?

1. -More detail on handling reaching activities.

- Reaching overhead should be included.
2. Be mindful that jobs requires certain behaviors and people have limited capabilities based on age, impairments, intellectual ability and the like
3. -With reference to #21, the question could be whether a skill (learned behavior), or a complexity of skills, is competitive or non-competitive. What you call it becomes immaterial or moot. It's the work complexity and its elasticity in the competitive labor market that is at issue, not it's name. This best helps us examine how human capital transfers and migrates given interventions (or lack thereof) in someone's worklife.

-RE: #21, perhaps current SVP1 jobs would be Unskilled and SVP2 jobs "Low-skilled."

-Question 21 poses several interesting options. If you change SVP 1-2 to low unskilled then does 3 become semi-skilled and 4 advanced semi-skilled, and then for the skilled positions, would it be low-skilled, low semi-skilled skilled, skilled, advanced skilled? I guess my point is okay make some changes, but if we change the bottom end will we then not be expected to say there are equally as many levels of skilled and semi-skilled. IF this is the route taken, I can live with it if we are given enough details, specifications to be able to determine what belongs where. Note SVP 1 jobs should be entry level, minimal instruction, SVP 2 may have skills. Can there be a differentiation of the 2?

- SVP 3 appears to be a misnomer when comparing occs that fall within this SVP...suggest 3 either be unskilled or be eliminated, with the jump from unskilled to semi at SVP4

- unskilled work should include work that reflects the skills that students would generally leave high school with and can enter the labor market with no additional training. This now would include jobs with keyboarding skills and most if not all jobs at the SVP level.

- I think we need to re-think the SVP's as many SVP 3 jobs are direct access jobs. Many SVP-3 jobs are really unskilled. These jobs should be included in the "low-skilled" work category.

- I see many times that a claimant would be able to perform the occ of Security Guard/Gate Guard, non-commissioned (not carry weapon); but SVP is 3, semi-skilled, and unless he/she has worked in law enforcement before, doesn't have transferability to this job, which is really entry-level job. I have tried to use it for specific cases, explain to ALJ that the person has the judgment needed, the education, etc and is qualified for the job. But they want unskilled jobs or jobs which show transferability. SVP 3, yes, sometimes does require transferability, but not always. I wish SSA would recognize SVP as Entry-level, and rely on the VE to determine if transferability is not needed.

- I believe that the base of low skilled jobs should include marginal SVP 3 jobs. Vocational professionals do not restrict placement of candidates to unskilled work when performing placement in the open labor market. Most SVP 3 jobs are direct entry and do not require any specialized background to perform. Employers readily hire individuals for SVP 3 jobs without a past work history in the occupation.

- Numerous occupations with SVP/s of 3 and 4 should be considered "low skill"

4. -Reasonable accommodations have the capacity to mitigate many ratings as applied to the worker-job interface; so too for assistive technology.
   -Whether accommodations exist especially given computers, other equipment that allows performance of jobs
5. Refer to ERI data.
6. SSA and Medicare need to know if the prosthetics, adaptive aids, etc. that are reported, are, being used, if they improve function, accessibility, etc. Because, I'm finding that many amputees are being fit poorly, the prosthetist is paid, but no one checks with the amputee about fit, function, and improvement. the consumer should be surveyed.
7. We must make sure that the Aptitude Levels GVNSPQKFMEC are kept and updated as needed.
8. The system must clarify and acknowledge that these are not criteria for a determination of permanency as policy is for the restoration of employable capacity for SGA.
9. Reliability, dependability, stamina, tolerance.
10. -The impact of the computer and peripheral on all occupations. Increased reflection of the numerous service-industry occs. Better (and more specifically) reflect the supervisory and "first-line" manager job descriptions separate from the Master titles.
    -Update information by job analyses and expand the DOT to include new occupations, as well as eliminating obsolete occupations.
    -Technology must be included in the OIS job task. Computers and technology is the greatest disparity in DOT data.
    -Upgrade job descriptions that use computers. Computers were scarce in 1991.
    -Update jobs included to reflect jobs currently available in the marketplace and eliminate jobs that are not obsolete
    -Eliminate extinct occupations such as "cigar wrapper"
    -Delete the antiquated multiple job titles such as "waitress-first class dining car"
etc.
11. Some unskilled jobs have an SVP of 3; I believe that SVP 3 is not necessarily "semi-skilled". I think that a definition of "entry level" would be more appropriate and defined as not needing previous skills to enter into job. Such as Security Guard...previous experience helpful, not required.
12. Provide detailed medical information, not check boxes.
13. -In reference to #19, there is a large gap between the vast number of positions in the DOT compared to the ONET. Somewhere in the middle would be helpful.
    -On item 19 be careful in defining "most commonly exist".
    - Re #19: I use the information to classify the claimant's work. I would need an alternative to use if the OIS did not include that claimant's occupation. However, I do think that it is a good idea to have those jobs commonly testified to by ssave's identified separately so that all ve's are "on the same page".
    -Regarding question 19, I agree if there were some way to group or generalize some of the less common jobs so that you can choose from those groups when coding a less common job and still have some of the needed info to describe that job.

14. Wage data associated with the occupation would be helpful.
15. Mental RFC needs adjusted - simple instruction matches Reasoning Level of 1 which limits occupations. Thus this matches grades 1-3 and everyone would require a payee if this is indeed true. Perhaps better wording on Reasoning level 2 should be implemented.
16. Unscheduled breaks - may be covered in here somewhere. Part-time v + full time. Pain/medication. Drivers license.
17. Maybe this whole process should be computerized given the enormous amount of factors and their interaction. Of course, if it's all computerized, there probably wouldn't be much need for VE's!
18. Make sure titles tie in to labor market data.
19. Skills should be more clearly defined in terms of what employers look for in a job applicant. This should include the knowledge as well as familiarity with tasks. A former carpet layer could make a good carpet sales person due to their knowledge and hands-on experience, but the Work Field and Materials-Product codes are very different for these two occupations.
20. There is no assessment of symptom exaggeration and/or malingering. The empirical literature has demonstrated a much higher level of symptom exaggeration (30-40%) in disability claims.
21. Standing needs addressed as a separate physical ability as opposed to be clumped in with Sedentary, Light, etc.
22. Identification of which jobs traditionally allow for sit /stand options is very important.
23. The whole issue of foreign born and non-English speaking persons.
24. RE # 20: beginning with a new data base for the most commonly occurring jobs may be a good starting point for this project. Although it would be great to have the data on all jobs, the cost and labor involved may be overwhelming to the point that the project becomes derailed.
25. -Regarding the MRFC: Provide logical functional definitions for mild, moderate (most important), and severe.
    -Operationally modify rating scales especially moderate levels in psychiatric assessments;
    - Mental Health factors play a big role in suitability for employment. These seem to become the main barriers to employment in the majority of the cases I have heard. Physical demands can be accommodated for but Mental Health disabilities are much more difficult to deal with from an employer's stand point.
26. Try to maintain the OIS as close to the present DOT as possible.
27. -Narrow the durational period for Frequently (1/3 rd to 2/3 rds is too wide)
    - A solid inclusion and definition of rare or prolonged.
28. The issues of claimant motivation and hireability.
29. Tons of these exist - agree with those aspects for consideration included in most recent IARP IODC report and others.
30. Requirements of neck and upper extremity limitations as well as psych/concentration etc.
31. Many jobs these days are combination jobs due to the economy. There is great specificity in machine operating positions in the dot, however, many of them

require the same physical and mental demands and can be consolidated, but not to the point that Onet and OES consolidates them. However if they are to be consolidated, then they should be consistent with other data that is out there such as OES/bls data.

32. Job analyses should be conducted for all jobs by CRC's and complied in updated DOT.

33. I think that VEs should be able to rely on their experience in the labor market and not only on the DOT;

34. As mentioned above, add Neck and Sit/Stand; Distinguish "Power" and "Simple" Grasp.

Q 23: Do you have any final recommendations for information that should be included in an OIS to assist Social Security with adjudicating adult disability claims?

1. Any revision should be capable of adding new or additional jobs as such are seen in greater numbers at ODAR hearings or eliminating jobs that are obsolete or occur only rarely in the Labor Market.

2. Is there any way to link the work history in the SSA SEQY/DEQY to the OIS?

3. Focus should be on worker abilities and not barriers and limitations.

4. There needs to be link from any new OIS to available labor market data, which means that a crosswalk back to OES data. The larger the number of job titles in the OIS, the more difficult this will be. Use ONET titles data as much as you can as it links back to OES, but make the descriptors of ONET jobs more "disability friendly".

5. Include incidence of jobs in national and regional economy. Define "significant numbers".

6. Use of enhanced criteria ought to address not only employability due to impairment but also criteria that may be addressed for restoration of employability.

7. -SSA should de-emphasize the notion that low SVP jobs are less stressful than higher SVP jobs. Stress is a personal reaction to personally relevant stimuli. A cardiac surgeon could be quite relaxed while doing heart surgery and stressed out on a bottle-capping line. -Unlink SVP with stress assumptions.

8. Definitely include the new mental/cognitive components you've suggested!

9. Develop a consistent rating scale for the factors so that 1 always equals lowest and the highest number always equals the greatest.

10. Again, I would be cautious about how much you add. Life and work are not that neatly compartmentalized.

11. It would be incredibly helpful to tie in or provide statistics as far as how many (estimated percentage) 'low-skill'/SVP 1-2 jobs are sedentary, light, etc... This is information that is at times difficult to come by and I believe would be a vital resource for SSA claims and vocational work in general.

12. Jobs that do not require English language such as housekeeper should be identified.

13. Bi-lateral hand twisting for manipulation limitations should be added.
14. Sit/Stand options in jobs, standing at will distinction would be helpful.
15. one arm vs. bi-lateral use
16. Overhead reaching verses front level reaching would help tremendously.
17. Concentration levels in jobs in alignment with psych RFC like pace or persistence.
18. Keep it simple. Some of the above lists can be pared down. Keep it objective. Really, how can a job be analyzed with some of this detail. More common sense instead of being overboard comprehensive.
19. 90+ percent of jobs are in 2500 titles . Use these most common titles.
20. Link the mental and physical RFC descriptors with the OIS-
21. Allow for input of job specific factors.
22. Better categorize the information to match that of SOC codes so we can use the DOL/BLS/OES data more efficiently and reliably.
23. TSA determination should be revised and based upon employer expectations.
24. Many people with mild mental retardation work in semi-skilled jobs such as a stocker at a grocery store (SVP-4) or a fast food cook (SVP-5- will someone pls tell me what make a fast food cook a skilled job?). According to the DOT, someone with less than borderline IQ could not perform these jobs or any other job based upon the percentages for the aptitude of General Learning. This needs to be changes as it does not reflect reality.
25. The inclusion of substantial and more comprehensive evaluation of mental concerns that are currently very poorly documented. The assessment of psychosocial issues that impede the person's willingness to stay in the workplace are essential.
26. May want to specify hearing requirements as they relate to frequency/decibel as well (many Deaf are gainfully employed and SSA is outdated)
27. Revisit current Light jobs that allow extensive sitting and minimal lifting/exertion and change those to Sedentary.
28. Identify which jobs allow for sit stand options
29. Better definitions for use of upper body limbs for reaching, handling, fingering, grasping
30. Shorten job descriptions, add code fields and make all code references "1 click" away. If I want to look at D-P-T that should be a " click" button and not require that I get out of what I am doing.
31. Updating descriptions to determine impact of changes in technology on how work is performed
32. -Information regarding industry absenteeism rates. When I testify I base this on experience and DOL absenteeism rates. It would be good if all VE's testify using similar available information.
    - It is probably important to define or address issues such as absenteeism and excessive breaks and how that affects full-time employment, as this is routinely used by ALJ's
33. Eliminate obsolete occupations, eg.: Dial Marker 729.684-018. State that many occupations are typically performed in conjunction with other occupations; the

resulting hybrid job should be described at the highest exertion and skill levels of the occupations included.

34. Address the variability of tasks from one work setting to another, or one region to another, for the same job title. (ie. Is there much variability from one employer to another, or are all employment settings essentially requiring the same tasks. Restaurant manager would be an example of variety among employers.)

35. Update the broad spectrum of occupations that exist today that have never been analyzed or updated

36. Try as much as possible to list the skills associated with each occupational title.

37. Current PRFCA ODAR form limits response to sit,stand/walk to about 6 hours in a 8 hour workday. Provide choice of 7 or 8hrs and separate standing from walking.

38. The issues of claimant motivation ...and hireability

39. Use of assistive technology to perform essential functions of job.

40. Possibly consider a system that would interface with newer functional ways of looking at individual physical, mental, etc. capacities of persons to perform in diverse settings and on diverse tasks (such as the international classification on disability, aging, and functional abilities proposed and being implemented by the WHO, etc.

41. accommodations.

42. I think a key factor is not only what information is gathered but how easily can it be identified as a factor in a job. For example if "appearance" or "team player" (as mentioned as possible factors in barrier or mental requirements) would be subjective. Whatever the factors considered they need to be ones that majority could agree is a known definition and not open to subjective interpretation by VE's, judges, attorneys. etc.

43. Many jobs in the current DOT have long descriptions of tasks, using hand tools, etc and are listed as unskilled. Compare them to similar jobs which are semiskilled or skilled. Some description of use of tools which makes them skilled? (Is it that everyone should know how to use a hammer and power drill?).

44. A)Set up committees that have a working knowledge of the State or region they serve to identify industry bases (Kansas - Aircraft industry, Agriculture, etc). B)Identify the employers in the industry base.
C) Identify the jobs (DOT'S) that support the industry base.
D) Work with these industries to assess the job functions. Most major employers have very effective job descriptions, physical demands and realistic outlines of the performance of the jobs. Gather the existing data from these employers and you solve the 2 major problems. (How the job is performed, and how many of the jobs exist)
E) Compile the data into a national job bank and you have a great data base for assessing all aspects of the testimony.

1. Please provide your recommendations regarding inclusion of the following DOT items in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Current coding system	**68.1% (235)**	4.3% (15)	20.3% (70)	7.2% (25)	345
Data, People, Things	**69.4% (243)**	7.4% (26)	12.3% (43)	10.9% (38)	350
Industry designation	**73.8% (256)**	4.9% (17)	13.3% (46)	8.1% (28)	347
Task statements	**77.6% (274)**	1.1% (4)	18.4% (65)	2.8% (10)	353
Alternative titles	**79.4% (277)**	2.0% (7)	12.9% (45)	5.7% (20)	349
"May" items	**63.1% (209)**	10.6% (35)	11.8% (39)	14.5% (48)	331
Physical strength requirement (S-L-M-H-VH)	**79.9% (282)**	0.0% (0)	19.8% (70)	0.3% (1)	353
SVP (Specific Vocational Preparation - one of three bases of transferable skills analysis)	**81.6% (284)**	0.6% (2)	16.7% (58)	1.1% (4)	348
If you believe one or more of these categories should be modified, please explain					131
				answered question	353
				skipped question	0

2. Please provide your recommendations regarding inclusion of the current DOT General Education Development definitions in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Reasoning	**70.0% (243)**	2.0% (7)	21.0% (73)	6.9% (24)	347
Math	**73.2% (254)**	1.4% (5)	18.4% (64)	6.9% (24)	347
Language	**71.0% (245)**	1.7% (6)	20.6% (71)	6.7% (23)	345
If you believe one or more of these items should be modified, please explain.					75
				answered question	347
				skipped question	6

3. Please provide your recommendations regarding inclusion of the current DOT Physical Demand elements in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Climb	**87.7% (308)**	0.6% (2)	10.5% (37)	1.1% (4)	351
Balance	**88.8% (309)**	2.9% (10)	6.9% (24)	1.4% (5)	348
Stoop	**85.6% (298)**	2.0% (7)	11.5% (40)	0.9% (3)	348
Kneel	**92.5% (320)**	2.0% (7)	4.9% (17)	0.6% (2)	346
Crouch	**87.6% (305)**	3.2% (11)	7.8% (27)	1.4% (5)	348
Crawl	**90.2% (313)**	4.3% (15)	4.3% (15)	1.2% (4)	347
Reach	**74.0% (259)**	0.3% (1)	25.1% (88)	0.6% (2)	350
Handle	**83.9% (292)**	0.6% (2)	14.7% (51)	0.9% (3)	348
Finger	**84.6% (292)**	0.9% (3)	13.6% (47)	0.9% (3)	345
Feel	**82.8% (288)**	7.8% (27)	8.3% (29)	1.1% (4)	348
Talk	**87.9% (306)**	4.0% (14)	6.3% (22)	1.7% (6)	348
Taste/smell	**75.7% (256)**	13.9% (47)	5.9% (20)	4.4% (15)	338
Near acuity	**85.5% (294)**	2.0% (7)	9.9% (34)	2.6% (9)	344
Far acuity	**85.5% (296)**	2.3% (8)	9.5% (33)	2.6% (9)	346
Depth perception	**86.9% (299)**	2.9% (10)	7.8% (27)	2.3% (8)	344
Accommodation	**79.4% (273)**	6.7% (23)	8.4% (29)	5.5% (19)	344
Color vision	**83.7% (288)**	4.9% (17)	7.3% (25)	4.1% (14)	344
Field of vision	**84.8% (289)**	3.5% (12)	7.9% (27)	3.8% (13)	341
If you believe one or more of these items should be modified, please explain.					138
				answered question	351
				skipped question	2

4. Please provide your recommendations regarding inclusion of the current DOT Environmental components in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Exposure to weather	**86.6% (298)**	4.9% (17)	4.4% (15)	4.1% (14)	344
Extreme cold	**88.3% (303)**	2.0% (7)	6.1% (21)	3.5% (12)	343
Extreme heat	**88.3% (303)**	2.0% (7)	6.1% (21)	3.5% (12)	343
Wet and/or humid	**87.1% (298)**	4.4% (15)	4.7% (16)	3.8% (13)	342
Noise intensity level	**87.9% (298)**	2.7% (9)	5.3% (18)	4.1% (14)	339
Vibration	**88.0% (301)**	2.6% (9)	5.8% (20)	3.5% (12)	342
Atmospheric conditions	**74.1% (254)**	11.4% (39)	7.0% (24)	7.6% (26)	343
Proximity to moving mechanical parts	**88.1% (303)**	2.3% (8)	5.2% (18)	4.4% (15)	344
Exposure to electrical shock	**84.2% (288)**	6.4% (22)	5.0% (17)	4.4% (15)	342
Working in high exposed places	**87.1% (298)**	3.8% (13)	5.3% (18)	3.8% (13)	342
Exposure to radiation	**79.1% (272)**	8.7% (30)	5.8% (20)	6.4% (22)	344
Working with explosives	**77.8% (266)**	10.8% (37)	5.0% (17)	6.4% (22)	342
Exposure to toxic, caustic chemicals	**86.2% (294)**	2.6% (9)	7.3% (25)	3.8% (13)	341
If you believe one or more of these items should be modified, please explain					55
				answered question	345
				skipped question	8

5. Please provide your recommendations regarding inclusion of the current DOT Aptitudes in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
General learning ability	**82.2% (281)**	4.1% (14)	9.9% (34)	3.8% (13)	342
Verbal aptitude	**82.2% (281)**	4.4% (15)	8.8% (30)	4.7% (16)	342
Numerical aptitude	**82.7% (283)**	4.1% (14)	8.8% (30)	4.4% (15)	342
Spatial aptitude	**79.0% (271)**	7.0% (24)	8.7% (30)	5.2% (18)	343
Form perception	**77.0% (264)**	8.7% (30)	9.0% (31)	5.2% (18)	343
Clerical perception	**78.6% (268)**	6.5% (22)	9.4% (32)	5.6% (19)	341
Motor coordination	**82.4% (281)**	5.3% (18)	7.9% (27)	4.4% (15)	341
Finger dexterity	**81.8% (279)**	4.4% (15)	9.4% (32)	4.4% (15)	341
Manual dexterity	**82.5% (282)**	4.1% (14)	9.1% (31)	4.4% (15)	342
Eye-hand-foot coordination	**81.8% (279)**	5.9% (20)	7.0% (24)	5.3% (18)	341
Color discrimination	**79.7% (271)**	7.4% (25)	6.8% (23)	6.2% (21)	340
If you believe one or more of these items should be modified, please explain					51
	answered question				343
	skipped question				10

6. Please provide your recommendations regarding inclusion of the current DOT Temperaments in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Directing, controlling, planning	**81.2% (276)**	5.6% (19)	6.8% (23)	6.5% (22)	340
Performing repetitive tasks	**81.5% (277)**	4.1% (14)	9.1% (31)	5.3% (18)	340
Influencing people	**77.5% (262)**	7.1% (24)	9.2% (31)	6.2% (21)	338
Performing a variety of duties	**78.5% (266)**	6.5% (22)	8.6% (29)	6.5% (22)	339
Expressing personal feelings	**67.4% (229)**	13.8% (47)	10.0% (34)	8.8% (30)	340
Working alone	**80.9% (275)**	5.6% (19)	7.4% (25)	6.2% (21)	340
Performing under stress	**71.8% (245)**	5.9% (20)	16.7% (57)	5.6% (19)	341
Attaining tolerances	**73.2% (249)**	7.9% (27)	11.2% (38)	7.6% (26)	340
Working under specific instruction	**79.4% (269)**	6.5% (22)	8.0% (27)	6.2% (21)	339
Dealing with people	**79.4% (269)**	4.7% (16)	10.3% (35)	5.6% (19)	339
Making judgments and decisions	**83.4% (281)**	4.2% (14)	7.4% (25)	5.0% (17)	337
If you believe one or more of these items should be modified, please explain					71
				answered question	342
				skipped question	11

