

May 23, 2014

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Bureau of Labor Statistics, Room 4080
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Dear Ms. Kincaid,

Thank you for the opportunity to provide comments and suggestions to enhance the quality, utility, and clarity of the information to be collected in the Occupational Requirements Survey (ORS).

We operate a multidisciplinary private practice that delivers a comprehensive scope of worker fitness screening, ergonomic consultation and disability evaluation services to:

- determine worker fitness-for-duty,
- facilitate worker assignment to suitable job tasks,
- promote job modification improvements,
- identify realistic career options and rehabilitation needs for consumers who are disabled, or
- justify eligibility determination for vocational rehabilitation services or disability benefits.

The perspectives and recommendations that follow are based on our considerable practical experience with delivery of job analyses, functional capacity evaluations, and vocational assessments that match the abilities and limitations of workers to overall job and individual function demands.

During our review of ORS survey elements, we have identified some missing cognitive factors that are important determinants of a person's ability to work than other elements included in the ORS survey. Although the first Cognitive Element ("How complex are the tasks of the occupation?") has well-described levels with functional descriptors, we find it this to be impractical for worker-job matching because task complexity is such a broad combination of multiple factor dimensions. One of the best improvements in the current ORS survey was to separate the specific physical ability factors contained in the broadly-defined DOT STENGTH factor. The ORS survey approach cognitive task complexity is a departure from this approach, because it provides is taking an overly broad view of job complexity and not measuring anything similar to some of the important DOT complexity factors. We recommend that BLS address cognitive TASK COMPLEXITY in a more specific manner to make this more useful for worker-job match. The task complexity element should be deconstructed into its component factors that are functionally scaled in accordance with the following well-accepted factor dimensions:

- General learning ability (or Reasoning Development),
- Mathematical development,
- Reading comprehension skills (or Language Development),
- Verbal communication skills, and
- Written communication skills.

There is well-established precedent for inclusion of these additional factors because most already have wide-spread acceptance among vocational experts and are operationally well-defined in the Dictionary of Occupational Titles. We do appreciate the BLS approach of describing levels of cognitive factors with short functional descriptions rather than using the type of aptitude scale in the DOT that referenced percentile ranges for a general population of workers. The first three cognitive factors that we recommend for inclusion to capture task complexity that are functionally described under “Chapter 7: General Educational Development of US Department of Labor’s Revised Handbook for Analyzing Jobs.

There are some significant taxonomy improvements for surveying ORS factors that relate to physical demands and environmental conditions. We are pleased to see the DOT strength factor deconstructed into more specific physical demand factors that impact worker-job match based on the type of disability. We really like the approach taken in the ORS survey to ask about worker exposure in total hours per day for many of the factors included, rather than rating this with something similar to the DOT frequency scale. Hours per day is more understandable concept than percent of time during an 8-hour day, given the variation on length of the work shift. This seems to be a useful way of capturing exposure for many of the included factors included because it enables statistical analysis to describe the mean, range and variation among sampled jobs for any combination of SOC occupation and NAICS industry classification. This approach is much better than assigning a single factor level to an occupation and should be helpful in identify differences that distinguish sub-clusters of jobs within an occupational class that represent return to work opportunities for persons with disabilities.

We note that not every occupation requires workers to perform a traditional 8-hour shift or 40 hour work week. That was a faulty underlying premise that was built into the definition for the DOT frequency scale. Therefore, we recommend that the survey process modified to additionally capture the shortest shift length in hours, maximum shift length in hours, usual shift in hours length, usual hours worked per week, and maximum required hours per week for all occupations that are surveyed. No upper limits should be placed on the number of total hours referenced for work shifts, hours per week, or factors that are measured by total hours of exposure. When the data for total hours is considered for the development of more aggregated exposure scales, it is likely that the highest exposure level may need to reference an “Extra time” rating level of exposure that describes occupational exposures that exceed the 8-hours shift exposure. For example, over-the-road truck drivers may drive in a constrained seated posture for up to 11 total hours. We have further noted in the attached commentary that not all physical demand factors can be adequately characterized by total time exposure per shift.

