

THE WORK DISABILITY FUNCTIONAL ASSESSMENT BATTERY (WD-FAB)

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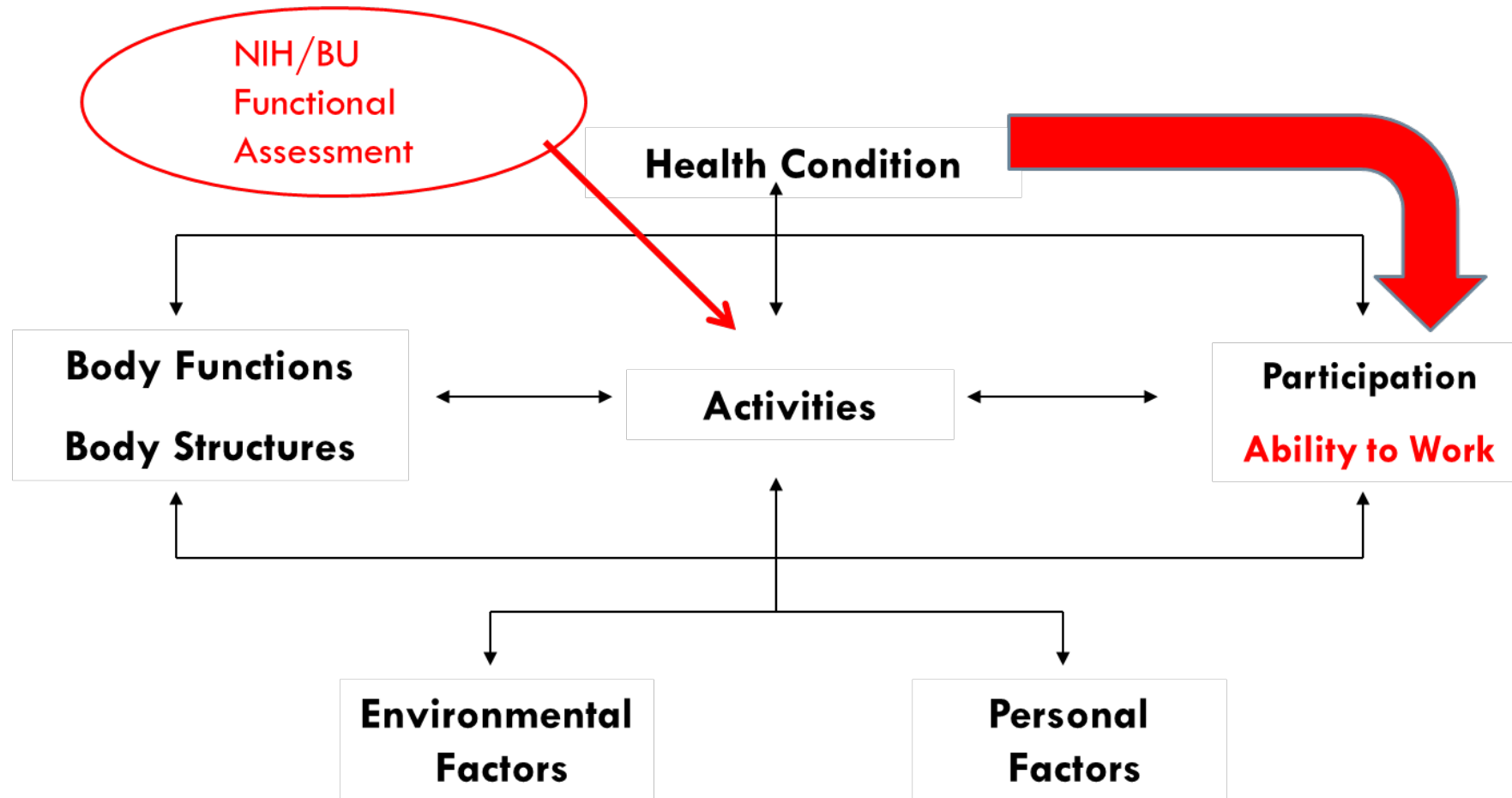


National Institutes of Health
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Why Build a New Assessment Instrument?