7. Please provide your recommendations regarding inclusion of the current DOT Interests in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Artistic	**56.6% (193)**	17.3% (59)	5.6% (19)	20.5% (70)	341
Scientific	**56.9% (194)**	17.0% (58)	5.6% (19)	20.5% (70)	341
Protective	**55.7% (190)**	18.2% (62)	5.9% (20)	20.2% (69)	341
Mechanical	**57.9% (197)**	16.5% (56)	5.6% (19)	20.0% (68)	340
Industrial	**55.8% (191)**	17.8% (61)	6.4% (22)	19.9% (68)	342
Business detail	**56.2% (191)**	17.4% (59)	6.5% (22)	20.0% (68)	340
Selling	**57.8% (197)**	16.7% (57)	5.6% (19)	19.9% (68)	341
Accommodating	**53.7% (183)**	19.6% (67)	6.5% (22)	20.2% (69)	341
Humanitarian	**54.9% (186)**	18.6% (63)	5.9% (20)	20.6% (70)	339
Leading/influencing	**56.5% (192)**	17.1% (58)	5.9% (20)	20.6% (70)	340
Physical performing	**56.5% (191)**	18.0% (61)	5.6% (19)	19.8% (67)	338
If you believe one or more of these items should be modified, please explain					48
				answered question	344
				skipped question	9

8. Please provide your recommendations regarding inclusion of the current DOT components in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Work fields (one of three bases of transferable skills analysis - e.g. teaching, health caring, printing, transporting)	78.4% (268)	7.0% (24)	6.7% (23)	7.9% (27)	342
Materials, products, subject matter, services (one of three bases of transferable skills analysis - e.g. aircraft and parts, architectural engineering, hotel services)	76.0% (259)	8.2% (28)	7.3% (25)	8.5% (29)	341
Crosswalks to other reference sources such as the GOE, SOC	80.6% (275)	5.3% (18)	5.6% (19)	8.5% (29)	341
If you believe one or more of these items should be modified, please explain					26
answered question					344
skipped question					9

9. Please provide your recommendations regarding inclusion of the current DOT Rating Scale choices in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Never	81.8% (279)	1.8% (6)	13.8% (47)	2.6% (9)	341
Occasionally	79.8% (272)	1.2% (4)	16.7% (57)	2.3% (8)	341
Frequently	82.7% (282)	0.9% (3)	14.1% (48)	2.3% (8)	341
Constantly	83.8% (285)	1.2% (4)	12.6% (43)	2.4% (8)	340
If you believe one or more of these items should be modified, please explain					101
answered question					343
skipped question					10

10. What new Occupational Preparation information is needed for the Social Security Administration OIS? (Check all that apply)

		Response Percent	Response Count
OJT		85.7%	258
Vocational training		**88.4%**	**266**
High School		83.1%	250
Associates degree		77.7%	234
Bachelors degree		75.7%	228
Doctoral degree		60.1%	181
Other (please specify)		26.9%	81
		answered question	301
		skipped question	52

11. What new Occupational Prerequisite information is needed for the Social Security Administration OIS? (Check all that apply)

		Response Percent	Response Count
Type of experience needed		87.3%	247
Length of experience		**90.8%**	**257**
Other (please specify)		13.4%	38
		answered question	283
		skipped question	70

12. What new SVP information is needed for the Social Security Administration OIS? (Check all that apply)

|		Response Percent	Response Count
SVP should be tied to the level of education/training achieved		59.3%	182
SVP should be tied to the average length of time to learn the job		68.7%	211
SVP should be tied to the average time to gain acceptable job performance		**70.4%**	**216**
	Other (please specify)		30
	answered question		**307**
	skipped question		**46**

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13. What new information related to Mental Demands is needed for the Social Security Administration OIS? (Check all that apply)

		Response Percent	Response Count
Concentration		87.4%	271
Persistence		74.5%	231
Pace		85.5%	265
Memorization		54.8%	170
Complex problem solving		79.0%	245
1-2 step directions		80.6%	250
Perceptual abilities		55.8%	173
Creativity		32.9%	102
Divided attention		52.6%	163
Response inhibition		36.1%	112
Selective attention		44.5%	138
Oral comprehension		78.4%	243
Oral expression		72.9%	226
Written comprehension		79.4%	246
Written expression		74.2%	230
Variability of tasks		70.6%	219
Other (please specify)		18.4%	57
	answered question		310
	skipped question		43
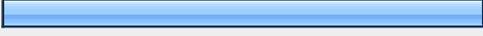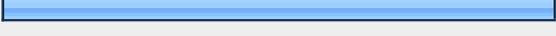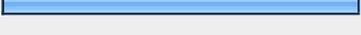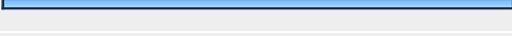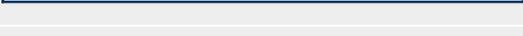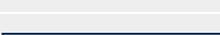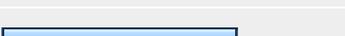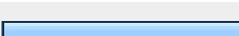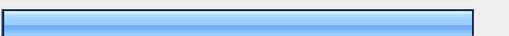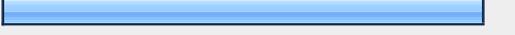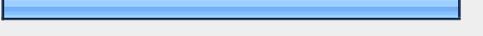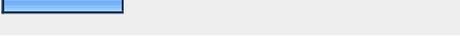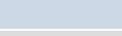
14. What new information related to Personal Qualities is needed for the Social Security Administration OIS? (Check all that apply)
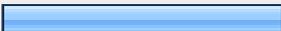
		Response Percent	Response Count
Attitude		43.1%	121
Leadership		49.5%	139
Tact		35.9%	101
Organization		62.3%	175
Frustration Tolerance		69.4%	195
Initiative		52.7%	148
Resourcefulness		41.6%	117
Honesty		34.5%	97
Flexibility		69.4%	195
Team orientation		54.8%	154
Communication skills		**79.0%**	**222**
Efficiency		48.0%	135
Reliability		69.0%	194
Quality orientation		37.7%	106
Other (please specify)		14.2%	40
	answered question		281
	skipped question		72
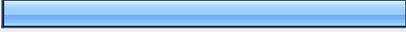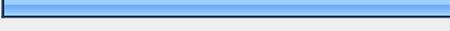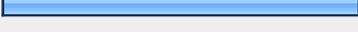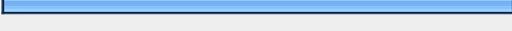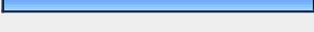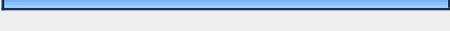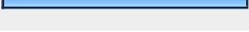
15. What new SSA-related items are needed for the Social Security Administration OIS? (Check all that apply)

		Response Percent	Response Count
Simple, routine, repetitive tasks		91.1%	287
Level of literacy required		87.3%	275
Skills that transfer to other occupations		83.2%	262
One-handed		90.5%	285
Repetitive hand/finger movement		83.2%	262
Sitting work tolerance (rated using frequency scale)		90.5%	285
Standing work tolerance (rated using frequency scale)		91.4%	288
Sit/stand option		**94.9%**	**299**
Stamina (Rated as an aptitude or MET level)		57.8%	182
Different levels of reaching (above shoulder, at shoulder, waist-level, etc.)		86.0%	271
Technology skills		66.0%	208
Climbing agility (ramps, stairs, ladders, etc.)		64.1%	202
Neck movement/positioning (flexion, extension, twisting/turning head, length of time in each position)		82.2%	259
Hearing sensitivity (telephone, acute fine detail, near or far distance)		68.3%	215
Near vision acuity (computer screen, fine print, etc.)		72.1%	227
Far vision acuity (driving, etc)		68.6%	216
Productivity factors (production rate required, work at own pace,		79.4%	250
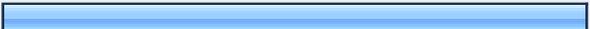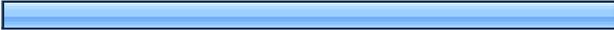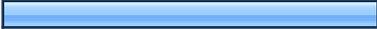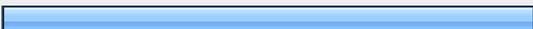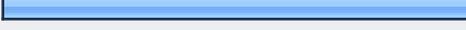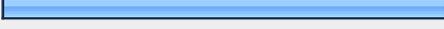
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		Response Percent	Response Count
etc.)			
Work setting (factory, office, outdoors, freezer, etc.)		69.2%	218
Ability to communicate in English		74.0%	233
Other (please specify)		8.9%	28
	answered question		315
	skipped question		38
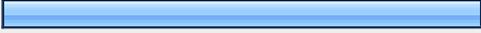
16. What new information related to Barriers to Employment are needed for the Social Security Administration OIS? (Check all that apply)

		Response Percent	Response Count
Criminal Record		69.8%	194
Monocular Vision		63.7%	177
Personal Hygiene		39.2%	109
Appearance		38.5%	107
Use of adaptive devices		**76.3%**	**212**
Other (please specify)		19.1%	53
	answered question		278
	skipped question		75
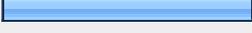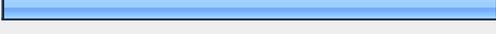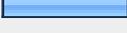
17. What changes or additions do you recommend to the Rating Scales? (check all that apply)		Response Percent	Response Count
Maintain current rating scale of never, occasionally, frequently, and continuous		46.2%	145
Modify the DOT frequency rating scale for physical demands to specify repetition ranges in addition to percentage of time (e.g., 1-12 reps per hour for occasionally, 13-30 reps per hour for frequently, 31-60 reps per hour for continuously)		52.9%	166
Add a new level to the frequency scale for physical demands (e.g., working > 8 hours per day)		49.4%	155
Unlink body position demands from the strength rating factor by limiting the strength definition to force requirements and rating the frequency of body positions such as sitting, standing, and operating foot controls as separate work tolerances (i.e., sedentary currently means sitting at least 6 hours in an 8-hour day and lifting up to 10 lbs. occasionally. Unlinking would have the requirement for sitting be separated from the requirement for lifting.)		**63.4%**	**199**
Please comment on other improvements to the rating scales you would like to recommend			44
	answered question		314
	skipped question		39
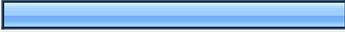
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18. The force levels for lifting and carrying should be adjusted in the descriptions for Strength physical demands levels. (e.g., application of the NIOSH revised lifting equation suggests that 40 lb. occasionally may be a more appropriate as an upper limit for Medium physical demands and that 70 lb. may be a more appropriate upper limit for Heavy physical demands.)

		Response Percent	Response Count
Agree		**75.0%**	**231**
Disagree		25.0%	77
	Comments?		35
	answered question		308
	skipped question		45
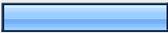
19. The OIDAP is questioning whether to include only those jobs that most commonly exist based on data from Social Security disability claimants and/or those jobs commonly testified to by Social Security Vocational Experts. Do you...?

		Response Percent	Response Count
Agree with this approach—include only most commonly encountered jobs in OIS		17.6%	57
Disagree with this approach— need to include all jobs in the current labor market in the OIS		**82.4%**	**267**
	answered question		324
	skipped question		29
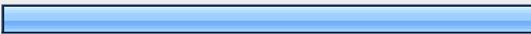
20. Would you agree with unlinking strength and body position factors (i.e., sedentary currently means sitting at least 6 hours in an 8-hour day and lifting up to 10 lbs. Unlinking would have the requirement for sitting be separated from the requirement for lifting.)

		Response Percent	Response Count
Agree		**81.7%**	**264**
Disagree		18.3%	59
	answered question		323
	skipped question		30
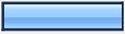
21. Would you agree with changing "unskilled" work to "low-skilled" work, to acknowledge the fact that SVP 1 or SVP 2 jobs involve some degree of minimal skill to perform the work successfully? Do you...?

		Response Percent	Response Count
Agree		**67.8%**	**221**
Disagree		32.2%	105
	answered question		326
	skipped question		27
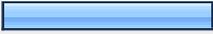
22. Are there any other needs or gaps in information that you recommend for consideration?

		Response Count
		75
	answered question	75
	skipped question	278

23. Do you have any final recommendations for information that should be included in an OIS to assist Social Security with adjudicating adult disability claims?

		Response Count
		73
	answered question	**73**
	skipped question	**280**

24. Do you currently have a BPA with SSA?

		Response Percent	Response Count
Yes		**53.6%**	**177**
No		46.4%	153
	answered question		**330**
	skipped question		**23**
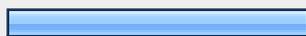
25. Are you currently a member of IARP (International Association of Rehabilitation Professionals)?

		Response Percent	Response Count
Yes		**80.5%**	**265**
No		19.5%	64
	answered question		**329**
	skipped question		**24**
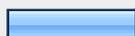
1. Please provide your recommendations regarding inclusion of the following DOT items in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Current coding system	70.5% (122)	1.7% (3)	22.0% (38)	5.8% (10)	173
Data, People, Things	74.4% (131)	4.5% (8)	13.1% (23)	8.0% (14)	176
Industry designation	75.0% (132)	5.7% (10)	11.9% (21)	7.4% (13)	176
Task statements	76.8% (136)	1.7% (3)	19.8% (35)	1.7% (3)	177
Alternative titles	80.7% (142)	2.3% (4)	12.5% (22)	4.5% (8)	176
"May" items	72.3% (120)	9.0% (15)	10.8% (18)	7.8% (13)	166
Physical strength requirement (S-L-M-H-VH)	76.8% (136)	0.0% (0)	23.2% (41)	0.0% (0)	177
SVP (Specific Vocational Preparation - one of three bases of transferable skills analysis)	79.2% (137)	0.0% (0)	20.2% (35)	0.6% (1)	173
If you believe one or more of these categories should be modified, please explain					65
	answered question				177
	skipped question				0

2. Please provide your recommendations regarding inclusion of the current DOT General Education Development definitions in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Reasoning	66.5% (115)	1.7% (3)	27.2% (47)	4.6% (8)	173
Math	68.8% (119)	1.2% (2)	26.0% (45)	4.0% (7)	173
Language	65.1% (112)	1.7% (3)	29.1% (50)	4.1% (7)	172
If you believe one or more of these items should be modified, please explain.					52
	answered question				173
	skipped question				4

3. Please provide your recommendations regarding inclusion of the current DOT Physical Demand elements in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Climb	**88.0% (154)**	1.1% (2)	9.7% (17)	1.1% (2)	175
Balance	**86.8% (151)**	5.2% (9)	6.9% (12)	1.1% (2)	174
Stoop	**86.1% (149)**	0.6% (1)	12.1% (21)	1.2% (2)	173
Kneel	**91.9% (158)**	3.5% (6)	4.1% (7)	0.6% (1)	172
Crouch	**89.0% (154)**	1.7% (3)	8.1% (14)	1.2% (2)	173
Crawl	**89.7% (156)**	6.3% (11)	3.4% (6)	0.6% (1)	174
Reach	**70.3% (123)**	0.6% (1)	28.6% (50)	0.6% (1)	175
Handle	**81.0% (141)**	0.0% (0)	18.4% (32)	0.6% (1)	174
Finger	**82.9% (145)**	0.0% (0)	16.6% (29)	0.6% (1)	175
Feel	**86.2% (150)**	6.3% (11)	6.9% (12)	0.6% (1)	174
Talk	**88.5% (154)**	2.9% (5)	6.3% (11)	2.3% (4)	174
Taste/smell	**79.2% (133)**	13.7% (23)	3.6% (6)	3.6% (6)	168
Near acuity	**85.5% (148)**	0.6% (1)	12.1% (21)	1.7% (3)	173
Far acuity	**86.3% (151)**	0.6% (1)	11.4% (20)	1.7% (3)	175
Depth perception	**88.4% (153)**	0.6% (1)	9.2% (16)	1.7% (3)	173
Accommodation	**80.9% (140)**	5.2% (9)	9.8% (17)	4.0% (7)	173
Color vision	**86.2% (150)**	3.4% (6)	7.5% (13)	2.9% (5)	174
Field of vision	**86.5% (148)**	1.8% (3)	8.8% (15)	2.9% (5)	171
If you believe one or more of these items should be modified, please explain.					77
				answered question	175
				skipped question	2

4. Please provide your recommendations regarding inclusion of the current DOT Environmental components in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Exposure to weather	**87.2% (150)**	4.7% (8)	3.5% (6)	4.7% (8)	172
Extreme cold	**88.9% (152)**	1.8% (3)	5.3% (9)	4.1% (7)	171
Extreme heat	**88.9% (152)**	1.8% (3)	5.3% (9)	4.1% (7)	171
Wet and/or humid	**90.1% (154)**	2.3% (4)	2.9% (5)	4.7% (8)	171
Noise intensity level	**88.2% (150)**	1.8% (3)	4.7% (8)	5.3% (9)	170
Vibration	**88.3% (151)**	2.9% (5)	4.7% (8)	4.1% (7)	171
Atmospheric conditions	**79.7% (137)**	7.0% (12)	5.2% (9)	8.1% (14)	172
Proximity to moving mechanical parts	**90.1% (155)**	0.0% (0)	4.1% (7)	5.8% (10)	172
Exposure to electrical shock	**86.5% (147)**	5.9% (10)	3.5% (6)	4.1% (7)	170
Working in high exposed places	**87.7% (150)**	4.1% (7)	4.1% (7)	4.1% (7)	171
Exposure to radiation	**79.7% (137)**	8.7% (15)	5.2% (9)	6.4% (11)	172
Working with explosives	**80.0% (136)**	10.6% (18)	3.5% (6)	5.9% (10)	170
Exposure to toxic, caustic chemicals	**87.1% (149)**	1.2% (2)	8.2% (14)	3.5% (6)	171
If you believe one or more of these items should be modified, please explain					31
				answered question	173
				skipped question	4

5. Please provide your recommendations regarding inclusion of the current DOT Aptitudes in the new OIS:					
	Retain	Eliminate	Modify	No Opinion	Response Count
General learning ability	**79.2% (137)**	5.8% (10)	9.8% (17)	5.2% (9)	173
Verbal aptitude	**78.0% (135)**	6.4% (11)	9.8% (17)	5.8% (10)	173
Numerical aptitude	**79.2% (137)**	5.8% (10)	9.8% (17)	5.2% (9)	173
Spatial aptitude	**77.0% (134)**	8.0% (14)	8.6% (15)	6.3% (11)	174
Form perception	**75.9% (132)**	9.2% (16)	8.6% (15)	6.3% (11)	174
Clerical perception	**77.6% (135)**	8.0% (14)	8.0% (14)	6.3% (11)	174
Motor coordination	**79.2% (137)**	6.4% (11)	8.7% (15)	5.8% (10)	173
Finger dexterity	**78.5% (135)**	5.2% (9)	10.5% (18)	5.8% (10)	172
Manual dexterity	**78.6% (136)**	5.2% (9)	10.4% (18)	5.8% (10)	173
Eye-hand-foot coordination	**78.5% (135)**	6.4% (11)	7.6% (13)	7.6% (13)	172
Color discrimination	**78.9% (135)**	7.0% (12)	6.4% (11)	7.6% (13)	171
If you believe one or more of these items should be modified, please explain					28
				answered question	174
				skipped question	3

6. Please provide your recommendations regarding inclusion of the current DOT Temperaments in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Directing, controlling, planning	**81.9% (140)**	7.6% (13)	4.7% (8)	5.8% (10)	171
Performing repetitive tasks	**82.5% (141)**	4.7% (8)	7.6% (13)	5.3% (9)	171
Influencing people	**79.4% (135)**	8.8% (15)	5.9% (10)	5.9% (10)	170
Performing a variety of duties	**80.0% (136)**	6.5% (11)	5.9% (10)	7.6% (13)	170
Expressing personal feelings	**71.5% (123)**	11.6% (20)	8.1% (14)	8.7% (15)	172
Working alone	**81.4% (140)**	6.4% (11)	6.4% (11)	5.8% (10)	172
Performing under stress	**70.3% (121)**	6.4% (11)	18.0% (31)	5.2% (9)	172
Attaining tolerances	**75.0% (129)**	7.6% (13)	9.9% (17)	7.6% (13)	172
Working under specific instruction	**78.2% (133)**	7.6% (13)	7.1% (12)	7.1% (12)	170
Dealing with people	**79.5% (136)**	4.7% (8)	10.5% (18)	5.3% (9)	171
Making judgments and decisions	**83.5% (142)**	4.7% (8)	7.1% (12)	4.7% (8)	170
If you believe one or more of these items should be modified, please explain					39
	answered question				173
	skipped question				4

7. Please provide your recommendations regarding inclusion of the current DOT Interests in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Artistic	**54.1% (93)**	19.8% (34)	4.7% (8)	21.5% (37)	172
Scientific	**54.1% (93)**	19.2% (33)	5.2% (9)	21.5% (37)	172
Protective	**54.7% (94)**	19.8% (34)	4.7% (8)	20.9% (36)	172
Mechanical	**55.6% (95)**	18.7% (32)	4.7% (8)	21.1% (36)	171
Industrial	**54.9% (95)**	19.7% (34)	4.6% (8)	20.8% (36)	173
Business detail	**55.2% (95)**	19.2% (33)	5.2% (9)	20.3% (35)	172
Selling	**54.7% (94)**	19.2% (33)	5.2% (9)	20.9% (36)	172
Accommodating	**52.9% (91)**	20.9% (36)	5.8% (10)	20.3% (35)	172
Humanitarian	**53.8% (92)**	20.5% (35)	5.3% (9)	20.5% (35)	171
Leading/influencing	**55.2% (95)**	19.2% (33)	4.7% (8)	20.9% (36)	172
Physical performing	**54.7% (94)**	20.3% (35)	4.7% (8)	20.3% (35)	172
If you believe one or more of these items should be modified, please explain					30
				answered question	173
				skipped question	4