Additionally, we feel that it would be important to include physical factors that affect motor performance in the ORS survey, including:

- Manual dexterity with the preferred hand,
- Manual dexterity with both hands,
- Finger dexterity with a preferred hand,
- Finger dexterity with both hands, and
- Ambulation agility

These factors are important for inclusion because many standardized functional capacity tests exist that assess a worker’s functional ability level on these factors. Finger and manual dexterity are aptitude factors included in the DOT that characterized the level of skill or speed required for hand dexterity. Finger and manual dexterity represents a different aspect of competitive job performance than may be referenced by total time of exposure without regard to pace for Fine Manipulation or Gross Manipulation with one or both hands, which are noted to have measurement challenges in the phase II

and phase III report. Also justified for inclusion is the factor, Ambulation agility, because no factors have been included in the ORS that assess the dynamic balance demands of jobs. The previous DOT contained a “Balancing” factor that was poorly characterized using the DOT frequency scale. We recommend that the levels of performance for each of the above recommended factors be functionally described and grouped under a “Physical Aptitudes” category. We would advocate for a similar approach to that used by BLS in describing the levels of cognitive factors – using short functional descriptions rather than using the type of aptitude scale used previously in the DOT that referenced percentile ranges based on a general worker population.

For example, the scale levels for finger or manual dexterity with one or both hands could be functionally described in a scale with the following dimensions:

- None: Not present
- Very low: Job functions may be performed at very slow rate of manipulation speed.
- Low: Job functions may be performed at a slow (below normal) rate of manipulation speed.
- Medium: Job functions must be normal rate of manipulation speed.
- High: Job functions must be done at a fast (above normal) rate of manipulation speed.
- Exceptional: Job functions must be performed with an exceptional rate of manipulation or skill.

Scale levels for Ambulation Agility could be more functionally described in a scale with the following dimensions:

- None: Not present
- Very low: Job functions may be performed with very slow ambulation speed (e.g. < 2 MPH)
- Low: Job functions may be performed at below normal ambulation speed (2 to < 3 MPH).
- Medium: Job functions must be normal ambulation speed (3 to < 4 MPH).
- High: Job functions may require a fast walk or jog (4 to < 6 MPH).
- Exceptional: Job functions require running (6 MPH or faster).

Finally, on the attached commentary, we have provided some detailed feedback on factors and scaling proposed for inclusion in **ORS Form 4 PPD-4G**. We particularly see the need for referencing repetition ranges when asking about lift/carry demands and the need for inclusion of a more functional scaling to distinguish sensory requirements that relate to near vision, far vision and hearing sensitivity factors. We believe that further enhancements to presentation or scaling for these factors in the survey of occupational requirements would enable more useful and direct comparison of job activity demands to worker abilities or restrictions.

We look forward to contributing to future discussions as the SSA and BLS move forward to address these complex issues.

If you have any questions, please feel free to contact Rick Wickstrom, PT, DPT, CPE, CDMS (Phone 513-772-1026 or by email to rick@workability.us).

Sincerely,



Rick Wickstrom, PT, DPT, CPE, CDMS



Robert M. Stutz, Ph.D

Occupational Requirements Survey

Feedback on ORS factors that have been included in the proposed survey

ORS COGNITIVE ELEMENTS	DOT Related Factors	Comments
<p>1. Task complexity. This is rated as Very simple, Simple, Moderate, Complex and Very complex.</p>	<p>General learning ability (Intelligence), Reasoning Development</p>	<p>Use of a 5 level aptitude scale with functional definitions makes sense; however simpler rating label descriptors should be considered (Very low, Low, Medium, High, Extra high). Because complexity has multiple dimensions (e.g., Reasoning development, Mathematical development, Language development, People skills); we have a concern that complexity may be an overly broad factor that would be better defined by more than one factor (Reasoning, Mathematical or Language Development) that is more similar to the approach in the DOT.</p>
<p>2. Control of work. This is rated as Very closely, Closely, Moderately, Loosely, and Very loosely.</p>	<p>Temperament U (Working under specific instructions, Temperament J (Making judgments and decisions), Temperament T (Attaining precise set limits, tolerances and standards).</p>	<p>Use of a 5 level aptitude scale with functional definitions makes sense. This factor seems to get at the degree of judgment or decision making required to do the work based on the amount of instruction and supervision provided. If the term Decision making was used, then it could be rated with simpler verbal rating level descriptors such as None, Low, Medium, High, Extra high.</p>
<p>3. Work routine predictability.</p>	<p>Temperament V (Performing a variety of duties) and Temperament R (Performing Repetitive work)</p>	<p>Use of a 5 level aptitude scale with functional definitions makes sense. This is rated as Very routine, Routine, Moderate, Unpredictable, and Very Unpredictable. This factor seems to be getting at adaptability to change. If the term Adaptability was used, then it could be rated with simpler verbal rating level descriptors such as None, Low, Medium, High, Extra high.</p>
<p>4. (a) Co-worker collaboration.</p>	<p>Temperament P – Dealing with People, Temperament A (Working alone or apart in physical isolation from others)</p>	<p>Use of a 5 level aptitude scale with functional definitions makes sense. This is rated as No collaboration, Minimal collaboration, Moderate collaboration, Collaborative, and Very collaborative. This could have simpler verbal descriptors such as Very low, Low, Medium, High, Extra high.</p>
<p>4. (b) Speaking about work.</p>	<p>Temperament P – Dealing with People, Physical Demand 12 Talking.</p>	<p>This factor (as rated) is not necessary and the scale is not useful. This factor is covered with a better time-based scale under Physical Demand Factor for communicating verbally.</p>
<p>4. (c) Type of contact.</p>	<p>I – Influencing people in their opinions, attitudes and judgments, Worker functions People</p>	<p>This is rated as Very structured, Structured, Semi-structured, Unstructured, and Very unstructured. A simpler rating label is suggested.</p>