- ❑ Comprehensive & feasible assessment for use on a large scale
- ❑ Computer-based: much more efficient than traditional measures
- ❑ User friendly: reduces irrelevant questions
- ❑ Can provide required accuracy & precision
- ❑ Allows for identification of aberrant response patterns to protect against intentional misreporting
- ❑ Instrument can be replenished & improved

WD-FAB in the ICF Framework



Analysis of the WD-FAB

Three phase analytic approach:

1. Initial analyses completed in the claimant sample
2. Results replicated in the general population sample to allow score comparisons between claimants and US adults
3. Items merged from calibration studies

Analytic Steps:

- **Exploratory Factor Analyses (EFA):**
 - Establish underlying subdomain structure
- **Confirmatory Factor Analyses (CFA):**
 - Test uni-dimensionality of each subdomain

WD-FAB Domain Structure

Physical Function Domain

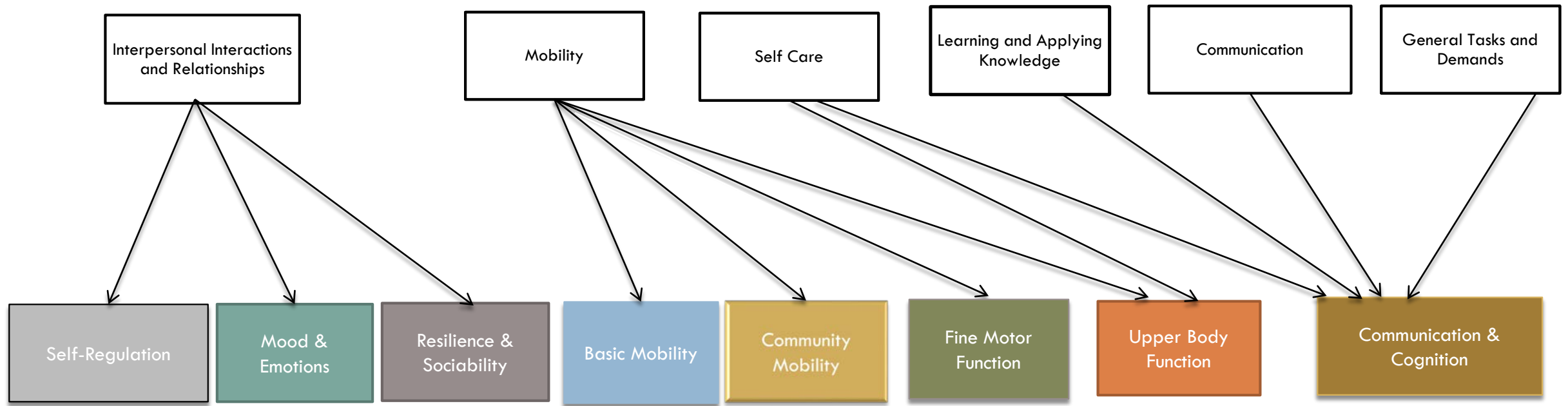
- ❑ Basic Mobility
- ❑ Upper Body Function
- ❑ Fine Motor Function
- ❑ Community Mobility
 - ❑ Driving
 - ❑ Public Transportation
- ❑ Wheelchair

Mental Health Domain

- ❑ Communication & Cognition
- ❑ Resilience & Sociability
- ❑ Self-Regulation
- ❑ Mood & Emotions