8. Please provide your recommendations regarding inclusion of the current DOT components in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Work fields (one of three bases of transferable skills analysis - e.g. teaching, health caring, printing, transporting)	75.4% (129)	7.6% (13)	7.6% (13)	9.4% (16)	171
Materials, products, subject matter, services (one of three bases of transferable skills analysis - e.g. aircraft and parts, architectural engineering, hotel services)	74.9% (128)	8.2% (14)	7.0% (12)	9.9% (17)	171
Crosswalks to other reference sources such as the GOE, SOC	77.1% (131)	5.3% (9)	7.6% (13)	10.0% (17)	170
If you believe one or more of these items should be modified, please explain					16
answered question					172
skipped question					5

9. Please provide your recommendations regarding inclusion of the current DOT Rating Scale choices in the new OIS:

	Retain	Eliminate	Modify	No Opinion	Response Count
Never	81.3% (139)	2.3% (4)	11.7% (20)	4.7% (8)	171
Occasionally	76.7% (132)	1.2% (2)	18.0% (31)	4.1% (7)	172
Frequently	80.7% (138)	1.2% (2)	14.0% (24)	4.1% (7)	171
Constantly	83.0% (142)	1.2% (2)	11.7% (20)	4.1% (7)	171
If you believe one or more of these items should be modified, please explain					56
answered question					173
skipped question					4

10. What new Occupational Preparation information is needed for the Social Security Administration OIS? (Check all that apply)

|		Response Percent	Response Count
OJT		80.3%	126
Vocational training		**84.7%**	**133**
High School		81.5%	128
Associates degree		73.2%	115
Bachelors degree		70.7%	111
Doctoral degree		54.8%	86
Other (please specify)		28.0%	44
	answered question		157
	skipped question		20

11. What new Occupational Prerequisite information is needed for the Social Security Administration OIS? (Check all that apply)

		Response Percent	Response Count
Type of experience needed		85.8%	121
Length of experience		**90.8%**	**128**
Other (please specify)		14.2%	20
	answered question		141
	skipped question		36

12. What new SVP information is needed for the Social Security Administration OIS? (Check all that apply)			
		Response Percent	Response Count
SVP should be tied to the level of education/training achieved		50.3%	84
SVP should be tied to the average length of time to learn the job		67.7%	113
SVP should be tied to the average time to gain acceptable job performance		**70.1%**	**117**
	Other (please specify)		18
	answered question		**167**
	skipped question		**10**

13. What new information related to Mental Demands is needed for the Social Security Administration OIS? (Check all that apply)
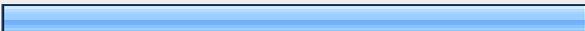
|		Response Percent	Response Count
Concentration		90.4%	151
Persistence		86.2%	144
Pace		**92.8%**	**155**
Memorization		47.9%	80
Complex problem solving		74.3%	124
1-2 step directions		84.4%	141
Perceptual abilities		48.5%	81
Creativity		25.7%	43
Divided attention		50.3%	84
Response inhibition		30.5%	51
Selective attention		39.5%	66
Oral comprehension		73.1%	122
Oral expression		64.7%	108
Written comprehension		73.1%	122
Written expression		67.1%	112
Variability of tasks		65.9%	110
Other (please specify)		20.4%	34
		answered question	167
		skipped question	10
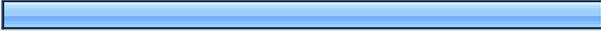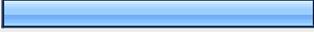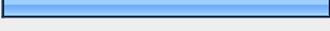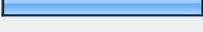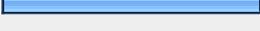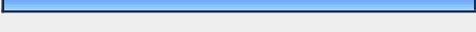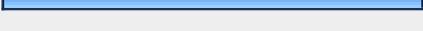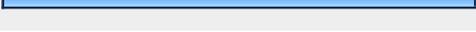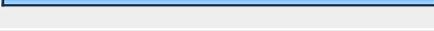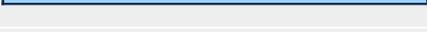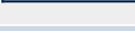
14. What new information related to Personal Qualities is needed for the Social Security Administration OIS? (Check all that apply)
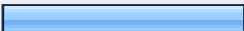
		Response Percent	Response Count
Attitude		37.2%	55
Leadership		41.2%	61
Tact		31.1%	46
Organization		54.7%	81
Frustration Tolerance		70.9%	105
Initiative		45.3%	67
Resourcefulness		32.4%	48
Honesty		28.4%	42
Flexibility		62.8%	93
Team orientation		50.0%	74
Communication skills		**73.6%**	**109**
Efficiency		43.9%	65
Reliability		68.2%	101
Quality orientation		33.8%	50
Other (please specify)		14.9%	22
	answered question		148
	skipped question		29
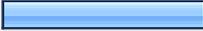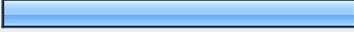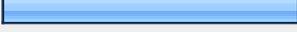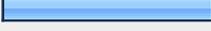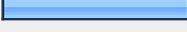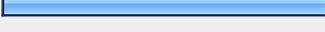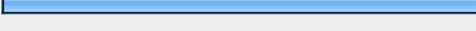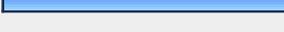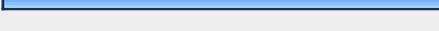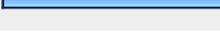
15. What new SSA-related items are needed for the Social Security Administration OIS? (Check all that apply)		Response Percent	Response Count
Simple, routine, repetitive tasks		93.5%	159
Level of literacy required		84.1%	143
Skills that transfer to other occupations		80.6%	137
One-handed		91.2%	155
Repetitive hand/finger movement		82.4%	140
Sitting work tolerance (rated using frequency scale)		87.1%	148
Standing work tolerance (rated using frequency scale)		88.2%	150
Sit/stand option		**96.5%**	**164**
Stamina (Rated as an aptitude or MET level)		50.6%	86
Different levels of reaching (above shoulder, at shoulder, waist-level, etc.)		83.5%	142
Technology skills		56.5%	96
Climbing agility (ramps, stairs, ladders, etc.)		54.1%	92
Neck movement/positioning (flexion, extension, twisting/turning head, length of time in each position)		80.6%	137
Hearing sensitivity (telephone, acute fine detail, near or far distance)		61.8%	105
Near vision acuity (computer screen, fine print, etc.)		67.1%	114
Far vision acuity (driving, etc)		61.8%	105
Productivity factors (production rate required, work at own pace,		82.4%	140
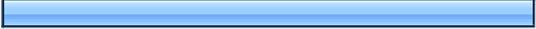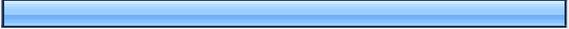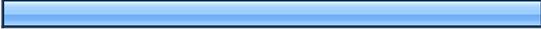
		Response Percent	Response Count
etc.)			
Work setting (factory, office, outdoors, freezer, etc.)		62.9%	107
Ability to communicate in English		67.1%	114
Other (please specify)		8.8%	15
	answered question		170
	skipped question		7

16. What new information related to Barriers to Employment are needed for the Social Security Administration OIS? (Check all that apply)

		Response Percent	Response Count
Criminal Record		55.6%	75
Monocular Vision		63.7%	86
Personal Hygiene		34.8%	47
Appearance		29.6%	40
Use of adaptive devices		**73.3%**	**99**
Other (please specify)		20.0%	27
	answered question		135
	skipped question		42

Appendix F, Sub-Appendix A-96

| 17. What changes or additions do you recommend to the Rating Scales? (check all that apply)		Response Percent	Response Count
Maintain current rating scale of never, occasionally, frequently, and continuous		44.6%	74
Modify the DOT frequency rating scale for physical demands to specify repetition ranges in addition to percentage of time (e.g., 1-12 reps per hour for occasionally, 13-30 reps per hour for frequently, 31-60 reps per hour for continuously)		45.8%	76
Add a new level to the frequency scale for physical demands (e.g., working > 8 hours per day)		41.0%	68
Unlink body position demands from the strength rating factor by limiting the strength definition to force requirements and rating the frequency of body positions such as sitting, standing, and operating foot controls as separate work tolerances (i.e., sedentary currently means sitting at least 6 hours in an 8-hour day and lifting up to 10 lbs. occasionally. Unlinking would have the requirement for sitting be separated from the requirement for lifting.)		**63.3%**	**105**
Please comment on other improvements to the rating scales you would like to recommend			23
		answered question	166
		skipped question	11

18. The force levels for lifting and carrying should be adjusted in the descriptions for Strength physical demands levels. (e.g., application of the NIOSH revised lifting equation suggests that 40 lb. occasionally may be a more appropriate as an upper limit for Medium physical demands and that 70 lb. may be a more appropriate upper limit for Heavy physical demands.)

		Response Percent	Response Count
Agree		**72.2%**	**117**
Disagree		27.8%	45
	Comments?		20
	answered question		162
	skipped question		15

19. The OIDAP is questioning whether to include only those jobs that most commonly exist based on data from Social Security disability claimants and/or those jobs commonly testified to by Social Security Vocational Experts. Do you...?

		Response Percent	Response Count
Agree with this approach—include only most commonly encountered jobs in OIS		17.9%	31
Disagree with this approach— need to include all jobs in the current labor market in the OIS		**82.1%**	**142**
	answered question		173
	skipped question		4

20. Would you agree with unlinking strength and body position factors (i.e., sedentary currently means sitting at least 6 hours in an 8-hour day and lifting up to 10 lbs. Unlinking would have the requirement for sitting be separated from the requirement for lifting.)

		Response Percent	Response Count
Agree		**79.8%**	**138**
Disagree		20.2%	35
	answered question		173
	skipped question		4
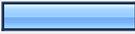
21. Would you agree with changing "unskilled" work to "low-skilled" work, to acknowledge the fact that SVP 1 or SVP 2 jobs involve some degree of minimal skill to perform the work successfully? Do you...?

		Response Percent	Response Count
Agree		**55.5%**	**96**
Disagree		44.5%	77
	answered question		173
	skipped question		4
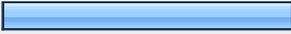
22. Are there any other needs or gaps in information that you recommend for consideration?

	Response Count
	45
answered question	45
skipped question	132

Appendix F, Sub-Appendix A-99

23. Do you have any final recommendations for information that should be included in an OIS to assist Social Security with adjudicating adult disability claims?

		Response Count
		50
	answered question	50
	skipped question	127

24. Do you currently have a BPA with SSA?

		Response Percent	Response Count
Yes		100.0%	177
No		0.0%	0
	answered question		177
	skipped question		0

25. Are you currently a member of IARP (International Association of Rehabilitation Professionals)?

		Response Percent	Response Count
Yes		69.3%	122
No		30.7%	54
	answered question		176
	skipped question		1

Appendix F, Sub-Appendix A-100

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Comments Received
from the

**NATIONAL ASSOCIATION OF
DISABILITY EXAMINERS
(NADE)**

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Vocational Presentation by NADE
Georgina B. Huskey
June 10, 2009

Status of Current DOT and Why A New DOT is Needed

- Current DOT designed by Department of Labor for THEIR purposes, not SSA's. SSA adopted this tool for use in disability adjudication. While not necessarily a case of trying to fit a square peg into a round hole, it often proved almost as difficult for Disability Examiners in its daily use. And that was when the DOT was current!

- Last revision to current DOT is nearly 20 years old.

- How have jobs changed in the past 20 years? How many new jobs have appeared in the past 20 years? How many jobs have become obsolete in the past 20 years?

- Current DOT is very much obsolete.

Most DDS Decisions Are Based On Medical <u>AND</u> Vocational Factors

- 3 million initial claims expected to be processed by DDSs in 2009

- 1 million reconsideration claims expected to be filed in 2009

- Approximately 75% or **3 million decisions** of these 4 million will consider vocational factors in the final determination.

- The DDS goal is to make an accurate decision on every case.

- Relying on an obsolete DOT makes accuracy problematic. It does not make it impossible but it does require more work for Disability Examiners and DDS Vocational Specialists to address such issues as whether the claimant can return to past work or whether the claimant possesses job skills transferable to other work.

- Automation has changed the way most production jobs are performed, making many of these jobs less skilled than before and requiring less exertion than before. Many jobs, such as fast food restaurant cashier, require little thought. Today's cash registers do not require the clerk to enter prices or compute change – the machine does it for them. On the other hand, these jobs are performed in high stress environments not acknowledged by the current DOT.

Current Issues/Gaps Involving Occupational Information

- Medical/vocational analysis of claims is challenging when there is conflicting vocational information on the SSA-3368 vs SSA-3369. A claim could be erroneously denied if the Disability Examiner uses misinformation listed in Section 3 (Information About Your Work) on the SSA-3368. When a 3369 is obtained, the detailed information on that form often conflicts with the more limited information provided on the 3368. A potential resolution to this issue may reside in deleting section 3 from the 3368 and relying solely on the 3369 (and/or contact with the claimant).

- An example of a gap that currently exists between the occupational information in the DOT and SCO include the lack of rating of such activities as pushing/pulling and definitive guidelines regarding the type of reaching jobs require. Jobs are coded in the SCO for 'reaching,' however, if the claimant is limited from only *overhead reaching*, unless that activity is apparent in the DOT job description, the claimant must be contacted to determine what type of reaching (including how frequently, with one/both extremities, for what job duties, etc.). This additional step may be eliminated in some cases if the job coding was more definitive.

- Another gap in the coding of jobs in the DOT is that it is left to the judgment of the Disability Examiner (many of whom today are very inexperienced and all of whom are overworked) to realize a job could involve exposure to a non-exertional factor such as an environmental condition that is coded as 'not present' in the SCO. An example is the job of Yarn Winder (681.685-154). This type of work can expose the worker to excessive flying particles (lint, dust particles, etc.) but coding in the SCO under 'Environmental Condition Factors' indicates 'Atmospheric Conditions' are 'not present.'

  When they devised the SCO, the Department of Labor rated non-exertional factors only when the "activities are critical, i.e., when their presence is more than routine in amount," or "when present to a considerable degree." However, it would be inappropriate to deny a claimant back to the job of a yarn winder if s(he) has a severe respiratory impairment on the basis that 'Atmospheric Conditions' were coded in the SCO as 'not present.' The same holds true for the claimant with a severe respiratory impairment whose past work was that of Cleaner, Housekeeping (323.687-014) or Cleaner, Hospital (323.687-010). Neither job is coded in the SCO as involving exposure to 'Atmospheric Conditions.' While exposure to fumes/odors from industrial chemicals used in the cleaning process may not be detrimental to the *unimpaired* worker, an individual whose respiratory ability is already compromised would be at further risk if consistently exposed to such irritants.

  The category of 'hazards' (included under a number of categories under 'Environmental Condition Factors,' the most common of which appear to be,

'Proximity to Moving Mechanical Parts,' and 'Other Environmental Conditions')
is another non-exertional factor that is coded as 'not present' in many jobs that
would be hazardous to an *impaired* individual.

We think the requisite issue here is that more definitive coding of these non-exertional factors would be beneficial in any future occupational information system – especially when analyzing job performance by *impaired* individuals.

- Another issue regarding coding of non-exertional factors would be to make the coding consistent with the way the limitations are indicated on the RFC – especially with regards to environmental limitations. Does 'avoid concentrated exposure' indicated on the RFC equate to a rating of, 'occasional,' as coded in the SCO? It has been the practice of most DDSs to consider that if there is an environmental limitation indicated on the RFC (no matter if it's to 'avoid concentrated exposure,' 'avoid even moderate exposure,' or 'avoid all exposure') and a job is coded <u>at all</u> in the SCO for that factor, the job should be precluded as even incidental exposure could be detrimental to an impaired individual.

Functions of New DOT:

- Searchable data base that would allow Disability Examiners to cross-match specific skills from a claimant's current job with other jobs involving that same skill (or skills).

- A section for potential transferability to lower occupational bases. (DDSs have informal transferability guides for common occupations)

- User friendliness.

- Search engine for key words/phrases.

- Performance that does not impede the speed/use of other software running simultaneously.

Occupational Information:

- Addition of common jobs found in PRW, e.g.: Handyman (multiple trades, but no focused specialty- no license), Traveling computer repair person (such as Geek Squad workers at Best Buy)

- New DOT should separate standing and walking. These are two different physical attributes requiring different abilities by the claimant. Use of major joints for repetitive motion should be specified when necessary.

- Computer-based jobs, e.g., Web Designer, Internet Service Rep…

- DOT should be written in work terms meaningful to Disability Examiners. The DOT work history and the DDS Residual Functional Capacity (RFC) Form should work in concert together. Instead of a band playing together, we have an arrangement that has often been described by Disability Examiners as, "three pieces of music being performed in three different tempos by musicians playing on broken instruments and led by a deaf conductor."

- New DOT should specify stress levels of each job performed under ordinary circumstances. This is a critical factor in determining if claimant's with mental impairments can return to PRW or perform other jobs in the economy.

New DOT Beginning/Alternatives

- Job Browser Pro by Skilltran – available via SSA Intranet and SSA Digital Library. This tool already allows Disability Examiners to research a job to discover all of the skills/competencies required to perform the job (see example below). SSA can build on this tool to add the additional factors, i.e., expanded list of exertional demands and SVP level of each job, searchable data base for matching skills etc.

JOB BROWSER PRO "SKILLS" EXAMPLES

169.267-010 CLAIMS ADJUDICATOR

SKILLS/COMPETENCIES: INVESTIGATING

Obtaining and evaluating data about persons, places, and incidents for purposes such as solving criminal cases; settling claims; estimating credit risks; determining the qualifications, integrity, and loyalty of people; assessing eligibility for social-service-assistance programs; and ensuring compliance with laws and regulations.

Advising, Enforcing, Inquiring, Inspecting, Interrogating, Interviewing, Questioning, Scanning, Searching
===
075.364-010 NURSE, GENERAL DUTY

SKILLS/COMPETENCIES: HEALTH CARING-MEDICAL

Treating people and animals with physical and mental problems.

Bandaging, Bathing, Diagnosing, Disinfecting, Examining, Exercising, Injecting, Inoculating, Interviewing, Investigating, Massaging, Monitoring, Prescribing, Quarantining, Rubbing, Taking Pulse, Treating

===
201.362-030 SECRETARY

SKILLS/COMPETENCIES: VERBAL RECORDING-RECORD
KEEPING

Preparing, keeping, sorting, and distributing records and communications,
primarily verbal in character but including symbol devices, to
communicate and systematize information and data.

Addressing, Checking, Collating, Counting, Editing, Filing, Listing,
Locating, Mailing, Marking, Posting, Punching, Reading, Routing,
Searching, Segregating, Selecting, Stamping, Taking Dictation, Taking
Minutes, Typing, Verifying, Writing
==
313.374-014 COOK, SHORT ORDER

SKILLS/COMPETENCIES: COOKING-FOOD PREPARING

Preparing food for human and animal consumption.

Basting, Boiling, Brewing, Churning, Curing, Flavoring, Frying, Heating,
Kneading, Measuring, Pasteurizing, Pickling, Rendering, Roasting,
Rolling, Seasoning, Spreading, Squeezing

- OccuBrowse offers a potential alternative to the DOT and, with the incorporation
  of additional information, could become an even more valuable/practical tool for
  use by the Disability Examiner.

  One of the beneficial aspects to OccuBrowse is that it allows for scanning of
  related job titles in the list of jobs that follow the one entered in the search. This
  feature, as well as the ability to enter *key words* in the search engine, would be an
  asset in any future occupational reference materials. The ability to scan related
  jobs in a list that are closely related to the claimant's job would be a very effective
  tool in a transferability of skills analysis.

  Another useful feature of OccuBrowse is that it includes a category of 'situations'
  (in the 'Requirements' section). The information it contains assists the Disability
  Examiner in determining the feasibility of jobs for claimant's who are assessed
  with mental limitations.

  OccuBrowse also lists 'Undefined Related Titles' which can steer the Disability
  Examiner to a more accurate job title when identifying the claimant's past work
  as performed in the national economy.

Questions to Ponder

- It is difficult to make a defensible argument that skills acquired from a claimant's *current* work activity would be transferable to jobs that have a DLU (date last updated) in the 1970s or 1980s! Those are the supposedly 'closely related jobs' that we are citing in our transferability analyses. Unless we can cite more current jobs to which a claimant's skills are transferable, it may be more practical to eliminate the concept of transferability from the program. Of course this would also require some revision of the vocational rules tables as well.

  If the transferability concept is eliminated, we would then consider only the claimant's description of past work in Step 4 of Sequential Evaluation (totally avoiding the issue of citing a DOT counterpart). This would allow an updated DOT (or other occupational resource system) to be utilized only in Step 5 (for citation of 'other' unskilled jobs in denial decisions and for citing the vocational rule that directs the final determination). By accepting the claimant's description of past work (when making the function-by-function comparison to the RFC and/or MRFC), we eliminate the cumbersome task of identifying the jobs in the DOT. This would appear to eliminate countless erroneous job identification issues and allow us to abide by the concept that the claimant is 'the primary source' of job information.)

- Education as a vocational factor – In today's rapidly changing technological job market, does a high school diploma or college degree, earned in the distant past, (even 10 years ago), truly add any vocational advantage to a claimant?

Questions? The Old Drunk staggers home one night and literally falls to the floor as he opens the door to his house. His wife, glaring down at him lying on the floor, demands to know what he has to say for himself? The Old Drunk looks up to her and replies, "I have no prepared remarks but I'll be happy to take questions from the floor!"