PHYSICAL DEMANDS (Note: Operational definitions would be helpful for all factors included in the ORS).

ORS Reference Item	DOT Related Factors	Comments
Sitting/Standing or Walking		This category distinction is not necessary. All physical demands factors that are measured by duration in total hours per shift should be grouped under a “Work Tolerances” category and instructions modified to instruct the interviewer to record the maximum total time in hours required per shift under this category.
Sitting	Strength (1)	It is great to see this factor split out from the strength factor and rated by duration in total hours per shift. We perceive a need to clarify that duration is recorded as the maximum total hours required per shift. Sitting time should allow for capture of longer durations than 8 total hours when the shift duration is longer than 8-hours. A good way of asking this questions is: “What is the total number of hours that a worker may have to remain in a seated position during the usual work shift? “
Standing/Walking	Strength (1)	It is great to see this factor split out from the strength factor and rated by duration. It makes sense to combine standing with walking time; however, the name should just reference “Standing” and the operational definition should reference that this describes time standing in place as well as moving about on foot. There is a need to clarify on the form that duration is recorded in maximum total hours required per shift. Standing/Walking time should allow for capture of longer durations than 8 total hours when the usual shift is longer than 8-hours. A good way of asking this question is: “How many total hours does that worker have to stand or move about on foot during the usual work shift?”
Sitting vs. Standing/Walking at will (Yes/No)		It may not be necessary to capture this factor if only the minimal required time is recorded for Standing/Walking and Sitting factors. For example, if the worker has the option to sit or stand, then the required time would be minimal for stand/walk or sitting. This question could be asked in reference to usual available total time per shift. If so, it might be best to ask “What is the total number of hours that a worker may be permitted to sit or stand as needed to perform job tasks during the usual work shift?”
Keyboarding		
Traditional		This factor could be characterized better with an aptitude or functional scale such as: <ul style="list-style-type: none"> • None: Not present • Very low: Very slow (1-10 WPM) • Low: Slow (11-20 WPM). • Medium: Normal speed (21-40 WPM). • High: Fast speed (41-50 WPM). • Exceptional: Very fast (> 50 WPM).
10-key		

Touch Screen		
Other (document)		This element seems unnecessary;
Other Office Tasks		Not sure of the purpose of this heading. These elements may be grouped under Work Tolerances that has common scaling of total time in hours.
Writing		Should add the word “Hand” before “Writing” to eliminate confusion about written expression that uses a keyboard or voice recognition.
Use of Telephone		This may be redundant as it appear to be a function of communicating orally.
Hearing and Vision		
Communicating verbally (Yes/No)	Talking	Verbal communication should be represented as a cognitive aptitude (similar to Verbal Expression), rather than rated as Yes/No or by number of total hours/shift
Hear and Understand Conversational Speech (Yes/No)	Hearing	<p>This could be combined with “Hear and Respond to Auditory Signals” and described as a functional scale for hearing sensitivity as a physical aptitude that describes decibel ranges and functional anchors like conversational speech and auditory signals to relate to a standardized hearing tests.</p> <p>This factor could be characterized best with an aptitude or functional scale, e.g.:</p> <ul style="list-style-type: none"> • None: Not present • Very low: Hear very loud sounds or auditory signals (> 70 dB) • Low: Loud sounds (41-70 dB). • Medium: Normal conversation sounds (25-40 dB). • High: Distinguish soft/quiet sounds (15-24 dB). • Exceptional: Distinguish very soft/quiet sounds (<15 dB).
Hear and respond to auditory signals (Yes/No)	Hearing	<p>This could be combined with “Hear and Understand Conversational Speech” and be described as a functional scale for hearing sensitivity as a physical aptitude that describes decibel ranges and functional anchors like conversational speech and auditory signals to relate to a standardized hearing tests.</p> <p>This factor could be characterized best with an aptitude or functional scale for hearing sensitivity, e.g.:</p> <ul style="list-style-type: none"> • None: Not present • Very low: Hear very loud sounds or auditory signals (> 70 dB) • Low: Loud sounds (41-70 dB). • Medium: Normal conversation sounds (25-40 dB). • High: Distinguish soft/quiet sounds (15-24 dB). • Exceptional: Distinguish very soft/quiet sounds (< 15 dB).