Occupational Information:

DOT does not show *reaching* requirements. There are typically 4 levels to be considered: below shoulder level, at shoulder level, above shoulder level, and overhead level.

DOT does not show specific *handling* requirements: basic grasping, forceful grasping, twisting of wrist/arm required.

Fingering requirements: pinching, keyboarding, etc. Bilateral requirement, unilateral…

Environmental factors such as dust, fumes, etc. in jobs such as sewing machine operator. Size of machinery may help in determining if it imposes another hazard.

Stress issues. Can a stress level be specified?

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Comments Received
from the

**NATIONAL ASSOCIATION
OF DISABILITY REPRESENTATIVES
(NADR)**

User Needs and Relations Subcommittee
Content Model and Classification Recommendations

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NADR OIDAP COMMITTEE - COLLABORATIVE OPINION
July 2009

Introduction

The National Association of Disability Representatives (NADR) is a professional organization comprised of attorneys and non-attorneys who assist claimants applying for disability income assistance from SSA. NADR members come from diverse backgrounds and thus offer a depth of collegial understanding and resources that is unrivaled. A small task force comprised of members who provide representation to disabled persons and come from varied administrative, legal and vocational backgrounds volunteered to discuss the issue of how to fix and/or update the Dictionary of Occupational Titles (DOT). Four of the central five task force members are CRC's and have 120 years combined experience as VE's in general, 64 years specifically as a SSVE, and 32 years as a representative. We welcome the invitation to offer the OIDAP our insights into the needs of the future of the DOT. We also wish to thank Commissioner Astrue, through the OIDAP, for his visionary understanding of the problems encountered in disability determination with the outdated DOT and the need to update such.

The need to maintain a well defined work theory

Despite the fact that the DOT is outdated, SSA and Disability Management companies continue to use it for a simple reason – its structure. The classification system used by the DOT provides structure for analyzing the demands for work that is the envy of the world. That system is the Minnesota Work Adjustment Theory. The principles of this theory were originally outlined in the Handbook for Analyzing Jobs (HAJ) and followed in 1991 with the Revised Handbook for Analyzing Jobs (RHAJ). If/when/as the DOT is redeveloped, NADR believes there must be a strong methodological underpinning to the development of additional definitions.

The principles used in the original process should be utilized in the construction of any replacement of the DOT for many profound reasons. Some of these are:

- Each occupation must have a fundamental "anatomy" consisting of the specific demands of that occupation. (NOTE: The O*Net is not useful because it of the way it clusters occupations therefore under the O*Net system the occupations may have multiple ranges for skill demands as well as exertional and non exertional demands.) At a minimum, each occupation should have

one (SVP) skill and one Strength classification (though these can certainly be modified from the current levels as discussed below). The occupational demands should not only consider SVP, Strength, and the other exertional and non-exertional demands found within the SCO but should also take into account functional limitations that are commonly discussed during the hearing process. A sample list of these requirements is found in the Temperament discussion below.

- Occupational definitions must be constructed based on sound methodology in order to assure a high level of validity when there is controversy. Acceptable scientific standards would stand up to a Daubert challenge. This would allow for more fairness to all parties and especially to claimants.

- A clear system for occupational analysis is essential to performing a methodological Transferable Skills Assessment.

- Any replacement for the DOT must quantify each worker-trait factor of each occupation in a format that is searchable within various digital applications. Cross referencing and software applications have been very useful in analyzing the DOT.

- A revised DOT must include a standard such as that used in the RHAJ in order to mitigate against opinion evidence that is not based on an acceptable source and standard. Adjudicators and experts should have a standard by which to present their opinion. Currently, adjudicators are limited to opinion that may not be, and in fact is not, based upon acceptable standardized methods. For example, if an expert opines that they have performed labor market research, then, the methodology of that research should be available and held against a standard.

- Functional limitations due to medically determinable impairments must be methodologically reviewed and replicable. Such limitations, which commonly appear during the development of a claim, may preclude or reduce employment to a less than sedentary level but are difficult to quantify due to an inability to obtain accurate and verifiable information regarding the limitation's impact on the ability to perform or sustain a specific job/occupation, . These may include but are not limited to the assorted temperaments as discussed in the RHAJ as well as acceptable (or inacceptable) rates of absenteeism, the need to elevate one's legs, levels of public interaction, levels of working with co-workers, etc.

These principles have been studied extensively in academia and supported by the leading Vocational Expert Associations.

Physical demands and the effects of those limitations on job numbers or job access

The DOT was not designed to assess labor market access or the impact of functional limitations on an individual's employability. A companion to the new document should provide a methodology that demonstrates the impact of reduced physical abilities on an individual's ability to *sustain* gainful activities (as well as *obtain* for the purpose of rehabilitative efforts in other venues). All vocational professionals know

that there are essential job functions as well as minor job functions. The elimination and/or severe restriction of the ability to perform essential functions directly affect SGA. When combined with limitations in another essential or minor job function, the impact on the reduced number of jobs is *exponential and not linear*. But, most VEs in response to a hypothetical respond that each additional limitation will impact job numbers by 50% or 25%. This is an ineffective assessment that lacks any scientific reliability, validity and little or no agreement among VEs or ALJ's. This companion to the revised DOT would assess the 19 physical demands of jobs (except strength) and apply similar guidelines to those used in psychological assessments: mild, moderate, severe. In this format a qualitative assessment of employability could be made. A methodology or replicable evaluative tool should be developed whereby severe limitation in more than one physical demand would be disabling, as would the combination of severe limitations in one essential function and two or more minor functions.

The meaning of the term "significant"

In order to make a determination at Step V in the sequential evaluation process, after considering the claimant's medical/vocational profile and residual functional capacity, the burden of proof shifts to the Commissioner to determine whether there is a "significant" number of jobs one can perform in the region or several regions of the national economy.

An excerpt taken from SSR 82-53 (below) defines "significant" as existing "in one or more occupations". Often Vocational Experts are asked to testify to provide the framework for this step in the evaluation by providing the incidence of a job or jobs in the national economy. Unfortunately, there is no government or private source that provides this information as it relates to a specific occupation or Dictionary of Occupational Titles Number. Consequently, there is no scientific methodology for providing these estimates of the numbers of jobs that would even loosely meet Daubert standards.

The term "significant" has been interpreted in some circuits as being as few as a couple hundred jobs in the national economy. Moreover, Administrative Notice has been given to several Unskilled Job Titles that have not been updated since the early 90's.

In order for this term to be meaningful at this important step in the evaluation process, the following changes need to occur:
1. An update of the Sedentary, Light and Medium Unskilled jobs that have been given Administrative notice as occurring in significant numbers;
2. A definition for "significant" that embodies the spirit in which this benchmark was intended and is less open to interpretation with the low threshold that has been upheld previously;
3. A mandate that experts testifying in regard to the incidence of jobs be required, when asked, to produce the supporting documents and methodology for their numbers so that they can be verified and reproduced.

> *SSR 82-53*
> *Capacity to Do Other Work — If an individual cannot perform any past relevant work because of a severe impairment(s), but the remaining physical and mental capacities are consistent with meeting the physical and mental demands of a significant number of jobs (in one or more occupations) in the national economy, and the individual has the vocational capabilities (considering age, education, and past work experience) to make*

an adjustment to work different from that performed in the past, it shall be determined that the individual is not disabled. However, if an individual's physical and mental capacities in conjunction with his or her vocational capabilities (considering age, education and past work experience) do not permit the individual to adjust to work different from that performed in the past, it shall be determined that the individual is disabled.

Temperaments or Job - Worker Requirements

As the panel is aware, the SCO companion to the DOT provides the user with numerous physical and/or other requirements within the job or occupation. Many of these are valuable for job placement assistance and other issues utilized within the vocational rehabilitation profession. Often overlooked, but very useful tools within this document are the Temperament Codes.

Oftentimes a secondary or even primary disabling impairment is non-exertional in nature and may impact the individual's capacity to successfully sustain SGA. The disabling element that the claimant faces is an incongruity between their post disability residual personality traits and the job-worker traits of specific jobs or occupations. Eleven of these traits are discussed and defined in the SCO as Temperaments. They are defined in the Enhanced GOE as "adaptability requirements placed on the worker by specific types of job-worker situations…and… (are) often predictors of employee success in the job since **many job failures are more the result of an inability to adjust to a work situation than an inability to do the required tasks."**

The 11 temperaments are:

Directing	Controlling or planning the activities of others
Repetitive	Performing short cycle repetitive work.
Influencing	Modifying people's opinions, attitudes and judgments
Variety	Successfully change and perform several different work tasks throughout the workday
Expressing	Using imagination or creativity.
Alone	Working apart or in physical isolation from others for long periods of time.
Stress	Working under stress caused by emergencies, danger, or criticism.
Tolerances	Working with extreme precision in making, inspecting, and/or recording, data, things, and/or computations.
Under	Working under specific instructions with little or no room for independent action or judgment
People	Working with and helping others
Judgment	Making decisions based upon what one sees, touches, or hears

We believe that any future iteration of the DOT/SCO and job analyses undertaken (should that occur) should utilize these or similar highly relevant worker traits to more clearly define the essential job-worker functions required.

Furthermore, the taxonomy of such should provide the assessor with a more objective methodology to determine whether the job-worker functions are compatible with the claimant's psychological RFC.

These (and other non-exertional and/or psychological limitations) can be based upon percentages required of these essential job-worker functions as discussed above. *(i.e. Truck Driver – D:0% R:0% I:0% V:80% E:0% A:60% S:20% T:80% U:100% P:80% J:100%)*

or **N**ever, **R**arely, **O**ccasional to Often, **F**requent, **C**onstant
(i.e. Truck Driver – D:N R:N I:N V:F E:N A:F S:R T:F U:C P:F J:C).

The clarification of these issues will allow the decision maker, the Agency, and the claimant (or his/her representative) a more clear taxonomy to objectively rate and more accurately respond to the hypothetical situation presented. Oftentimes at hearing the hypothetical question posed will include limitations such as "limited capacity to work under stress" or "must avoid working with the public and co-workers." Questions such as this are extremely important to establish the individual's capacity to perform, and more importantly sustain SGA, but are not quantifiable. We believe that a more clear description of the job-worker traits will provide all parties with a more objective methodology to determine an individual's capacity to make adjustment to work. In the end, this will more accurately assist the agency to arrive at the correct decision at the earliest possible time.

Transferability of Skills and VE Qualifications

The qualification standards for vocational experts should address the need for competency in evaluating the critical factors that comprise functional assessments and how they relate to functional capacity. Various organizations have established criteria for this purpose. The American Board of Vocational Experts has set forth several standards for identifying persons for board certification as Vocational Experts. Most relevant for SSA consideration may be the following:

Hold a Master's or Doctorate degree from an accredited institution in human service field specializing in vocational rehabilitation, psychology, vocational counseling, or a closely related field; and

Have specific training and experience in such areas as assessment, functional capacity measures, psychological testing and measurement, job analysis, job placement, job surveys, and have experience providing testimony in these areas.

Although ABVE does not specify a minimum experience requirement, it may be useful to establish a practice baseline of five (5) years, by which time an applicant would be deemed sufficiently qualified to apply for standing as an SSA VE.

By adopting educational and experience/practice standards, SSA would ensure that all VEs possess those qualifications typically identified by the industry as essential prerequisites for vocational expert testimony. Such individuals should be familiar with acceptable methodologies for identifying transferable skills from past relevant work, in order to identify other work that may be compatible with a current residual functional capacity (RFC) and claimant profile. Using a standard methodology for the process of skills analysis and the identification of jobs under SSA's concept of transferability would assure that an SSA VEs findings are reproducible and consistent, based upon empirical data.

Physical and Mental Limitation Outliers

The terms sit-stand and sit-stand option are used often in disability adjudication incorrectly. A sit-stand option is not addressed in the Dictionary of Occupational Titles, (DOT, 1991) under physical demands. However, many VE's attempt to fit the term into the outlined physical demands incorrectly. The DOT (1991) states: Sedentary work involves sitting most of the time, but may involve walking or standing for brief periods of time. Jobs are sedentary if walking and standing are required only occasionally and all other sedentary criteria are met. Occasionally is defined as up to 33% of the work day. Thus, in an eight hour work day 2.7 hours could entail standing. The free will of an individual to sit or stand as needed is not considered. If we were to take the term sit-stand at will literally, then the occupation would entail sitting and standing equal parts of an eight hour day. Thus, any occupation with a sit-stand option would be classified as a light duty position utilizing the DOT definition. It cannot be a sedentary duty occupation based on the DOT definition of sedentary duty work. Further, one would need to consider if the light duty occupation would allow the work to be performed in both the sitting and standing positions without interruption of work flow, if the occupation would require accommodations, and the SVP.

Reference: Dictionary of Occupational Titles, 1991
IV. PHYSICAL DEMANDS - STRENGTH RATING (Strength) The Physical Demands Strength Rating reflects the estimated overall strength requirement of the job, expressed in terms of the letter corresponding to the particular strength rating. It represents the strength requirements which are considered to be important for average, successful work performance. The strength rating is expressed by one of five terms: Sedentary, Light, Medium, Heavy, and Very Heavy. In order to determine the overall rating, an evaluation is made of the worker's involvement in the following activities:
Standing, Walking, Sitting
Standing - Remaining on one's feet in an upright position at a work station with-out moving about.
Walking - Moving about on foot.
Sitting - Remaining in a seated position.

S-Sedentary Work - Exerting up to 10 pounds of force occasionally (Occasionally: activity or condition exists up to 1/3 of the time) and/or a negligible amount of force frequently (Frequently: activity or condition exists from 1/3 to 2/3 of the time) to lift, carry, push, pull, or otherwise move objects, including the human body. Sedentary work involves sitting most of the time, but may involve walking or standing for brief periods of time. Jobs are sedentary if walking and standing are required only occasionally and all other sedentary criteria are met.
L-Light Work - Exerting up to 20 pounds of force occasionally, and/or up to 10 pounds of force frequently, and/or a negligible amount of force constantly (Constantly: activity or condition exists 2/3 or more of the time) to move objects. Physical demand requirements are in excess of those for Sedentary Work. Even though the weight lifted may be only a negligible amount, a job should be rated Light Work: (1) when it requires walking or standing to a significant degree; or (2) when it requires sitting most of the time but entails pushing and/or pulling of arm or leg controls; and/or (3) when the job requires working at a production rate pace entailing the constant pushing and/or pulling of materials even though the weight of those materials is negligible. NOTE: The constant stress and strain of maintaining a production rate pace, especially in an industrial setting, can be and is physically demanding of a worker even though the amount of force exerted is negligible.
M-Medium Work - Exerting 20 to 50 pounds of force occasionally, and/or 10 to 25 pounds of force frequently, and/or greater than negligible up to 10 pounds of force constantly to move objects. Physical Demand requirements are in excess of those for Light Work.
H-Heavy Work - Exerting 50 to 100 pounds of force occasionally, and/or 25 to 50 pounds of force frequently, and/or 10 to 20 pounds of force constantly to move objects. Physical Demand requirements are in excess of those for Medium Work.
V-Very Heavy Work - Exerting in excess of 100 pounds of force occasionally, and/or in excess of 50 pounds of force frequently, and/or in excess of 20 pounds of force constantly to move objects. Physical Demand requirements are in excess of those for Heavy Work.

Summary

NADR feels that future DOT modifications should be theoretically based on models that have proven effective. The present model is vocationally relevant and should be tweaked versus re-worked.

Though outdated, we believe the DOT provides a sound theoretical base upon which to gather updated occupational information on jobs already contained within the DOT as well as jobs and occupations which had not existed prior to 1991.

The DOT adequately focuses upon the physical demands of work but is highly deficient in the mental requirements of job-worker situations. This must be updated.

Objective job requirements are essential to allow end-users of the process to proficiently determine disability, and should be developed as part of this process. The Psychiatric Review Technique Form (PRTF) currently in use by the SSA is a good starting point for such quantification.

Vocational experts used in hearings and vocational counselors used at the DDS level have varied, and sometimes deficient, educational backgrounds. Minimum qualifications must be established with ongoing training and education for any person accepted to provide vocational testimony to the SSA.

Clarification of outlying issues that are commonly presented at hearing (i.e. sit/stand option, leg elevation, low stress jobs, minimal interaction with co-workers or supervisors) must be objectively defined as well.

The NADR task force appreciates the opportunity to share our views with the OIDAP panel through this written submission. We look forward to being able to comment on the panel's sub-committee proposals as they evolve in the future, present our opinions or participate in discussions directly should it be desired, and most importantly, provide the committee a resource comprised of persons who have been on both sides of the professional fence for a vocationally relevant period of time.

Respectfully Submitted

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User Needs and Relations Subcommittee
Content Model and Classification Recommendations

Comments Received
from the

**NATIONAL COUNCIL OF
DISABILITY DETERMINATION DIRECTORS
(NCDDD)**

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ncddd

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Presentation to the Occupational Information Development Advisory Panel
June 10, 2009

Introduction

Information needed to adjudicate claims

- Compilation of jobs <u>currently</u> existing in the national economy
- Consistently structured job descriptions listing duties, work processes, tools/machines used, and required skills
- Functional requirements for each job corresponding to SSA-defined physical and mental RFC assessment categories and measures
- Links to jobs with similar duties, tools/machines, skill sets, and industry for accurate, consistent transferability assessments. Where transferability of skills among a subset of jobs has been established, these lists should be readily available to all adjudicators, and their application should be official SSA policy for all adjudicative levels
- List of unskilled jobs at each exertional level that require no more than the basic mental/cognitive demands of competitive work and that currently exist in significant numbers in the national economy – for adjudicative reference in determining jobs to cite in other work denials where skill transferability does not exist or is not material to the decision

Gaps between DOT/SCO and what is needed to adjudicate claims

1. DOT has not been comprehensively updated in many years

   - Many jobs are missing, especially in the fields of computer technology, administration, programming, web design, database management, data entry, computer chip manufacturing, communications, medicine, automotive manufacturing and services, "green" businesses, trucking (where technology has made operation less exertional), retail store greeters, etc.

   - Composite jobs have multiplied as companies have downsized and done "more with less." This may affect the number of unskilled jobs in the national economy, as these jobs have been incorporated into the duties of jobs that also involve more complex tasks (e.g. SSA Field Office managers opening the mail). The DOT provides few distinct descriptions for assistant managers, working supervisors, and lead workers (who also oversee the shifts they work but are not responsible for hiring, firing, and other managerial duties).

- Some DOT job descriptions are no longer accurate – jobs are performed differently now (e.g. retail and restaurant workers may do heavier lifting with more stocking duties; manufacturing and materials handling jobs may require less exertion as computer-assisted technology and robotics do more; printing/publishing jobs may have changed or disappeared, etc.)

- Some DOT jobs are now obsolete. Jobs that have not existed in significant numbers in the past 15 years need to be removed.

2. The SCO provides limited information about the functional requirements of jobs, often merely whether or not the function is used to a significant degree, without further specification. More information is needed to perform function by function comparisons to identify jobs within a claimant's individual RFC restrictions:

- Exertional requirements – quantify in greater detail than the SCO's broad exertional ranges – specify separately the lifting, standing, walking, and sitting requirements; additional push/pull requirements; whether the job can accommodate alternating standing and sitting positions and how frequently
- Postural requirements – provide frequency according to RFC measures (none, occasional, frequent)
- Reaching requirements – specify height (overhead, shoulder, waist, etc.), direction (front, side), and whether job requires bilateral reaching or can be done with one arm only
- Manipulative functions – specify size of objects and whether job can be done one-armed
- Climbing – specify type (ropes, ladders, ramps, stairs, etc.)
- Balance – specify the surface – narrow, moving (serving food on airplane), uneven, smooth, etc.
- Vision – specify requirements for fine precision, distance, depth perception, accommodation, etc.
- Hearing – specify the degree of interpersonal interaction, telephone use, required response to auditory signals
- Environmental – specify frequency of exposure to the specific categories on the RFC
- Vibration – specify the intensity and frequency
- Mental demands – The DOT/SCO's Data/People/Things and Reasoning/Mathematical/Language coding gives some information but does not correlate with the specific MRFC limitations. Need to specify requirements in line with the mental RFC categories and measures, including the basic mental demands of unskilled work, especially:
  o Level of task complexity (e.g. number of steps, independent judgment required)
  o Intensity of concentration/persistence/pace (e.g. production, speed, and timeliness expectations)
  o Types and intensity of interpersonal interactions (e.g. public contact, high accuracy requirements yielding likelihood of supervisory criticism, teamwork with co-workers, amount of conflict inherent in the work, etc.)
  o Frequency and intensity of changes requiring worker adaptation with examples
  o Whether the job can accommodate variable schedules, extra work breaks, etc. (Extra work breaks may also be needed for certain types of physical impairments that cause fatigue or require frequent use of the bathroom, etc.)

New information needed

- Reassessment of the vocational rules and the occupational bases they represent (number of jobs in the national economy that are unskilled, sedentary, light, medium, etc.) given the changes from a manufacturing to an information and services-based economy and the technological changes that have transpired since the vocational grids were created. The current vocational rules were created for a different society and do not take into consideration today's reality of older workers remaining employed longer. They also do not reflect the technology advances that have caused an overall shift to lighter, less English-reliant work. How many unskilled sedentary jobs currently exist, and what exactly do they require in the way of physical and mental abilities?

- Ongoing assessment of how long skills in various occupations remain viable, aligning SSA policy for how far back in claimants' job histories adjudicators must go in determining relevance and transferability

Information Platform – we recommend an electronic database with the following features:

- Searchable by title, keyword, skills, tools/machines, etc. with progressive search options giving adjudicators the ability to efficiently narrow or broaden their search as needed
- Cross-references for synonymous or closely related job titles
- Built-in thesaurus of similar terms/titles
- Glossary of tools, machines and other technology with which adjudicators may be unfamiliar
- Other methods of providing greater understanding of the tasks, tools, and operations of jobs (e.g. links to video clips of how a certain machine is operated)
- Capacity to systematically retrieve lists of jobs to which skills could potentially be transferred once past work is identified - the adjudicator should be able to customize the list of duties, skills, tools, and work products for the claimant actual job, input parameters such as RFC limitations, age and education, and obtain a list of jobs to which skills might be transferred. The adjudicator must still analyze these options and make the transferability decision, but a systematic and well-built search mechanism would make these decisions more consistent and accurate
- Structured operation of the database guiding users through the steps of vocational analysis and providing ways for them to explain their step-by-step decisions (why they ruled in or out a job as being the one performed by the claimant, why they ruled in or out a job as offering transferability, why they ruled in/out the adverse vocational profiles and chose certain vocational rules, how they made decisions about remaining occupational base and citation of jobs within the claimant's RFC or lack thereof)
- Interface with the electronic folder so that the database search findings and the adjudicator's analysis of those findings become part of the file in a standard format
- Easily updatable and supported by a routine, ongoing process of updating
- Adaptable to future policy changes in such areas as RFC assessment and vocational analysis
- User-friendly with a minimum of screen tabs/toggling required; options available for bulleted lists of duties and skills, rather than paragraphs, etc.
- Use of the platform by all levels of adjudication including ODAR

Available resources

- OccuBrowse/OASYS – good key word search engine, helpful in finding related job titles and jobs with potential transferability, but very "green screen" and requires many screen changes/toggles. We need a comprehensive search engine that not only permits customizing the Worker Trait Search, but also incorporates the components of the GOE (Guide to Occupational Exploration), the PSMS (Materials, Products, Subject Matter, and Services), and the WF (Work Fields).
- Occupational Outlook Handbook (Bureau of Labor Statistics web site) – wealth of information for a wide variety of occupations, revised every two years
- Job Browser Pro by Skilltran
- The "less than" search function of the Denver DOT
- O*Net has some promising features but lacks links to RFC categories and measures of limitations
- "County Business Patterns" publications
- Vocational experts
- Any assessment tools used by rehabilitation or occupational therapy industries?
- Industries that may have developed comprehensive standardized job specifications and a process for updating them
- Potential for collaboration with DOL and VR?

Related recommendations for SSA

- Revise SSA-3369 (Vocational Report) to ask claimants better questions about job descriptions, functional requirements, and skills – in line with RFC categories and measures. Remove yes/no questions that do not provide needed descriptions. A detailed job description is critical information in every case decided at Steps 4 and 5 of sequential evaluation
- Provide comprehensive training to adjudicators on the use of the occupational information tools
- Prioritize the updating of job descriptions and do the most frequently occurring jobs (as reported on claimant 3369's) first
- Consider expanding the Listings and possibly including some demographics (in the same vein that function has been added to some Listings) to reduce the number of claims for which a vocational analysis must be undertaken.

Closing

This project has exciting possibilities. It has the potential to improve the consistency and quality of vocational analysis and disability determination across the national program. We hope that the cost, time and effort involved in updating the data and creating a "smart" platform will not be considered prohibitive. It is critical to keeping the disability program valid and its determinations fact-based in the 21st century. SSA needs to act soon, since much of the DOT data is obsolete and the available tools do not meet all adjudicative needs or provide the supports necessary to process a burgeoning workload in a timely manner. Thank you for the opportunity to provide input into the process.

Presented by
Trudy Lyon-Hart
Secretary, National Council of Disability Determination Services

Comments Received
from the

NATIONAL ORGANIZATION OF
SOCIAL SECURITY CLAIMANTS' REPRESENTATIVES
(NOSSCR)

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NATIONAL ORGANIZATION OF
SOCIAL SECURITY CLAIMANTS' REPRESENTATIVES
(NOSSCR)

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Executive Director
Nancy G. Shor

July 31, 2009

Mary Barros-Bailey, Ph.D.
Interim Chair
Occupational Information Development Advisory Panel
Social Security Administration
6401 Security Boulevard
Baltimore, MD 21235

Submitted by email to
Debra.Tidwell-Peters@ssa.gov

Dear Doctor Barros-Bailey:

Thank you for the opportunity to submit initial comments on behalf of the National
Organization of Social Security Claimants' Representatives (NOSSCR) to the Occupational
Information Development Advisory Panel (Panel). These comments are preliminary and
reflect some general issues we would like to raise at this time. We will submit comments that
address and directly respond to the Panel's recommendations to be issued in September
2009.

I am the NOSSCR Director of Government Affairs. Founded in 1979, NOSSCR is a
professional association of attorneys and other advocates who represent individuals seeking
Social Security and Supplemental Security Income (SSI) disability benefits. NOSSCR
members represent these individuals with disabilities in legal proceedings before the Social
Security Administration (SSA) and in federal court. NOSSCR is a national organization with
over 3,900 members from the private and public sectors and is committed to the highest
quality legal representation for claimants.

The objective and mission of the Panel is set forth in its Charter: To offer advice and
recommendations on plans to replace the Dictionary of Occupational Titles (DOT); to
advise SSA on creating an occupational information system (OIS) tailored specifically for
SSA's disability programs and adjudicative needs; and to offer advice and recommendations
to SSA in specified and other areas "that would enable SSA to develop an occupational
information system suited to its disability programs and improve the medical-vocational
adjudication policies and processes." Based on the Panel's Charter, its primary mission is to
advise SSA in ways to improve the SSA adjudicative process regarding medical-vocational
analysis.

We strongly support changes to make the process more efficient so long as those changes do not affect the fairness of the procedures used to determine a claimant's entitlement to benefits. The purposes of the Social Security and SSI programs are to provide cash benefits to those who need them and have earned them and who meet the eligibility criteria. While there may be ways to improve the decision-making process from the perspective of the adjudicators, the critical measure for assessing initiatives for achieving administrative changes must be how they affect the very claimants and beneficiaries for whom the system exists.

The current framework used in the Social Security and SSI disability claims process takes into account the medical-vocational factors required by the statute and calibrates those factors to benefit individuals with the most adverse vocational factors. For instance, the United States Supreme Court has noted, regarding the current Medical-Vocational Guidelines ("the Grid Rules"),[1] that:

> [The guidelines] consist of a matrix of the four factors identified by Congress – physical ability, age, education, and work experience – and set forth rules that identify whether jobs requiring specific combinations of these factors exist in significant numbers in the national economy.[2]

The Grid Rules acknowledge the interplay between the various vocational factors used in the Grids – age, education, work experience, and residual functional capacity (RFC). The rules must, by statute, be weighed in favor of those with more adverse vocational characteristics. For example, under SSA's current framework, low education is an adverse vocational factor; lack of transferable skills is an adverse vocational factor; being limited to sedentary work is an adverse vocational factor. When these three factors are combined, the Grid Rules recognize that the occupational base is so restricted that a finding of "disabled" is warranted.

If nonexertional limitations are involved,, the Grid Rules do not apply directly, but do offer a framework, thus recognizing the difficulty in quantifying such limitations in any type of objective matrix. Other SSA policies, e.g., regulations and Social Security Rulings, provide the necessary guidance to adjudicators.

Given that the general framework works, it would be inappropriate to jettison the entirety of the current process if there are only specific parts of it that need to be changed. For example, everyone agrees that the DOT needs to be updated. That does not mean that the Panel should see that need as a reason to reform the framework as a whole.

General Principles

We believe that the Panel should focus on the following general principles in its recommendations:

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[1] 20 C.F.R., Part 404, Subpt. P, App. 2.
[2] *Heckler v. Campbell*, 461 U.S. 458, 461-62 (1983).

1. The DOT job descriptions should be updated to describe the jobs that exist in today's economy.

2. The definition of "disability" in the Social Security Act (the Act) requires an individualized assessment of ability to perform substantial gainful activity by considering the individual's functional limitations in light of his/her age, education, and work experience.[3] The interplay between the factors must be included.

3. Evaluation of symptoms is unique to each individual claimant, cannot be quantified, and requires an individualized assessment. Current regulations and SSA provide detailed guidance regarding the evaluation of subjective symptoms, including pain.[4] Factors which must be included in the disability determination include:

- Pain (which can impact physical exertional limits as well as focus and concentration;
- Fatigue (requiring extra rest breaks during work period);
- Reaching limitations;
- Manipulative functions, including circumstances where person has lost effective use of one upper extremity;
- Sensory loss (vision, hearing, feeling);
- Dizziness (often caused as a side effect of medications);
- Impairment of bodily functions requiring frequent restroom breaks;
- Balance limitations due to dizziness or physical impairments;
- Environmental limitations due to allergies;
- Mental demands (including level of task complexity; intensity of concentration, persistence, pace; types and intensity of interpersonal interactions with co-workers, supervisors, and public; and degree of stress in work).

4. As required by the Act, only those jobs existing in "significant" numbers that a claimant is able to perform in light of his/her age, education, work experience, and residual functional capacity should be identified.

5. Any changes in the framework for analyzing medical-vocational factors must ensure that individuals who meet the statutory definition of disability are found eligible for benefits. The process cannot be subject to eligibility criteria that could be susceptible to political pressures to exclude eligible applicants. We recommend that the Panel issue a "Beneficiary Impact Statement" to determine the impact of its proposed changes on specific applicant groups.

Comments

At this time, we have some initial comments to some of the issues that the Panel is considering. Our comments are informed by the responses we received to your recent letter addressed to NOSSCR members.

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[3] 42 U.S.C. § 423(d)(2).
[4] 20 C.F.R. §§ 404.1529 and 416.929.

I. Update Job Descriptions

We received a number of comments from NOSSCR members regarding the need to update the job descriptions currently found in the DOT. Their comments are summarized below:

- Delete jobs that no longer exist in the national economy or no longer exist in "significant" numbers.
- Ensure that job tasks are consistent with required exertional levels.
- Ensure that the exertional levels of similar jobs in the same occupation groups are consistent with each other.
- Include jobs that now exist in significant numbers, e.g., computer/IT jobs.
- Update job descriptions for accuracy.
- Update job descriptions for jobs that still exist but are performed differently now, e.g., a worker may now need computer literacy.
- Identify whether a job is full-time or part-time. The Social Security Act makes clear that, for an individual who cannot do their past relevant work, SSA must show evidence of full-time jobs that the individual would be able to do. Some jobs that were previously full-time are now considered part-time.
- Consider whether the job includes task rotation. Supervisors in some jobs are required to perform more exertional tasks if necessary. For example, a restaurant manager may need to wait on tables and clear tables. A fire department supervisor may need to respond to a fire call.
- Obtain hard data on jobs that allow for a sit/stand option.
- Obtain hard data on unskilled sedentary jobs that exist in "significant" numbers.
- SSA should coordinate with other government agencies that maintain job census data to ascertain the existence of jobs in "significant" numbers.
- Social Security Ruling (SSR) 00-4p provides guidance to adjudicators in resolving conflicts between vocational expert testimony and the DOT. We believe that, as policy guidance, SSR 00-4p works well and should be incorporated into the Panel's recommendations. SSR 00-4p provides that a vocational source can offer evidence that differs from the DOT, including information that is not found in the DOT. In that case, the adjudicator is required to resolve the conflict by determining whether the explanation provided by the vocational source or expert is "reasonable."

II. Skills

The definition of "skill" in SSA's regulations and other policies, e.g., SSR 82-41, should be retained. Under SSR 82-41, a "skill" is defined as:

> … [K]nowledge of a work activity which requires the exercise of significant judgment that goes beyond the carrying out of simple job duties and is acquired through performance of an occupation which is above the unskilled level (requires more than 30 days to learn). It is practical and familiar knowledge of the principles and processes of an art, science or trade, combined with the ability to apply them in practice in a proper and approved manner. This includes activities like making precise measurements, reading

blueprints, and setting up and operating complex machinery. A skill gives a person a special advantage over unskilled workers in the labor market.

As required by the regulations, SSA must look at the individual's past relevant work history, determine the skill level of that work, and if that work is semi-skilled or skilled, whether the skills can be used in other work.

A revised OIS must recognize the existence of unskilled work. Hard data should be obtained regarding unskilled jobs at the sedentary and other exertional levels that currently exist in "significant" numbers in the national economy. Under SSR 82-41:

> Skills are not gained by doing unskilled jobs, and a person has no special advantage if he or she is skilled or semiskilled but can qualify only for an unskilled job because his or her skills cannot be used to any significant degree in other jobs.

Regarding transferable skills, there is no software program that can conclusively answer the question whether skills are transferable. As noted by SSR 82-41:

> The table rules in Appendix 2 [the Grids] are consistent with the provisions regarding skills because the same conclusion is directed for individuals with an unskilled work background and for those with a skilled or semiskilled work background whose skills are not transferable. A person's acquired work skills may or may not be commensurate with his or her formal educational attainment.

Given SSA's policy for evaluation of transferable skills, an individualized assessment is required. For example, under current regulations:

> (1) For individuals age 50 to 54, a finding of disabled is warranted if claimant, limited to sedentary work, has a high school education which does not provide for direct entry into skilled work and has no transferable skills from semi-skilled or skilled past work.[5]

> (2) In order to find transferability of skills to skilled sedentary work for individuals who are of advanced age (55 and over), there must be very little, if any, vocational adjustment required in terms of tools, work processes, work settings, or the industry.[6]

The regulations and SSR 82-41 provide guidance in determining transferability of skills, which is part of the larger issue of vocational adjustment. These agency policy directives make it clear that a generalized categorization, assuming that the individual has acquired certain skills, is inappropriate, and that the adjudicator must make an individualized assessment of the claimant, including consideration of exertional and nonexertional limitations, past work, whether any skills were acquired in semi-skilled or skilled past work, and whether the claimant's limitations allow acquired skills to be used in other jobs.

III.   Mental Demands of Jobs

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[5] 20 C.F.R., Part 404, Subpt. P, App. 2, § 201.00(g).
[6] 20 C.F.R., Part 404, Subpt. P, App. 2, § 201.00(f).

As noted above, evaluation of nonexertional limitations requires an individualized assessment. These types of limitations cannot be quantified, which is recognized by SSA regulations precluding the use of the Grid Rules if a claimant has only nonexertional impairments. This approach is particularly important for individuals with work limitations caused by mental impairments.

Any attempt to create a quantifiable matrix or rating system to be used in such cases would be subject to close scrutiny regarding its legality, based on a past effort by SSA. In the 1980s, SSA had an illegal, clandestine policy to deny the claims of individuals and terminate the benefits of beneficiaries with mental impairments. The agency used a form to rate the severity of 17 signs and symptoms and decided the claim based on the numerical rating. An individualized assessment of the individual's ability to work was not performed at any step of the process. Class actions were filed, challenging this policy. The courts found the procedure unlawful because it used a presumption that did not provide for the evaluation of residual functional capacity required by law.[7] We strongly oppose any type of rating system that would provide a "bright line" determining who is disabled and who is not if they have nonexertional limitations.

In response to the litigation and congressional action, SSA changed its policies regarding the assessment of limitations caused by mental impairments. Social Security Ruling (SSR) 85-15 still provides crucial guidance in the evaluation of mental residual functional capacity, stating that the mental RFC finding requires "careful consideration." SSR 85-15 describes the basic mental demands of competitive, remunerative, unskilled work:

- The ability (on a sustained basis) to understand, carry out, and remember simple instructions;
- The ability to respond appropriately to supervision, coworkers, and usual work situations; and
- The ability to deal with changes in a routine work setting.

SSA 85-15 states that "[a] substantial loss of ability to meet any of these basic work-related activities would severely limit the potential occupational base. This, in turn, would justify a finding of disability because even favorable age, education, or work experience will not offset such a severely limited occupational base."

We believe that the policy guidance regarding the basic mental demands of work in SSR 85-15 must be retained.

Stress. A particular job is not, in and of itself, stressful. It is the individual's response to stress that is critical in evaluating mental RFC. SSR 85-15 provides excellent guidance addressing how stress should be assessed and emphasizing "the importance of thoroughness in evaluation on an individualized basis." SSR 85-15 cautions against creating any type of presumption in evaluating stress regarding a specific individual:

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[7] *City of New York v. Heckler*, 578 F. Supp. 1109 (E.D.N.Y. 1984), *aff'd*, 742 F.2d 729 (2nd Cir. 1984), *aff'd*, 476 U.S. 467 (1986); *Mental Health Ass'n of Minn. v. Schweiker*, 554 F. Supp. 157 (D.Minn. 1982), *aff'd*, 720 F.2d 965 (8th Cir. 1983).

The reaction to the demands of work (stress) is highly individualized, and mental illness is characterized by adverse responses to seemingly trivial circumstances. The mentally impaired may cease to function effectively when facing such demands as getting to work regularly, having their performance supervised, and remaining in the workplace for a full day. A person may become panicked and develop palpitations, shortness of breath, or feel faint while riding in an elevator; another may experience terror and begin to hallucinate when approached by a stranger asking a question. Thus, the mentally impaired may have difficulty meeting the requirement of even so-called "low stress" jobs.

Because response to the demands of work is highly individualized, the skill level of a position is not necessarily related to the difficulty an individual will have in meeting the demands of the job. A claimant's condition may make performance of an unskilled job as difficult as an objectively more demanding job, for example, a busboy need only clear dishes from tables. But an individual with a severe mental disorder may find unmanageable the demand of making sure that he removes all the dishes, does not drop them, and gets the table cleared promptly for the waiter or waitress. Similarly, an individual who cannot tolerate being supervised may be not able to work even in the absence of close supervision; the knowledge that one's work is being judged and evaluated, even when the supervision is remote or indirect, can be intolerated for some mentally impaired persons. Any impairment-related limitations created by an individual's response to demands of work, however, must be reflected in the RFC assessment.

We urge the Panel to incorporate the guidance provided in SSR 85-15 in its recommendations.

We also recommend that the Panel find methods to measure and evaluate the individual's ability to withstand work environment stressors.

IV. Job Accommodation

Current and long-standing SSA policy does not consider "reasonable accommodation" in determining whether an individual can perform a specific job. We believe that this policy is appropriate and should continue.

The "reasonable accommodation" provision in the Americans with Disabilities Act (ADA) and the SSA disability determination process provide two different but complimentary remedies for individuals with disabilities. The main purpose of the ADA is to provide a clear and comprehensive mandate to end discrimination against persons with disabilities. Nothing in the ADA should be construed to limit any other federal law that provides greater or equal protection of the rights of persons with disabilities.

While concepts of disability under the Social Security Act involve broad, hypothetical vocational patterns, determining whether the ADA applies in a specific employment situation and whether it has been violated requires a number of *individual* assessments. The appropriate method of "reasonable accommodation" is determined on a case-by-case basis

involving evidence about the *particular* employment situation. Determining whether a *particular* accommodation imposes "undue hardship," and thus is not required under the ADA, requires another individualized, case-by-case determination.

In contrast, there is no "reasonable accommodation" requirement in the Social Security Act. Instead, the issue of available jobs in *significant* numbers is addressed on a hypothetical basis under the Act's statutory definition of disability. Trying to determine reasonable accommodations by a hypothetical class of employers for hypothetical jobs is thus antithetical to the purpose of the ADA.

Over the years, there are some who have attempted to merge the purposes of the ADA and the Social Security and SSI disability programs. However, the distinction between the two programs was recognized by SSA as long ago as 1993 when the former SSA Associate Commissioner for the Office of Hearings and Appeals addressed the issue when it first arose in some ALJ hearings. He noted:

> Whether or how an employer might be willing (or required) to alter job duties to suit the limitations of a specific individual would not be relevant because our assessment must be based on broad vocational patterns … rather than on any individual employer's practices.

He concluded that "the ADA and the disability provisions of the Social Security Act have different purposes and have no direct application to one another."[8]

The United States Supreme Court also has recognized that the two programs were designed for different purposes and can coexist. In *Cleveland v. Policy Management Systems Corp.*,[9] the U.S. Supreme Court noted that the Social Security Act provides cash benefits to individuals under a "disability" as defined in the Act, while the ADA "seeks to eliminate unwarranted discrimination against disabled individuals."[10] The Supreme Court found that "there are too many situations in which an SSDI claim and an ADA claim can comfortably exists side by side" and thus held it would not apply a negative presumption that an individual who applies or receives SSDI cannot pursue an ADA claim.[11] The Supreme Court provided specific examples how the ADA and SSDI programs "can comfortably exist side by side."

Specifically relevant to the Panel's work, the Supreme Court described how the ADA defines a "qualified individual" to include a disabled person who can perform essential functions of a specific job "with reasonable accommodations," a factor that is not part of Social Security statutory definition of disability. Thus, an ADA claim that a plaintiff can perform a specific job with reasonable accommodation "may well prove consistent with an SSDI claim that the plaintiff could not perform her own job (or other jobs) *without* it."[12]

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[8] Memorandum dated June 2, 1993, from Daniel Skoler, Associate Commissioner of the Office of Hearings and Appeals [now known as the Officer of Disability Adjudication and Review].
[9] *Cleveland v. Policy Management Systems Corp.,* 526 U.S. 795 (1999). The Supreme Court cited to the Skoler Memorandum. *Id.* at 803.
[10] *Id.* at 801.
[11] *Id.* at 802.
[12] *Id.* at 803.