Near visual acuity (Yes/No)	Near Acuity	<p>This would be better described with a functional scale to indicate the degree of acuity required based on Snellen Equivalent. This factor could be characterized best with an aptitude or functional scale, e.g.:</p> <ul style="list-style-type: none"> • None: Not present • Very low: below 20/200 Snellen (fonts more than 26-point size) • Low: 20/200 (26 font) to < 20/70 (10 font). • Medium: Normal conversational speech sounds (25-40 dB). • High: Distinguish soft/quiet sounds (15-24 dB). • Exceptional: Distinguish very quiet sounds (< 15 dB).
Far vision acuity (Yes/No)	Far Acuity	<p>This would be better described with a functional scale to indicate the degree of acuity required based on Snellen Equivalent.</p>
Peripheral vision (Yes/No)	Field of Vision	
Manipulation (Collect duration and one/both)		<p>This category distinction is not necessary. All physical demand factors that are measured by duration in total hours per shift should be grouped under a “Work Tolerances” category and instructions modified to instruct the interviewer to record the maximum total time in hours for the usual shift under this category. It is unclear from these instructions whether one/both is a type of yes/no questions or whether total hours are collected for one hand only versus both hands.</p>
Gross (One/Both)	Handling	<p>This should be asked as two separate questions:</p> <ul style="list-style-type: none"> • What is the total number of hours that a worker is able to use only one arm to perform gross manipulation functions that involve grasping, turning or placing? • What is the total number of hours that require the combined use of both arms to perform gross manipulation functions that involve grasping, turning or placing?
Fine (One/Both)	Fingering	<p>This should be asked as two separate questions:</p> <ul style="list-style-type: none"> • What is the total number of hours that a worker is able to use only one hand to perform fine manipulation between the fingers? • What is the total number of hours that require the combined use of both hands to perform fine manipulation between the fingers?
Foot/Leg Controls (One/Both)		<p>This should be asked as two separate questions:</p> <ul style="list-style-type: none"> • What is the total number of hours that a worker is able to use only leg to operate controls? • What is the total number of hours that require the combined use of both legs to operate controls

Lifting/Carrying (collect number lbs)	Strength (1)	
Most weight ever	Strength (1)	It would be better to ask this with a series of questions such as” <ul style="list-style-type: none"> • What is the heaviest load that the worker may be required to lift overhead? • What is the heaviest load that a worker may be required to lift in the mid-range? • What is the heaviest load that a worker may have to lift from below knee level? • What is the heaviest load that a worker may have to carry over a short distance?
More than 2/3 of time	Strength (1)	We recommend that a repetition range of “greater than 30 repetitions per hour during the shift” be provided rather than “More than 2/3 of time”. Support for this approach is justified in the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) for Lifting. The highest frequency category in Table 3 of the ACGIH method applies to lifting that lasts > 2 hours per day with repetitions of > 30 repetitions per hour.
1/3 to 2/3 of the time	Strength (1)	We recommend that a repetition range of “greater than 12 per hour up to 30 repetitions per hour during the shift” be provided rather than “More than 1/3 to 2/3 of time”. Support for this approach is justified in the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) for Lifting. The middle frequency category referenced in Table 2 of the ACGIH method references lifting for > 2 hours per day with repetitions of > 12 and <= 30 repetitions per hour or <=2 hours and > 60 repetitions per hour.
Seldom (<2% to 1/3)	Strength (1)	This question is unnecessary/redundant if asking about the heaviest lift or carry.
Seldom (<2%)		This question is unnecessary/redundant if asking about the heaviest lift or carry.
Reaching (Collect duration and one/both)	Reaching (8)	This category distinction is not necessary. All physical demand factors that are measured by duration in total hours per shift should be grouped under a “Work Tolerances” category and instructions modified to instruct the interviewer to record the maximum total time in hours for the usual shift under this category. It is unclear from these instructions whether one/both is a type of yes/no questions or whether total hours are collects for one hand only versus both hands.
Overhead (One/Both)	Reaching (8)	This should be asked as two separate questions: <ul style="list-style-type: none"> • What is the total number of hours that a worker is able to use only one arm for reaching overhead? • What is the total number of hours that require a worker to reach overhead with both arms?