Introduction of the ADA into the disability process is not appropriate because the purposes of the two programs are not the same. The ADA ensures that persons with disabilities have equal access in both public and private arenas. The Social Security Act, on the other hand, provides cash benefits to persons determined unable to engage in substantial gainful activity.

<p style="text-align:center">*   *   *   *</p>

Thank you for the opportunity to submit these preliminary comments to the work of the Occupational Information Development Advisory Panel. We look forward submitting more comprehensive comments in response to the Panel's recommendations to be issued in September 2009.

Sincerely,

Ethel Zelenske
Director of Government Affairs

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Sub-Appendix B—Organizations and Conference List

Organizations

Academy of Management http://www.aomonline.org/
American Association of People with Disabilities (AAPD) http://www.aapd-dc.org/
American Board of Vocational Experts (ABVE) http://www.abve.net/
American Occupational Therapy Association, Inc. (AOTA) http://www.aota.org/
American Physical Therapy Association (APTA)
http://www.apta.org//AM/Template.cfm?Section=Home
American Psychological Association (APA) http://www.apa.org/
        Society for Vocational Psychology (SVP) http://www.div17.org/vocpsych/
American Rehabilitation Counseling Association (ARCA) http://www.arcaweb.org/
American Rehabilitation Economics Association (AREA) http://www.a-r-e-a.org/
Commission on Rehabilitation Counselor Certification (CRCC)
http://www.crccertification.com/
Council of State Administrators of Vocational Rehabilitation (CSAVR)
http://www.rehabnetwork.org/
Human Factors and Ergonomics Society (HFES)
http://www.hfes.org/web/Default.aspx
International Association of Rehabilitation Professionals (IARP)
http://www.rehabpro.org/
IARP – SS/VE No website
International Forum on Disability Management (IFDM) http://www.ifdm2010.com/
National Association of Disability Examiners (NADE) http://www.nade.org/
National Association of Disability Representatives (NADR) http://www.nadr.org/
National Association of Forensic Economics (NAFE) http://nafe.net/default.aspx
National Association of Service Providers in Private Rehabilitation (NASPPR)
https://nationalrehab.org/index.php?option=com_content&task=view&id=92&Itemid=104
National Council of Disability Determination Directors (NCDDD) No website
National Council on Rehabilitation Education (NCRE)
http://www.rehabeducators.org/
National Council of State Agencies for the Blind (NCSAB) http://www.ncsab.org/
National Organization of Social Security Claimants' Representatives (NOSSCR)
http://www.nosscr.org/
National Rehabilitation Association (NRA) http://www.nationalrehab.org/
National Rehabilitation Counseling Association (NRCA) http://nrca-net.org/

User Needs and Relations Subcommittee
Content Model and Classification Recommendations

Rehabilitation Services Administration (RSA)
http://www.ed.gov/about/offices/list/osers/rsa/index.html
Society for Human Resource Management (SHRM)
http://www.shrm.org/Pages/default.aspx
Society for Industrial and Organizational Psychology, Inc. (SIOP)
http://www.siop.org/

Conference List
(in Chronological Order)

Dates – 2009	Organization	Location
October 5 – 9, 2009	NADE National	Covington, KY
October 14-17, 2009	NOSSCR	San Francisco, CA
October 19-23, 2009	HFES	San Antonio, TX
October 26-28, 2009	NCRE-RSA-CSAVR	Arlington, VA
October 29 – 31, 2009	IARP (Forensic Conference)	Memphis, TN
November 15-19, 2009	CSAVR	Phoenix, AZ
November 18-20	NCSAB	Phoenix, AZ
November 21 -23, 2009	NAFE (Southern Region)	San Antonio, TX
Dates 2010	**Organization**	**Location**
January 3 – 5, 2010	NAFE	Atlanta, GA
February 2010	APA (Division 22)	**TBD**
February 26 – 28, 2010	NAFE (Eastern Region)	Philadelphia, PA
March 26 – 28, 2010	ABVE	San Diego, CA
April 8-10, 2010	SIOP	Atlanta, GA
April 29-May 2, 2010	AOTA	Orlando, FL
May 12-15, 2010	NOSSCR	New Orleans, LA
June 16-19, 2010	APTA	Boston, MA
September 11 – 16, 2010	NADE	Albany, NY
September 20-22, 2010	IFDM	Los Angeles, CA
September 22-25, 2010	NOSSCR	Chicago, IL
September 27-October 1, 2010	HFES	San Francisco, CA

OIDAP Quarterly Meeting Dates:

- September 16-17, 2009—Los Angeles, CA
- December 1-3, 2009—TBD
- March 2-4, 2010—TBD
- June 8-10, 2010—TBD
- August 31-September 2, 2010—TBD

Sub-Appendix C—SSA User Needs Analysis

Final Findings

PHYSICAL JOB DEMANDS	ADDITIONAL INFORMATION
Lifting	Need more detailed information about lifting requirements. How heavy are the objects that are going to be lifted? Does the individual have to lift their own body weight? Need duration / frequency measures Bilateral vs. unilateral Specify jobs that don't involve lifting. Can it be done with one arm/hand or does it require both arms/hands? Where is object located and where is it being moved to (e.g., floor to overhead shelf). Body position when lifting? (e.g., overhead, with bending, floor to waist, waist to floor) Need more specific measurement information. The intervals in the existing DOT are unrealistic. What is the size/shape of object being lifted? Does lifting involve both upper and lower extremities or does it only require upper? Are tools or assistive devices used or is the individual required to lift alone, unassisted? Would like to see lifting data separated from carrying data.

User Needs and Relations Subcommittee
Content Model and Classification Recommendations

Carrying	How far does the job require the individual to carry something?
	How often does the job require the individual to carry something (frequency)?
	Can the object be carried with only one arm/hand?
	Dominant hand/side of the individual
	Bilateral vs. unilateral
	Need more specific measurement information. Intervals in the existing DOT are unrealistic.
	Where is the object located /where is it being moved to?
	What is the size/shape/weight of the object being carried?
	How long must an individual carry something before they are aloud to take a break (duration)?
	Are tools or assistive devices used or is the worker required to carry an object without being assisted?
	Would like carrying data separated from lifting data
Standing	Need to have better measures for frequency and duration in order to provide more detail.
	How long is the individual required to stand?
	Provide separate measures for standing, walking, and sitting.
	Standing and bending do not match up with work history and RFC.
	Other term used: Station

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Walking	Need to change measure of frequency to provide more detail. Is walking with a cane ok? How long is the individual required to walk before they can rest? Need to provide separate measures for standing, walking, and sitting. How fast is the pace? How far is the individual required to walk? How often is the individual required to walk? Is it repetitive? What is the total time an individual is required to walk? Is the individual required to walk on an even grade, uphill, or on uneven terrain? Other term used: Gait
Sitting	Need to change measure of frequency to provide more detail. How long is the individual required to sit? Is an individual required to sit in the same position for extended periods of time? Provide separate measures for standing, walking, and sitting.

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Pushing	Hand or foot controls /pedals – does the job require someone to drive (push in a clutch). Bilateral vs. unilateral Levers, buttons, knobs – how much force is required to push in? Where are the controls located? Frequency of manipulation and distance between controls. Include both upper and lower extremities Need to separate from other measures instead of including it in definition of strength level of occupation (i.e., sedentary, light, medium, etc). How long required to push? Can object be pushed with only one hand/arm? Dominant hand/ side of the individual Body position while using controls
Pulling	Bilateral vs. Unilateral Dominant hand /side of the individual Include bother upper and lower extremities
Shoveling	
Unloading	
Climbing	Need more detailed information such as a breakout of the various kinds of climbing (e.g., stairs, ladders, ropes, scaffolding, etc), and the frequency. Need better measures than occasionally and frequently. Can job be performed by an individual who has use of only one arm/hand? Are assistive devices such as ramps available so that the individual doesn't have to climb stairs?

Balancing	DOT definition of balancing is not helpful. For instance, it would be nice to know if the job requires an individual to work on an elevated platform. Definition of balancing needs to be more descriptive and appropriate to people who are disabled If you only had one hand, would that be an issue in the workplace? Need better measures than occasionally and frequently. Can employee use a cane? See section on Workplace Tolerances, Flexibilities, and Standards.
Stooping	Some asked for better measures than occasionally and frequently while others liked these quantifiers. Need to have a measure that addresses when a person must stoop and twist or stoop and reach simultaneously. Need better frequency and duration measures. Need a better name for stooping. Please rename as "bending forward at the waist." Need more detailed information as to the manner and to the location that the individual bends (e.g., side to side, straight down, bending to the ground, etc). Also need information as to why individual needs to stoop. Standing and bending do not much up with work history and RFC. Other term used: Bending
Kneeling	Need better measures than occasionally and frequently (better frequency measures in particular). How long is the individual required to maintain position?

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Crouching	Need better measure than occasionally and frequently. Need better frequency measures "Likes quantifiers of occasional, frequent, and constant." They interpret occasional to mean - "Might be expected at some point in a work day but not every work day." "Frequent" means once an hour. Other terms used: bending, squatting
Crawling	Need better measure than occasionally and frequently. "Likes quantifiers of occasional, frequent, and constant." They interpret occasional to mean - "Might be expected at some point in a work day but not every work day." Frequent" means once an hour.
Reaching	Bilateral vs. unilateral Need to define specifically in what direction and at what level (arm level, waist level, to the floor). How far does a person need to reach? Above head? Does hand /side dominance matter? How often (frequency) and for how long (duration)? Need to describe if the individual is holding something while reaching. If yes, what is the weight of the object? Can the job be done by an individual who has only one arm/hand? DOT odes not match up with RFC vocabulary for reaching (make more uniform). That is, DOT has constant, frequent, occasional, and never.
Reaching Overhead	Need better frequency measures Bilateral vs. unilateral Does the individual hold objects in hand when reaching overhead?

Handling	Bilateral vs. unilateral
	Need better frequency measures
	Repetitive motion?
	Does the individual need to grasp small, medium, or large objects?
	Would hand dominance matter in performing a task?
	Does task require work to handle something and be able to rotate or twist their wrist?
	Can the job be done by an individual who has use of only one hand?
	Other terms used: gripping, holding, and manipulating objects

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Fine motor skills	Bilateral vs. unilateral Typing Writing/writing instruments Grasping small objects For gripping /grasping, how much force or strength is required? Does hand dominance matter in performing a task? Flexing with hand Need information on what's being picked up. For example, a coin or button. Finger dexterity required? Utensils Need better measure for things such as fingering. Frequency and duration are important. Need to twist wrist? Other term used: fine manipulation, fingering, gripping, grabbing, picking, pinching, holding, grasping
Feeling	Is dominant hand impaired? Bilateral vs. unilateral Need better measure for frequency / repetitive motion.
Bilateral vs. unilateral manipulation	Does the job require an individual to use one arm or hand? Does the job require them to use both? Can you use one hand for work and the other for assistance (to brace yourself)?
Coordination	
Physical pace	

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Speed of movement required	For example, to avoid hazardous situations. Other term used: rapid, full body movements
Agility of movement required	For example, to avoid hazardous situations.
Running	
Jumping	
Include not just "occasional," "frequent," etc measures, but also measure of repetitive physical movements	
Repetitive tasks	Do tasks require a repetitive motion (typing, handling tool, etc)?
Keyboarding	
Flexing with knee	
Twisting	Twisting neck/head, torso/trunk, Other term used: rotation
Twisting Torso	Other term used: rotating trunk, turning, rotation
Rotation of neck	Need more information in this area What direction is the neck rotating – up, down, etc? Other term used: neck extension
Need to sustain full-time employment	Can individual maintain a full 8 hr. day? Other terms used: Fatigue, endurance, stamina.

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Does workplace provide worker with the flexibility to change position when needed?	Can individual sit/stand at will at the work location? Does person need to lay in one position all day? How long is the individual required to sit/stand before they can change positions? Need measure of frequency at which individual can change position and how far individual can move away from workstation in order to change position. Can individual elevate his foot/leg during the workday? See section on Workplace Tolerances Other terms used: Sit/Stand Option and Alternate sit/stand.
Can worker use an assistive device at work?	Cane, crutch, wheelchair, oxygen tank, mask, special telephone, visual aids, robotic devices, voice activated/ talking software, voice activated computers Software that reads a computer screen to the visually impaired Would using a cane, for example keep the individual from carrying any objects he/she would be required to carry?

SENSORY JOB DEMANDS	ADDITIONAL INFORMATION
Hearing	Can individual still perform job with out being able to hear? –Safely? How noisy is the environment? If noisy, is sound cancelling equipment available? Need information on frequency of sound (high or low). Does the individual need to be able to hear hazards such as machinery? Are there warning bells that must be heard? What is the decibel level of the warning bell? Does job require you to receive instructions verbally? Does job require you to hear / understand normal conversation? What about hearing someone who is speaking in a low voice? Some jobs have specific requirements for hearing. How much hearing is required to perform a specific job? Can claimant perform job within the available workplace flexibilities? Does the job require the individual to be able to talk on the telephone? Understanding social cues See section on Workplace Tolerances, Flexibilities, and Standards (Workplace Accommodations)

Speech	How much speaking is needed (frequency, volume, and duration)?
	Does individual have to speak quickly (e.g., to give a warning)?
	Does individual have to speak English or a foreign language?
	Can individual perform job without being able to speak?
	Does speech need to be loud (e.g., to be heard over a noisy environment)?
	Does the individual need to request information from others?
	How much speech discrimination does the job require? Does an individual need to be able to articulate?
	Can an individual be understood with any limitations in speaking? With regional differences?
	See section on Workplace Tolerances, Flexibilities, and Standards (Workplace Accommodations)

Vision	How far away are the visual stimuli? For example, is the individual looking at a computer screen or documents (reading) all day or into the distance? Near vs. distance vision. Is a full range of vision needed or does the individual focus only at a specific distance?
	Does worker need to see small, medium, or large objects?
	Need information about the context or reason for which the worker needs to see.
	Depth perception required
	Visual fields – at which point can an individual no longer perform a task?
	Degree to which peripheral vision is required to see hazards and to avoid hazards in the workplace.
	Can the job be performed if individual has vision in only one eye (good eye is 20/20)? Monocular vs. binocular vision. Does job require a minimum level of visual acuity (e.g., 20/60)?
	Contrast/clarity
	Brightness versus dimness of lighting. See information about lighting in section on environmental conditions.
	Vision needed to avoid hazards in workplace? Can a person with limited vision be safe and keep others safe on the job? Presence of an obstacle that might be difficult for someone with a vision problem to see.
	Does the job require the individual to walk on ramps or over uneven terrain?
	Can a colorblind individual perform the occupation?
	See section on Workplace Tolerances, Flexibilities, and Standards
	Other term used: Peripheral vision needed

Tasting	
Smelling	

ENVIRONMENTAL CONDITIONS	ADDITIONAL INFORMATION
All	Need better measures of environmental conditions, including how concentrated the exposure is and how frequent the exposure is. Need better measures of frequency and better definitions. Need to make sure the levels described are measurable.
Exposure to extreme cold	
Exposure to extreme heat	
Exposure to wetness	Other term used: moisture, wet, rain
Exposure to humidity	Need a measure of the degree of humidity
Exposure to noise or loud work environments	If noisy, is sound canceling equipment available?
Exposure to heavy vibrations	
Exposure to fumes	
Exposure to odors, perfumes, or hairspray	
Exposure to dust	
Exposure to gases	

Exposure to hazardous work areas	Physical and mental response time needed to avoid injury in dangerous jobs. How dangerous is the job? Working at heights. Protected versus unprotected heights. Description of height (e.g., ladder, scaffolding, stairs, ropes, etc.). Working around or operating machinery Working around or operating heavy equipment Work involving driving Potential electric shock Does work environment contain hazards on the floor that would impede someone's movement (e.g., boxes on office floor)? Does work involve the use of a weapon? Working around bright lighting Would dropping something cause a safety problem?
Exposure to mold or mildew	
Exposure to feathers	
Exposure to chemicals	Other term used: contaminants or pollutants
Exposure to smoke	
Exposure to paint	
Exposure to allergens	
Exposure to irritants	
Exposure to a clean environment	
Exposure to magnetic fields	
Exposure to electrical fields	There are issues with prosthesis and pacemakers

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Exposure to electricity	
Exposure to poor ventilation	
Walking surfaces	Are the surfaces for walking smooth, ruff, cement, slippery, carpet, uneven?
Exposure to pet dander	
Is worker exposed to confrontations?	
Is worker exposed to distractions?	
Is work located in a public place or in a private office?	
Is work located indoors or outdoors?	
Is work located in a crowded place?	
Does worker have to use technology to carry out tasks?	For example, a phone or computer.
Is office air conditioned?	
Ergonomics	Does the job provide for the environment to be manipulated by the employee? Can you adjust your work station? Can you work either standing or sitting (see section on physical job demands)?
Does worker have ready access to a bathroom?	
Lighting	Degree of lighting and type of lighting. For example, natural versus artificial lighting, measured in foot candles

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Is work performed during the day or at night?	
Is worker required to drive?	
Can individual work part time if needed?	
Does the job involve working with children?	

MENTAL JOB DEMANDS	ADDITIONAL INFORMATION
Cognition	Ability to understand multi-step, complicated instructions Can individual function at higher levels? Simple/detailed/complex abilities needed (e.g., problem solve, make judgments, perform high level math)? Is the individual consistent in task completion? See section on Task Information
Intelligence	Need information similar to DOT's SVP. Knowledge Ability to organize

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Job Complexity	Need information about simple vs. complex job tasks Need a standardized measure How long does it take to learn a job? How often does knowledge need to be refreshed? How often does new information need to be learned? We currently use SVP for complexity, but SVP doesn't provide enough information. See also task information chart
Mental processing speed needed?	Example, quick thinking may be needed to respond quickly to dangerous environments and to get out of harms way.
Literacy	
Counting	
Reading	
Writing	Does the job require an individual to possess a certain level of writing skills (including refined grammar and spelling)? Does the job require them to type?
Word Manipulation	
Mathematical Skills	

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Need to give/receive instructions	How does an individual receive instructions? Written? Verbal? Visual? Does the individual need to give or receive simple, detailed, or complex instructions? How many steps are they required to learn? Degree to which instructions must be understood. Other term used: comprehension
Memory	Remembering simple instructions versus detailed instructions. Does an individual have to remember work procedures and operations? Need a better measurement. Need to know the degree and length of memory requirements. For instance, what is the need in the workplace for short-term and long-term memory? How long do they have to remember instructions?
Attention	Does job require the individual to pay attention to detail? Does the job require the individual to pay close attention to task at hand? How long must an individual maintain attention to a task? Can an individual be off task for periods but still get the job done?
Focus	How long is an individual required to maintain focus on a task? Fine details? How complex is the task? We need a better measure for observing tasks in general. Other term used: attention

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Concentration	What period of time does a person have to concentrate before they can have a break in concentration? It would be helpful to have information about the presence of distractions in the workplace. For example, type, degree, and frequency of distractions. Need to have a better, quantifiable, verifiable measure. Need to be able to crosswalk mental status exam to OIS and mental residual functional capacity. Need information on the intensity of concentration required, the maximum length of time required to concentrate, and the complexity of material (e.g., "unskilled" vs. "skilled"; 1-2 step tasks versus a greater number of tasks). Do they have to multi-task? The amount of training involved Better definitions for concentration, focus, attention, etc. Degree of watchfulness vs. intense attention Being able to focus on the basic task at hand is different than being able to perform a task where you have to implement or carry out tasks and perform them correctly, on time, etc. We need to separate these out and redefine them because people are using them interchangeably even though they really mean two different things.
Persistence	Does an individual give up easily? What is the need to carry out instructions? Need to know degree and length of persistence requirements.

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Pace	Need to know the degree and length of pace requirements Are there production quotas and deadlines that need to be met? Currently, pace is defined in a very broad manner. Please make industry specific and job specific.
Ability to keep a schedule	Can they perform tasks on their own or do they need supervision? Can the meet deadlines?
Complete a work day and a work week without interruption	Can a person work eight hours a day, five days a week? Can a person work in 12 hour increments? Other terms used: mental fatigue, stamina
Interaction with general public	Does the individual work with the general public? How closely does the individual work with the general public? The DOT doesn't have enough information regarding public contact. Need better measures for frequency, intensity, degree and length of contact. What is the method of interaction? For example, is interaction superficial, in-depth, or adversarial?

Interaction with supervisor	Degree of supervision given/required/available. For example, is constant or minimal supervision needed? How closely does an individual have to interact with their supervisor? What is the frequency of criticism? Degree of worker autonomy. With how many levels of management does individual have to interact? Does individual have to interact with supervisors who are known or unknown? Need measures for type, frequency, intensity, complexity, and length of contact (e.g., is interaction superficial or in-depth) With what type of management does the individual have to interact (e.g., does the person's supervisor manage by terror or kindness)?
Interaction with other workers	Does individual work alone, in a team, or a group? With how many other workers does an individual work? Need measures for frequency and degree (e.g., intense, superficial, close, helpful). Need measures for type, frequency, intensity, complexity, and length of contact (e.g., is interaction superficial or in depth) Does the individual have to interact with coworkers who are known or unknown?
Tolerating others behaviors	
Accept criticism	Does an individual need to be able to accept criticism?

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Adaptability	Degree of change associated with occupation. For example, how often and to what degree do the tasks change? Ability to respond quickly to changes Degree of change associated with work processes, work hours, work setting, and people with whom the individual interacts. Need some type of adaptability score.
Degree of precision, accuracy, and quality required	
Decisionmaking	Does an individual need to make independent judgments and decisions? How quickly do decisions have to be made? How many decisions have to be made? Other terms used: Executive Functioning
Judgment	
Motivation	
Can an individual function fully independently or do they need supervision or assistance (e.g., job coach)?	
Level of responsibility	Does the individual need to supervise someone else? Do decisions affect the life, death, large numbers of people, or the health of the company? Do decisions affect individuals directly, such as hiring and firing? Is there accountability for decisions made? Level of responsibility could be a stressor.

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Level of authority	Information on the level of authority the worker needs to exert. For example, bouncer, policeman, ticket taker, crowd control, or phone contact with no authority exerted. Ability to supervise. Details about tasks (type and frequency) that the person can manage.
Communication	What methods of communication does the job require an individual to engage in? For example, is it over the phone, face to face, through the mail, using a computer, etc? Can they be understood? Are there any limitations in speaking? What is their ability to communicate? Are they clear, consistent, effective? Are they able to articulate? Word finding capabilities Other term used: Speech
Ability to speak English	Does individual need to speak English? Are there regional differences in requirements to speak English?
Ability to communicate in a foreign language	Is foreign language fluency required? Are there any local requirements to speak a specific foreign language?
Degree of structure present in the workplace	
Degree of discretion required	

Additional stress factors	Does the job have deadlines?
	Public speaking
	Working with hazardous, explosive materials
	Decisionmaking
	Does the worker also supervise the tasks they perform?
	Does the job involve piece work?
	Pace of production?
	Production rate or quotas?
	Supervisory criticism
	Responsibility and making independent judgments
	What are the consequences for failure (would someone die)?
	Does individual have to deal with new or unknown people? How well does worker get along with coworkers?
	Define stress in workplace terms
	Does individual produce for next person on assembly line or does individual complete the task him or herself?

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TASK INFORMATION	ADDITIONAL INFORMATION
Measurement	Need better instrument for observing tasks
Is task or job repetitive?	
Is task routine?	Do tasks stay the same or do they change? How often does the individual face novel situations?
How many steps in each task?	1 to 2 step tasks versus a greater number of steps How is task sequenced?
How complex is the task?	Simple vs. Complex / Skilled vs. Unskilled Does the task involve rational decision making?
How long does it take to learn the task?	
How long to complete a task?	Does the task have to be completed within a specific time period in order to meet a deadline?
What training is involved in learning the task/job?	
How many tasks is a worker required to perform at one time?	Does the worker need to be able to multi-task such as listen and type at one time?
Amount of paperwork involved?	
Does the task require handling money?	
To what degree is the job automated?	

Assembly work	If assembly work, does the individual do entire process or a part of the process? Is there a conveyor belt with a fixed pace? Is there is an assembly line with multiple employees? If one slows down will it affect the others? Are there production requirements or quotas?
Accuracy in task completion	How accurately does a task need to be performed?
Technology involved in task completion	Are workers required to use phones, computers, or other technology?

WORKPLACE TOLERANCES, FLEXIBILITIES, AND STANDARDS	ADDITIONAL INFORMATION
Tolerance for workers taking breaks when needed	Can individual take unscheduled breaks, as needed? To take medications? Longer breaks to use a bathroom frequently? Does individual have ready access to a bathroom? What is the tolerance for taking more frequent breaks and rest breaks, for example, to be able to rest when short of breath from walking?

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Tolerance for workers changing positions when needed	Can the individual sit or stand at will at the work location?

Need a measurement of frequency at which the individual can change positions.

Need a measure of how far individual can move away from workstation in order to change position. For example, is the individual required to stay in same physical position or can they move?

See section on Physical Job Demands. |
| Does or can worker work alone? | If an individual usually works with others, is there a workplace tolerance that would allow him or her to work alone?

How much supervision is needed? |
| Workplace options | Is voice activated software readily available?

Is software that will read the computer screen to visually impaired individuals readily available?

Seeing-eye dog.

Can an individual use a wheelchair or cane at work? What about an oxygen tank or mask when working with chemicals? Are ramps available so that workers don't have to climb stairs? |
| Tolerance for absences | Can claimant sustain a 40 hour work week?

Can claimant sustain an 8 hour day?

Are there specific attendance policies?

How many absences would be tolerated? Frequent absences?

Other term used: Frequent absences |
| Tolerance for workers who are not punctual | Other term used: tardiness |

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Flexible work schedule vs. fixed	Flexible vs. nonflexible break and lunch schedules Flexible starting and ending times
Can individual work from home?	Can job be performed offsite or does person have to be at worksite (flexiplace)?
Tolerance for distracting other employees	
Tolerance for socially inappropriate behavior	
Tolerance for reduced production rates	
Tolerance for making mistakes	
Tolerance for missing deadlines	
Tolerance for worker being distracted	
Are licenses required?	
Are there any national standards, such as OSHA or FAA, that apply to the occupation that would preclude an individual with a certain limitation or impairment from performing that occupation? If so, what are the national standards for each occupation?	
Need to address personal hygiene	

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General Concerns and Suggestions

General Suggestions / Wish List / Concerns for OIS

- You will need to obtain internal agency buy-in.

- You will need to maintain external oversight of the project.

- We would like to have a 20 second video of each job.

- The new OIS should be constantly updated because technology and jobs change.

- We would like to be able to make direct comparison between an individual's RFC and the requirements of jobs.

- We would like the information that we receive from the claimant, given the way claimants describe that information, to be directly linked, through the OIS, with the information we receive from doctors, given the way doctors describe that information.

- We need to know, in general, whether a manager performs the job they are managing. This is particularly important for manual labor jobs.

- The occupational title needs to include both physical and mental demands of work.

- We need information about tools and equipment needed.

- We need a better tool for measuring the exertional level of jobs. We do not like the classification of work in terms of sedentary, light, medium, etc.

- We need the types of limitations of upper extremities that we see in disability claims to be reflected in the explanations of work requirements. This is not currently the case with the DOT.

- We need information about whether or not a dominant arm limitation would reduce the range of work that someone can do. Currently, this is not factored into the range of work required or described in DOT.

- We need a way to resolve the differences in the way the claimant describes his or her work with the description of work in the national economy.

- We need more specific information about exertional limitations.

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- Need to improve the claims intake procedures. We need a way to help claimants identify their past work. We need a way to get better information from the claimant. We think this can be done by the new OIS and an interface between its database and the application.

- We need information about military jobs.

- We need ways to understand composite jobs and to adjudicate claims with composite jobs. For example, is there a way to tell if the composite job meets the requirements of past relevant work (e.g., length of job, was it SGA, etc.).

- We would like to be able to trace career paths in the new OIS. For example, from cashier, you could identify the supervisor, then the manager, and vice versa.

- The new OIS should tell us how many hours a week were spent for each activity (e.g., tasks, walking, standing, etc.).

- See information in "Software" and "Claim Development" about the SSA-3368, SSA-3369, and eCAT.

- For the mental RFC, the categories need to have better, more defined measures with an appropriate crosswalk to the OIS.

- The DOT exertional levels obscure the existence of work. For example, some light jobs don't require lifting or standing, but work is called light because of high production rate.

- We would like the functions that are now combined in the exertional levels (sedentary, light, medium, etc) to be separated out and reported separately. We would like separate ratings for walking, standing, sitting, lifting, carrying, pushing, pulling, etc.

- Provide information about the job demands (e.g., actual weight lifted) for each task (work activity) performed in an occupation.

- We would like information about the percentage of the day spent at the different exertional levels (after they have been disaggregated per the previous statement). For example, a policeman might stand 50% of the day, walk 20% of the day, and sit 30% of the day (while filling out paperwork or riding in a car).

- If ranges of the exertional levels of work are provided, as in the DOT, make sure that the ranges are consistent.

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- The new OIS should interface and work in conjunction with eCAT, the SSA-3368, etc.

- We need information on composite jobs and combinations of jobs.

- We need to know how long it takes to learn the job.

- The same job may be called by many different names by different people and different groups. We would like the system to use the common name for a job, but to identify other names for the same job, with the ability to crosswalk and search by all the names.

- We would like to know the incidence of occupations.

- We would like the new OIS to be updated frequently, so that it doesn't get out of date.

- We would like the new OIS to describe foreign work.

- We would like the new OIS to provide the locations of the occupations.

- We would like to the new OIS to identify occupations according to our program rules and provide a cross-referencing system.

- We should be capturing, as structured data (not text), the work history information that people give us when they file their claims. This could help, for example, to identify the common names of jobs.

- We should also be capturing, as structured data (not text), the reasons that the person stopped working. By comparing the reason for stopping work with the work history, we could determine specific difficulties that claimants are having with specific jobs. This could then lead to research that might help us rule out certain occupations for individuals with specific functional limitations.

- We are concerned about the measures for environmental restrictions. The RFC and the new OIS should correlate better than current RFC and DOT.

Skills in the OIS

- We would like to have a list of core skills or work activities, with the most essential skills or work activities listed first. We would like these skills or work activities to be searchable by the job. We would like these skills or work activities to be available to the claimant when he or she completes

the forms. This would make it easier for the claimant and would provide us with better information about past work history.

- TSA: We need a tool that is dynamic.

- Describe "soft skills" of talking to and listening to people. Is this related to education, work experience, or other learned behavior? For example, if you have "management" skills in one area, do these skills relate to management in other businesses?

- Provide a better definition of skills versus traits. That is, define skills clearly.

- Identify skills using common language and definitions. Either use a common language to identify skills or cross-reference similar skills that have been identified using different names or synonyms.

- Eliminate the distinction between "skilled" and "unskilled" work. Instead, provide detailed occupational information about the number of steps involved, the training required, the degree of complexity involved, and the skill required.

- We need a better measure for the gradations between lower sets of skilled work.

- We need better information about skills, intellectual skills, and skills within industries.

- We need better information about other occupational classification systems and how they relate to transferable skills analysis.

- We need information regarding the likelihood of a seamless transfer of skills from one occupation to another.

- We need information about skill level. Skill level might equal the number of steps, the complexity of the steps, and the tasks performed. The current numeric scale of SVP doesn't provide a lot of information.

- We need information about primary skills versus secondary skills.

- For transferable skills analysis, we need information about work settings and work processes.

- We need to know the types of machines and tools the worker uses.

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- We would like a search engine for transferability of skills. The search engine would either provide the occupations a person could do or a list of potential occupations that a person could do.

- We would like a search engine that would take age into account for transferable skills analysis.

- We need computer software to support our transferable skills analyses.

Software application / Database for the OIS

- Computer support should be available to the claimant and the field office to make the documentation process easier.

  - We could provide the claimant and the field office with the information SSA already has about the claimant's work history.

  - We could provide the claimant and the field office with the database of occupational information from which to select the claimant's occupation.

  - If the claimant and field office selected occupations from the occupational information database, then the information about how the job is done in the national economy could be pre-filled on the application and the claimant could make necessary changes.

  - Computer support should be given to the claimant to make sure the numbers add up correctly. That is, the claimant is asked, for example, how many hours he or she stood on the job, how many hours he or she walked on the job, etc. It is possible for the totals to go over the number of hours the claimant worked each day.

- Describe jobs by both skills and residual functional capacity factors (e.g., weights, etc.) so that adjudicators can readily identify jobs to which someone's skills would transfer.

- Provide functionality so that the database can be searched by skills, by exertional levels, and by other limitations.

- Include in the tool the vocational factors of age, education, and work experience.

- Provide functionality for dealing with the erosion of the occupational base. For example, how much does each limitation or restriction erode the

occupational base? How much would a combination of limitations and restrictions erode the occupational base?

- If occupations were classified according to actual weights lifted/carried, actual time spent standing/walking/sitting, etc., then the tool could contain functionality for searching by each of these factors (e.g., the actual weight lifted rather than by the exertional level).

- Include new jobs; update job descriptions and requirements.

- We need information about composite jobs and core tasks. For example, how do "other" tasks affect whether job meets occupational definition or is a composite job? Would working 50% outside of core tasks meet occupational definition? What about 30% of the time?

- We need detailed national information about existence of occupations/jobs.

- We need detailed occupational information to compare with vocational expert (VE) testimony.

- What if the claimant can't do all but can do some of the tasks that are required by the capsule definition of an occupation? It would be helpful to know what is required (i.e., job demands) to do each task. It would be helpful to know the percentage of time (e.g., day, week, etc.) a job incumbent spends doing each task.

- The computer software for the new occupational information system should:

  o Offer enhanced search capabilities on multiple criteria.

  o Integrate the occupational database with SSA's vocational rules.

  o Incorporate an employer database to make identifying past work history easier.

  o Provide a way for the disability examiner's to save examples of jobs for later reference.

  o Not "time out."

  o Provide an electronic tool that would incorporate disability policy, such as "consultant on demand."

- o Link the SSA-3368 with the software that is developed to make the process more efficient.

- o Propagate the information from one software program to another so that we don't have to keep retyping the same information.

- o Provide a crosswalk between the disability forms that claimants fill out and the RFC form and the software containing the OIS.

- o Identify the claimant's skills based on information about his or her past relevant work. Tell us whether or not there is an occupation the claimant could perform based on a comparison of his or her past relevant work and RFC.

- o Tell us whether or not there is an occupation the claimant could perform based on transferability of skills.

- o Provide a more user friendly search engine. There are current problems with the way jobs are listed.

- o Provide alternate "key words" terms (e.g. thesaurus).

- o Provide functionality to query skills and/or limitations based on input of a claimant's relevant past work.

- Computer system:

  - o We would like a good search engine.

  - o We would like to be able to identify jobs by searching by tools or tasks.

  - o We would like better keywords. We would like keywords to be associated with specific fields.

  - o We would like a way to overcome misspellings. That is, we would like to be able to find jobs even if we misspell the keyword.

Claim Development Procedures with the OIS

- The process for documenting the claimant's work history needs to be improved. For claimants over 50 years old, this is among the most important information in a file.

- We suggest revising the SSA-3369, the Work History Questionnaire. We need an electronic version of the form for reporting work history.

  o There should be a prompt for specific work.

  o There should be an edit on the length of time a claimant reports doing a specific activity to ensure that the length of time reported, for example, for combined standing, walking, and sitting, does not exceed the number of hours he or she worked.

  o There should be a place to record the time the claimant spent doing each task.

  o The form should capture tasks related to mental functioning and social interaction.

  o SSA should do usability testing on the form to make sure it is appealing, better looking, and user friendly. The current form is not user friendly.

  o The SSA-3369 should ask for information about the mental demands of the claimant's past work and for the job functions of past work.

  o Documenting the claimant's work history should be part of the filing process and should be completed before the case goes to the DDS.

  o We should be propagating into the electronic SSA-3369 the information that SSA already has about the claimant's work history. For example, the NDNH query breaks down work information into quarters; the DEQY provides information about annual earnings and employers.

Claim Development Procedures - General

- We need to improve the process for obtaining activities of daily living (ADLs) information from the claimant.

  o The national form is too complicated.

  o Rather than capture information about the claimant's ADLs, the current form provides additional opportunity to elaborate on allegations.

- o The national form needs to be improved regarding the type of information required on the form:

  - Eliminate check boxes.

  - Eliminate questions which ask the claimant to describe limitations.

  - Add questions asking claimant to tell us about actual activities.

  - Use open-ended questions, for example, ask "How do you take care of your meals?" rather than detailed questions about cooking.

  - Ultimately, we need the claimant's story of the difficulties he or she has because of medically determinable impairment.

- We need to do more with the ADLs. We need to get third party ADLs.

- We need to increase the frequency with which we obtain information about the claimant's ADLs from third parties.

- We need better, more accurate information from the claimant. This could be accomplished by improving the form and by obtaining the information either by DDS or the field office.

- Collect allegations about claimant's absences from work at the DDS level.

- It would be helpful if the DDS conducted face-to-face interviews with the claimant.

- Every state has a different form for symptoms. We need a national (universal) form for symptoms.

- Every state has a different form for medical source statements. We need a national (universal) form for medical source statements.

- We need to increase use of the Report of Contact (SSA-5002) and reduce the use of notes screen, since the notes screen is not visible to all users.

- It is critical to document every interaction with claimants.

Consultative Examinations (CEs) - General

- The consultative examiner should obtain third party ADLs from the friend or relative who brought the claimant to the medical appointment.

- To measure mental functional limitations, we should increase the use of ADLs rather than obtaining a consultative mental status exam in every case.

- We should reduce the need for CEs. They are not productive, do not provide helpful information, and are expensive. There is poor quality control.

- When there is minimal medical evidence in file, we often end up with mental consultative examination (CE) which varies in quality significantly.

  - Each office handles things their own way.

  - We need some degree of quality control in CEs.

  - We need more uniformity between offices (states).

  - At some level, contracting needs to be regulated.

  - The procedures used for mental status examinations vary widely.

- We need a way to avoid mental status CEs when the claimant has mental limitations due to a physical impairment.

- We need more descriptive information from the doctor on examination. The information the doctor provides can be inconsistent with the information the claimant provided on the ADL form, yet the doctor doesn't always resolve this inconsistency. We also need better information pertaining to claimant's previous functional ability, such as a timeline.

Residual Functional Capacity Assessment - General

- The RFC form and the MRFC form should be combined into one decision form.

- We need a better MRFC form. The current form is too vague. The definition of "moderate" needs to be improved. The definitions of "mild," "marked," and "severe" need to be improved. We need to be provided with

guidance for the way, if any, in which the definitions on the MRFC form and Psychiatric Review Technique Form relate.

- We need a better RFC form with arrows between boxes.

- Provide space on the RFC form, with some predesignated options, that adjudicators can check to show the reasons for the finding that the claimant has limitations in functional capacity. For example, include a check box that says shortness of breath, heart, etc.

- RFC needs to quantify exertional measures consistently.

Claim Evaluation Procedures - General

- Current OccuBrowse system is liked.

- DDSs need better access to medical consultants. Face-to-face contact between medical consultants and disability examiners is helpful.

- Adjudicators need to be reminded to resolve conflicts between the information on the forms and the opinion of the medical expert.

- It would be nice to have instant access to a vocational expert.

Policy Concerns – General

- To what extent do computer assistive devices replace work previously done?

- Define "lead worker" and differentiate this from "management" or "supervision."

- We need more information about the ways that mental problems affect a person's ability to work.

- We need more consistency between judgments at all levels of adjudication.

- In assessing mental RFC, how do we account for natural abilities and the previously acquired information that is needed to learn or perform the job?

- We need more training and better training.

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- We rely on information about the range of motion of the lumbar spine. We need specific guidance regarding range of motion in degrees and specifics of lumbar and cervical spine.

- Agency needs to study and understand the connection between age and onset of impairment.

- We need more information about the general effects of work on the body.

- Claimants don't always adequately describe, on the SSA-3369, the job duties of their past relevant work. How much can be assumed about what they actually did?

- We should routinely obtain work history queries to compare with the SSA-3369 that the claimant completes.

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APPENDIX G

Relevant Regulations and Social Security Rulings

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APPENDIX G

Relevant SSA Regulations and Residual Functional Capacity Forms

The following documents are printouts from the Code of Federal Regulations, Part 404, Federal Old-Age, Survivors and Disability Insurance (Title II). We have also shown the corresponding sections in Part 416, Supplemental Security Income for the Aged, Blind and Disabled (Title XVI). Most sections are identical; we have included printouts of both regulations where there is a difference.

You can access the complete listing of regulations including Chapter III-- Social Security Administration at http://www.socialsecurity.gov/OP_Home/cfr20/cfrdoc.htm.

Evaluation of Disability/Sequential Evaluation

404.1520/416.920	Evaluation of Disability/Sequential Evaluation
404.1520a/416.920a	Evaluation of mental impairments
404.1521/416.921	What we mean by an impairment(s) that is not severe

Residual Functional Capacity

404.1545/416.945	Your residual functional capacity.
404.1546/416.946	Responsibility for assessing your residual functional capacity.

Vocational Considerations

404.1560/416.960	When we will consider your vocational background.
404.1562/416.962	Medical-vocational profiles
404.1563/416.963	Your age as a vocational factor.
404.1564/416.964	Your education as a vocational factor.
404.1565/416.965	Your work experience as a vocational factor.
404.1566/416.966	Work which exists in the national economy.
404.1567/416.967	Physical exertion requirements.
404.1568/416.968	Skill requirements.

Vocational Considerations *(cont'd)*

404.1569/416.969	Listing of Medical-Vocational Guidelines in appendix 2.
404.1569a/416.969a	Exertional and nonexertional limitations.
Appendix 2 to Subpart P	Medical-Vocational Guidelines

Residual Functional Capacity Forms

SSA-4734-BK	Physical Residual Functional Capacity Assessment
SSA-4734-F4-SUP	Mental Residual Functional Capacity Assessment

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APPENDIX H

Final List of Approved Subcommittee Recommendations

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APPENDIX H

Final List of Approved Subcommittee Recommendations

GENERAL RECOMMENDATION #1

The Panel concurs with SSA that any new occupational resources it creates must reflect the following:

- Classification system that is aggregated to support individualized disability assessment and that can be cross-walked to the United States' Standard Occupational Classification (SOC).
- Occupationally-specific data that are precise (i.e., they capture homogeneous ratings of work demands and worker traits), and they can be aggregated into clusters of similar work activities (i.e., occupational titles).
- Core tasks or work activities of the occupation.
- Minimum levels of requirements needed to perform the work.
- Observable and deconstructed measures.
- Manageable number of data elements or constructs that are critical to disability adjudication.
- Sampling methodology that captures the full range of work (i.e., all skill levels).
- Inter-rater agreement levels that justify data inference of high quality data.
- Data collection methods that produce high quality data.
- Occupational data that is empirically established as valid, accurate, and reproducible.
- Whether or how occupations allow workers to perform core work activities in alternative ways (e.g., sit-stand option).
- Terminology that is consistent with standard medical practice and human function.