At/Below Shoulder (One/Both)	Reaching (8)	This should be asked as two separate questions: <ul style="list-style-type: none"> • What is the total number of hours that a worker is able to use only one arm for reaching at or below shoulder level? • What is the total number of hours that require a worker to reach overhead with both arms?
Driving		
Vehicle Type		
Time		
Pushing/Pulling <i>(Collect duration and one/both)</i>	Strength (1)	Equipment controls might be a better distinction than “pushing/pulling” The phase 3 pilot indicates that “application of thresholds continued to be a problem for some elements (e.g., pushing/pulling, exposure to wetness, climbing, etc.)
Hand/Arm (One/Both)	Strength (1)	This seems redundant because it is already covered under fine and gross manipulation.
Foot/Leg (One/Both)	Strength (1)	This seems redundant because it is already covered under foot/leg controls
Foot Only (One/Both)		This seems redundant because it is already covered under foot/leg controls
Getting Low		This category distinction is not necessary. All physical demands factors that are measured by duration in total hours per shift should be grouped under a “Work Tolerances” category and instructions modified to instruct the interviewer to record the maximum total time in hours for the usual shift under this category.
Stooping	Stooping (4)	This should be operationally defined as “bending body downward and forward by bending spine at the waist, requiring full use of the lower extremities and back muscles.” Since it is rated by total time per day, it should be listed under a “Work Tolerances” Category.
Crouching	Crouching (6)	The phase 3 report states that “The issue of worker choice (e.g., in whether they sit or stand, or stoop/crouch/kneel, etc.) continued to cause some issues.” We recommend that Crouching be combined with Kneeling for Lower work (crouch/kneel) as the person can usually pick their method of choice to work at a lower level. Since it is rated by total time per day, it should be listed under a “Work Tolerances” Category.
Kneeling	Kneeling (5)	The phase 3 report states that, “The issue of worker choice (e.g. in whether they sit or stand, or stoop/crouch/kneel, etc.) continued to cause some issues.” We recommend that kneeling be combined with crouching under Lower work (crouch/kneel) as the person can usually pick their method of choice to work at a lower level.

Crawling	Crawling (7)	It would make more sense to combine crawling with crouching and kneeling as a Lower Work function. Since it is rated by total time per day, it should be listed under a “Work Tolerances” Category.
Climbing	Climbing (2)	The phase 3 pilot indicates that “application of thresholds continued to be a problem for some elements (e.g., pushing/pulling, exposure to wetness, climbing, etc.)
Ramps/Stairs (duration), related to Structure (Yes/No)	Climbing (2)	An alternative approach to separating this and to rate it by type of structure is to treat climbing skill as a type of physical aptitude factor with functional scaling that describes the degree of skill or aptitude, e.g., None, Very low (incline or low step), Low (flight of steps), Medium (ladder), High (Limited foot/toe holds).
Ladders/Ropes/Scaffolds	Climbing (2)	An alternative approach to separating this and rating it by type of structure is to treat climbing skill as a type of physical aptitude factor with functional scaling that describes the degree of skill or aptitude, e.g., None, Very low (incline or low step), Low (flight of steps), Medium (ladder), High (Limited foot/toe holds).

ENVIRONMENTAL CONDITIONS (We also suggest consultation with NIOSH about factors in this section)

Noise Intensity Level (Quiet, Moderately Loud, Loud, Very Loud)	Noise Intensity Level (Very Quiet, Quiet, Moderate, Loud, Very Loud)	It would make more sense to ask how many work hours require hearing protection and to cover this more functionally under levels of hearing sensitivity required.
Outdoors	Exposure to Weather	
Extreme Heat (non-weather related)	Extreme Heat	
Extreme Cold (non-weather related)	Extreme Cold	
Wetness (non-weather related)	Wet and/or Humid	The phase 3 pilot indicates that “application of thresholds continued to be a problem for some elements (e.g., pushing/pulling, exposure to wetness, climbing, etc.). Working with direct contact with wetness (e.g. underwater) may be more helpful.
Humidity (non-weather related)	Wet and/or Humid	We don’t see a fundament connection with job placement for this factor.
Heavy Vibration	Vibration	
Fumes, Noxious Odors, Dusts, Gases	Atmospheric Conditions	
Toxic, Caustic Chemicals	Toxic/Caustic Chemicals	If this factor is included then it should be further delineated by standardized list of items more directly related to OSHA hazardous chemical exposure categories
Proximity to Moving Mechanical Parts	Proximity to Moving Mechanical Parts	
High, Exposed Places	High, Exposed Places	This needs to be operationally defined as working 6 feet or more above ground level.