GENERAL RECOMMENDATION #2

The Panel concurs with SSA that the Agency needs to create a new occupational information system to replace the *Dictionary of Occupational Titles* (US Department of Labor, 1991) in SSA's disability adjudication process.

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GENERAL RECOMMENDATION #3

The Panel recommends that SSA identify and retain internal expertise for developing and conducting research for both the person-side and work-side taxonomies of the OIS.

WORK TAXONOMY & CLASSIFICATION SUBCOMMITTEE

A.   Data Element Recommendations for Work Taxonomy

1. Use the initial empirically derived work taxonomy (see Appendix E, Table 1, p. 17) as a stimulus to develop the instruments to measure each dimension.

B.   Research Recommendations for Work Taxonomy

1. Pilot study (18-month period)

a) Select the jobs most frequently 1) held by at least 95% of SSA disability claimants and 2) identified by SSA as examples of work for those with specific residual functional capacities.
b) Conduct pilot study
   i.   Train expert users as a source to provide job level data for the pilot study.
   ii. Obtain job level data by interviewing job incumbents during the pilot study.
c) Compare results of job level data from experts and incumbents.
d) Evaluate pilot study data for utility, reliability, and validity of job descriptions by the OIS through direct observation and convergence with expert validated job profiles.
e) Perform a usability analysis using the pilot study data to generate prototype occupational analysis reports and computerized systems.
f) Use pilot study results to refine the preliminary work taxonomy findings using psychometric principles.

2. Develop and implement a plan to sample work from all jobs in the national economy for the operational database.

C. Measurement Recommendations for Work Taxonomy

1. Identify multi-item scales for existing work taxonomy dimensions.
2. Use items scaled per a) frequency of job occurrence, b) duration of required performance for the job, and c) other scales as needed.
3. Use decomposed ratings of work to prevent holistic ratings of abstract work characteristics.
4. Once a large database representative of all work in the national economy is available, examine various job classification methods based on the common metric.

D. SSA OIS Development

1. Develop an internal unit devoted to OIS design, development, data collection and analysis, and maintained with experts in common metric work analysis, labor economics, and other specialties such as internal project management to interface with experts in a registered online community for the creation, operationalization, and maintenance of the OIS.

   a) Increase internal work analysis expertise to carry out the core task of collecting and analyzing information about work, and maintaining the database accuracy.
   b) Establish independence and scientific credibility of OIS unit.
   c) Host online community of researchers and other relevant professionals to inform the OIS unit of emerging ideas, research and methods.

E. OIS Maintenance

1. Regularly and randomly select jobs for audit to keep the database current.
2. Schedule review of OIS items for usefulness vis-à-vis expired and emerging work content.
3. Host online communities to indicate the need for research.

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WORK EXPERIENCE ANALYSIS SUBCOMMITTEE

A.   Data Element Recommendations for Work Experience Analysis

1. Use work activities as an observable and measurable proxy for 'skill' for data collection and development.

2. Develop work context factors for the OIS (e.g., industry, work settings, tools, machines, technologies, raw materials, products, subject matter, processes, service, etc)

B.   Research Recommendations for Work Experience Analysis

1. Conduct studies on data elements and occupational data collected in pilot studies that may inform the application of OIS data in SSA's work experience analysis. These studies could inform Agency policy in such areas as TSA, vocational advantage, relevance of work, complexity level, and time to proficiency.

MENTAL/COGNITIVE DEMANDS SUBCOMMITTEE

A.   Data Element Recommendations for Mental/Cognitive Demands of Work

The Panel recommends that SSA consider the psychological abilities shown under each category below as important psychological abilities required to do work.

1. Neurocognitive Functioning
    a) General cognitive ability (how well a person can reason, solve problems, and meet cognitive demands of varied complexity)
    b) Language and communication (how well a person can understand spoken or written language, communicate his or her thoughts, and follow directions)
    c) Memory acquisition (how well a person can learn and remember new information, such as a list of words, instructions, or procedures)

    d) Attention and distractibility (how well a person can sustain the focus of attention in a work environment with ordinary distractions)

    e) Processing speed (how quickly a person can respond to questions and process information)

    f) Executive functioning (how well a person can plan, prioritize, organize, sequence, initiate, and execute multi-step procedures)

2. Initiative and Persistence

    a) Attendance/punctuality (how consistently a person can leave his/her residence and maintain regular attendance and punctuality)

    b) Initiative (whether a person can start and perform tasks once they are explained without an unusual level of supervision)

    c) Pace/persistence (whether a person can continue performing understood tasks at an acceptable pace for a normal work week without excessive breaks)

3. Interpersonal Functioning

    a) Cooperation (the extent to which a person's interactions with others are free of irritability, argumentativeness, sensitivity, or suspiciousness)

    b) Response to criticism (how well a person responds to criticism, instruction, and challenges)

    c) Social cognition (whether a person can navigate social interactions well enough to respond appropriately to social cues, state his or her point of view, and ask for help when needed)

4. Self-management

    a) Personal hygiene (how well a person maintains an acceptable level of personal cleanliness and socially appropriate attire)

    b) Symptom control (how well a person inhibits disturbing behaviors, such as loud speech, mood swings, or responding to hallucinations)

    c) Self-monitoring (how well a person can distinguish between acceptable and unacceptable work performance)

B.   Research Recommendations for Mental/Cognitive Demands of Work

1. Explore and consider the feasibility of conducting empirical research that quantitatively links the cognitive and mental abilities that are required to meet the demands of work.
2. Study ways to improve methods and scales for measuring psychological and interpersonal abilities of mental residual functional capacity.
3. Conduct validation and reliability studies of instruments related to mental residual functional capacities and occupational demands.

C.   Measurement Recommendations for Mental/Cognitive Demands of Work

1. Use of appropriate scales with sufficient specificity for the constructs considered in the mental/cognitive demands of work.

2. Use of discrete categories and ratings for residual abilities.

PHYSICAL DEMANDS SUBCOMMITTEE

A.   Data Element Recommendations for Physical Demands of Work

The Panel recommends that SSA consider these physical and sensory/motor abilities that are required to do work.

1. <u>Physical (uni- and bilateral, where applicable)</u>

   a. Balancing (expansion of categories)
   b. Bending from a sitting position
   c. Carrying
   d. Climbing (increased specificity)
   e. Crawling
   f. Crouching
   g. Fingering
   h. Gripping (simple, forceful)
   i. Handling
   j. Handwriting

      k. Kneeling

      l. Lifting

      m. Operating Foot/Hand Controls

      n. Pinching (simple, forceful)

      o. Pulling

      p. Pushing

      q. Reaching (various levels)

      r. Rotating/twisting the neck

      s. Running

      t. Sitting

      u. Standing

      v. Stooping/Forward bending

      w. Trunk rotation/twisting

      x. Twisting wrist repetitively

      y. Using keyboard, mouse, touchpad or other manual input devices

      z. Walking

2. <u>Sensory/Motor</u>

      a) Feeling

      b) Hearing

      c) Smelling

      d) Speech

      e) Tasting

      f) Vision

3. <u>Environment</u>

The Panel recommends that SSA consider these to be potentially important environmental attributes of work.

      a. Caustic

      b. Chemicals

      c. Cold

      d. Confined spaces

      e. Dust

      f. Explosives

g. Fibers
h. Flammable
i. Fumes
j. Gases
k. Hazardous
l. Heat
m. Heights
n. Humidity
o. Lighting
p. Mold/Mildew
q. Noise
r. Smoke
s. Vibration
t. Moisture

B.   Research Recommendations for Physical Demands of Work

1. Research to establish a standard for repetition for physical activities.

2. Study the specificity and measures of sensory demands.

3. Explore and consider the feasibility of and need for conducting empirical research concerning environmental attributes that may restrict the ability to do work.

4. Explore and consider the feasibility of and need for conducting empirical research that quantitatively links the physical and sensory abilities that are required to meet the demands of work.

C.   Measurement Recommendations for Physical Demands of Work

1. Discrete and functional levels of measurement.

2. Level, time, concentration, and severity of environmental exposures.

3. Maximum continuous distance for dynamic movements (e.g., carrying, pushing, pulling, walking, climbing, running, crawling, etc.).

4. Maximum continuous duration of an activity that is required.

5. Refinement or creation of scales which reflect physical activity or duration which is appropriate for SSA's adjudication needs.

6. Identify the variation of physical demands within an occupation.

USER NEEDS & RELATIONS SUBCOMMITTEE

A.   Extra Data Element Recommendations for the Content Model

The Panel recommends that SSA consider these data elements for the OIS content model for adjudicative purposes.

1. English (Does the occupation require the worker to communicate in English?)

2. Literacy

3. Core work activities

4. Sit-stand option or alternative postures

5. Use of assistive technology, tools, or other technology in performing work activity

B.   Applied Research Recommendations

1. Develop a formal plan to conduct UNAs throughout the research and development phase of the OIS project to address the various stages of the OIS development and targeted to as many SSA internal and external users as possible.

2. When person-side instruments are developed, study the effects of the OIS content model data elements in SSA's disability

process by comparing the use of newly-developed person-side instruments with the use of SSA's current physical and mental RFC assessments using a sample of disability claims that have already been adjudicated.

3. When the results of the pilot study of the work-side instruments are available, SSA should conduct studies of the application of these data in SSA's disability adjudication process to assess the effects of the data on both its disability process and programs (i.e., examine effects of the new OIS data, physical and mental demands of work, including work activities and other occupational data critical to RFC, work history, and transferable skills assessment).

C. Extra Data Element Recommendations for Research

The Panel recommends that SSA consider these data elements for the OIS content model for research and program evaluation purposes only, not for adjudicative purposes.

1. Worker
   a) Chronological work history
   b) Concurrent jobs or occupations held
   c) Educational attainment
   d) Gender
   e) Health insurance enrollment
   f) Hours worked weekly or daily in occupation(s)
   g) Mode of transportation
   h) Primary or other language(s)
   i) Race and ethnicity
   j) Year of birth
   k) Zip code of residence

2. Work
   a) Alternative work arrangements (e.g., telecommuting)
   b) Average shift
   c) Health insurance offered
   d) Seasonal or year-round
   e) Zip code of employment setting
   f) Language required other than English

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D.   Communication Recommendations for Users, the Public, and the Scientific Community

   1. Monitor developments in new and emerging media within SSA and the Federal government.

   2. Explore alternative uses of the *Federal Register* for public comment to include the publication of the Panel's recommendations and other notices independent of the Panel's meeting announcements.

   3. Develop FAQ sheets regarding the OIS project and the OIDAP for dissemination.

   4. Summarize public comments and notify the public regarding the nature of these comments.

   5. Publish notices about the OIDAP activities and contact information in relevant professional publications.

   6. Develop branding and style sheets for a common look of the project and recognition by the public.

   7. Electronic media presence
      a) Explore the use of social media for contact with the public about the project.
      b) Set expectations regarding the use of any social media notifying users of such media about the authoring, anonymity, expected response, online behavior, etc. differences in the use of such media.
      c) Maintain electronic receptive and push media to inform the public about the project.
      d) Host online communities during the development, operationalization, and maintenance of the OIS for registered scientific, research, academic, and related users to dialogue about occupational analysis data collected to encourage the development of an independent scientific community devoted to understanding occupational analysis issues using a common metric that could suggest items for inclusion, propose work measurement instruments, and

allow for the independent verification of SSA internal
studies (e.g., pilot study, sampling plan, etc.).

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APPENDIX I

Global List of Acronyms and Glossary

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Occupational Information Development Advisory Panel Content Model and Classification Recommendations

Acronyms

CFR	—	Code of Federal Regulations
DDS	—	State Disability Determination Services
DOL	—	Department of Labor
DOT	—	Dictionary of Occupational Titles
FCE	—	Functional Capacity Evaluation
MRFC	—	Mental Residual Functional Capacity
O*NET	—	Occupational Information Network
OGA	—	Occupational Group Arrangement
OIDAP	—	Occupational Information Development Advisory Panel
OIS	—	Occupational Information System
OMB	—	Office of Management and Budget
PRW	—	Past Relevant Work
R&D	—	Research and Development
RFC	—	Residual Functional Capacity
RHAJ	—	Revised Handbook for Analyzing Jobs
SCO	—	Selected Characteristics of Occupations
SOC	—	Standard Occupational Classification
SSA	—	Social Security Administration
SVP	—	Specific Vocational Preparation
TSA	—	Transferable Skills Analysis
UN&R	—	User Needs and Relations Subcommittee

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Glossary

Accommodation—adjustment of lens of eyes to bring an object into sharp focus

Carrying—Transporting an object over a distance through walking, usually holding the load in the hands or arms:
- One-handed: using one hand or arm to carry the object
- Two-handed: using both hands or arms to carry the object

Classification—the way in which occupations are grouped.

Color Vision—ability to identify and distinguish colors

Common Metric—a taxonomy of job descriptors which can be applied to all jobs thereby allowing comparison of work behaviors across all jobs.

Content Model—the type of data included in an occupational information system.

Crawling—moving about on hands and knees, hands and feet or on the abdomen

Cross Job Relative—work descriptors that are written at a level of specificity which allows them to be applied to all jobs.

Crouching—bending the body downward and forward by bending legs at the hips and knees with simultaneous forward bending of the spine. This is typically performed when working with material that is at or near the floor level. Squatting includes positions where one knee is on the floor or both knees are off the floor.

Decomposed Rating – rating of observable (Level 2 or 3) parts of a construct for purposes of analysis as opposed to rating a whole occupational construct or trait (Level 5 or 4) on some metric. See also *Holistic Rating*.

Defensibility – the degree to which conclusions will be upheld by the courts; this is typically determined by the degree to which they are supported by statistical evidence of reliability and validity. Also of importance for SSA is the degree to which conclusions are "acceptable," meaning that they do not result in adverse impact and possess face validity.

Disability—According to "§223(d)(1)(A) and 223(d)(2)(A) of the Social Security Act. The Statute provides a different definition of disability for children under the age of 18 applying for benefits under Title XVI. For adults, it is the "[i]nability to engage in any substantial gainful activity by reason of a

medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than 12 months. [A]n individual shall be determined to be under a disability only if his physical or mental impairment or impairments are of such severity that he is not only unable to do his previous work but cannot, considering his age, education, and work experience, engage in any other kind of substantial gainful work which exists in the national economy, regardless of whether such work exists in the immediate area in which he lives, or whether a specific job vacancy exists for him, or whether he would be hired if he applied for work. For purposes of the preceding sentence (with respect to any individual), "work which exists in the national economy" means work which exists in significant numbers, either in the region where such individual lives or in several regions of the country."

Depth Perception—ability to judge distances and spatial relations

Dimension –job-related information that is presented at the Level 3 or 4 abstraction. It is the stimulus used for generating items that would actually measure the job related behaviors of interest.

Far Acuity—clarity of vision at 20 feet or more

Feeling—perceiving attributes of items as size, shape, temperature as experienced through the skin. *Field of Vision*—observing an area that can be seen up and down and right and left when eyes are fixed on a given point

Fingering—picking, pinching, or otherwise working primarily with the fingers. The object being handled does not contact the palm of the hand.

g—general cognitive ability.

Generalized Work Activity—set of general work behaviors that apply to all jobs, and that one can describe all jobs in terms of how much of each of these general work behaviors are involved, more behaviorally and technologically abstract than tasks.

Handling—seizing, holding, grasping, turning, or working with hands; using the hands in such a fashion that the object being handled contacts the palm and fingers of the hand.

Hearing—perceiving the nature of sounds by the ear

Holistic Rating—rating of a whole occupational construct or trait (Level 5 or 4) on some metric, as opposed to separating said activity into its observable (Level 2 or 3) parts for purposes of analysis.

Inferential Leap—the degree to which one determines the attributes of something which are not directly observable. In occupational analysis it typically refers to making judgments about attributes of the person based upon observable requirements of a job. The goal is to minimize the inferential leap through the documentation of observable work requirements.

Item—a question written to obtain information regarding whether or not a specific behavior or characteristics is associated with performing an occupation. Examples may include items that measure the frequency, duration, or height of lifting for a particular job.

Job Analysis—The various methods to analyze the requirements of a job. For specifics of how this term is used in industrial/organizational psychology, rehabilitation, and credentialing fields, see http://en.wikipedia.org/wiki/Job_analysis

Job Side—attributes of work that are inherent to the job itself; these attributes are observable activities that the job requires regardless of the individual who fills a position.

Kneeling—bending the legs at the knees to come to rest on both knees.

Level 1 / Level 2—job related information that is behaviorally specific and observable. Level 1 data is frequently referred to as "task" data because it is specific only to a single job of interest; hence, it is not appropriate for making comparisons across job titles. Level 2 data, while slightly less specific, can be rated both reliably and validly; it represents a level of aggregation that is cross-job relative and desirable for SSA's purposes.

Level 3 / Level 4 / Level 5—job related information that is too abstract to be reliably rated or validated as observable aspects of work. This level of data is appropriately obtained through statistical aggregation of Level 1 / Level 2 data. Level 4 data may be construed as an overarching framework that groups the more specific activities typically described as Level 2 data.

Ladder Climbing—Ascending or descending either A-frame or vertical ladders

Level surfaces—surfaces that are level and do not include ramps or uneven terrain

Lifting—Raising or lowering an object from one level to another. Involves primarily vertical displacement of the load but can also include a component of horizontal displacement as well. Can involve one or two-handed lifting and can occur either above waist or below waist.

- One-handed: using one hand or arm to raise or lower the object
- Two-handed: using both hands or arms to raise or lower the object
- Above-waist: lifting that occurs from the waist and above. Typically performed primarily with the strength of the arms, shoulders, and upper back.
- Below-waist: lifting that occurs from the floor to approximately waist height. Typically performed primarily with the strength of the legs and low back.

Near Acuity—clarity of vision at 20 inches or less

Person Side—attributes of the person that are needed to successfully fulfill the requirements of an occupation

Physical Demands—occupational demands that require movement of the body, including arms, legs, hands, feet, neck and back.

Pulling—Exerting force upon an object so that the object moves toward the force:
- One-handed: using one hand or arm to pull the object
- Two-handed: using both hands or arms to pull the object

Pushing—Exerting force upon an object so that the object moves away from the force:
- One-handed: using one hand or arm to push the object
- Two-handed: using both hands or arms to push the object

Ramps/inclines—surfaces that include an incline of over 15 degrees.

Reaching—extending arms and hands away from the body in any direction. Shoulder angle must be 45 degrees from the body to be considered reaching. Three levels of reaching include:
- Low: below the waist
- Medium: waist to shoulder height
- High: above shoulder

Reliability—at a conceptual level, the degree to which a measure is free from random errors of measurement. At a practical level, reliability is often inferred from measures of the consistency seen across a set of scores or ratings of some attribute. With regard to occupational analysis, it is reflected in the degree to which two independent raters provide ratings of work attributes which are similar.

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Residual Functional Capacity—The greatest level of function an individual can still perform despite physical, mental/cognitive, or other limitations imposed by a medically determinable impairment. SSA assesses an individual's residual functional capacity based on all the relevant evidence in the case record. In determining residual functional capacity, SSA considers the individual's ability to meet the physical, mental, sensory and other requirements of work. See §404.1545 and §416.945 for detailed information.

Scaffolding or Pole Climbing—Ascending or descending scaffolding or poles:
- Balancing: maintaining body equilibrium to prevent falling
- Balancing on level surfaces
- Balancing on Uneven surfaces
- Balancing on Ladders
- Balancing on Beam and Scaffolding

Sitting—Remaining in a seated position with knees and hips flexed to some extent and buttocks resting on surface.

Skill—the learned capacity, based on one's knowledge, prior practice, aptitude, training, education, etc., to perform a given psychomotor activity or function. For example, someone may have typing skills, wood-working skills, or word processing skills).

Speech—voice tone, quality, projection, and other physical attributes during speech production in the communication process.

Stair Climbing—Ascending or descending stairs

Standing—Remaining on one's feet in an upright position without walking.

Stooping/Forward Bending—bending the body downward and forward from a standing position by bending the spine at the hips and/or waist. The hips must be flexed more than 20 degrees and the knees are kept relatively straight (flexed no more than 35 degrees).

Strength Category—the manual material handling/ demands category of the work.

Task—a highly specific descriptor of work which is not cross-job-relative. A task statement usually includes a single action verb, is directed toward a single objective, and is based upon observable characteristics of the work.

Tasting/Smelling—distinguishing flavors or odors using the tongue and/or nose

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Taxonomy—a classification scheme used to organize characteristics of workers, the work itself, or the job titles workers are assigned (as they exist in the economy). Several types of taxonomies are relevant to this project, including taxonomies describing the structure of the job- and person-sides of Figure 1, as well as title taxonomies describing the structure of jobs and occupations (work as it is performed in the economy).

Taxonomy (empirical) —a classification scheme that is derived from experimental analysis. In occupational analysis, it is a taxonomy that was derived by subjecting large quantities of data to statistical factor analysis and using the resulting structure.

Taxonomy (rational)—a classification scheme based upon reason or human judgment; a "common sense" approach to describing occupations. Rational taxonomies may be validated via empirical methods.

Uneven surfaces—surfaces that include uneven terrain. Includes walking outside over grass, dirt, gravel, up and down curbs

Validity—the degree to which inferences are appropriate based upon the interpretation of data. Determinations of validity are usually based upon three types of evidence: content (the degree to which something measures the entire – or an adequate representative sample – domain of behaviors to be examined), criterion (the degree to which some an instrument is appropriately predictive of a criterion of interest), and construct (the degree to which inferences about unobserved variables can be made on the basis of observed variables).

Walking—Moving about on foot. Requires three consecutive steps to be considered walking.

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