ICF Content Coverage in WD-FAB

ICF Activity Domains



WD-FAB Content Domains

Sample WD-FAB Items

WD-FAB Scale	Item Content	Response Scale	Activity Measured
Basic Mobility	Are you able to bend to look under a car?	Ability (Yes, without difficulty; Unable to do)	Bending
Upper Body Function	Are you able to push open a heavy door?	Ability (Yes, without difficulty; Unable to do)	Pushing
Fine Motor Function	Are you able to remove a gas cap from a car?	Ability (Yes, without difficulty; Unable to do)	Turning or twisting the hands or arms
Community Mobility	Are you able to get on to a bus or train?	Ability (Yes, without difficulty; Unable to do)	Using public motorized transportation
Communication & Cognition	I have trouble putting my thoughts together.	Agreement (Strongly agree; Strongly disagree)	Thinking
Self-Regulation	I have difficulty following the rules.	Agreement (Strongly agree; Strongly disagree)	Interacting according to social rules
Self-Regulation	In the past 7 days I had trouble controlling my temper.	Frequency (Never; Always)	Regulation of emotion

WD-FAB Methodology

WD-FAB uses both **Item Response Theory (IRT)** and **Computer Adaptive Testing (CAT)** methods

Initial Item Pools

Behavioral Health:

361 initial items:

- 31 other instruments
- 57 PROMIS/NeuroQOL
- 273 new

165 final items to calibrate

Physical Function:

174 initial items

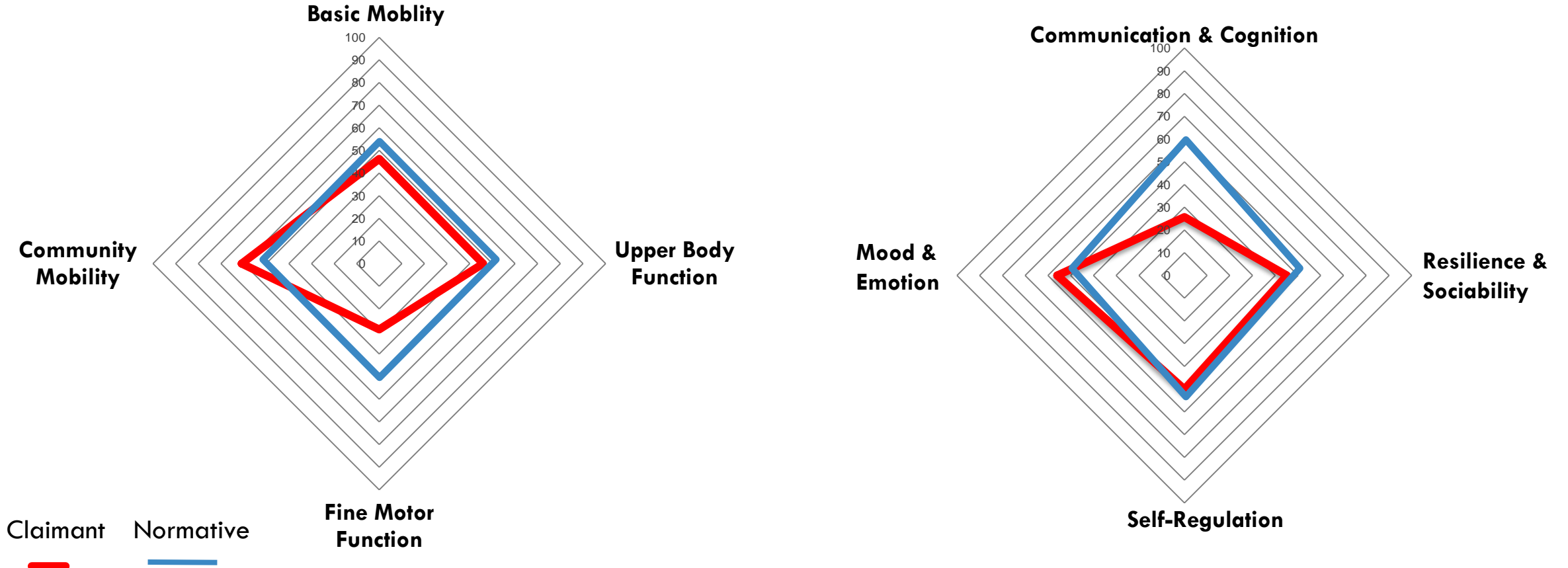
- 22 other instruments
- 31 PROMIS/NeuroQOL
- 75 new items

139 final items to calibrate

WD-FAB Functional Profiles

Physical Function

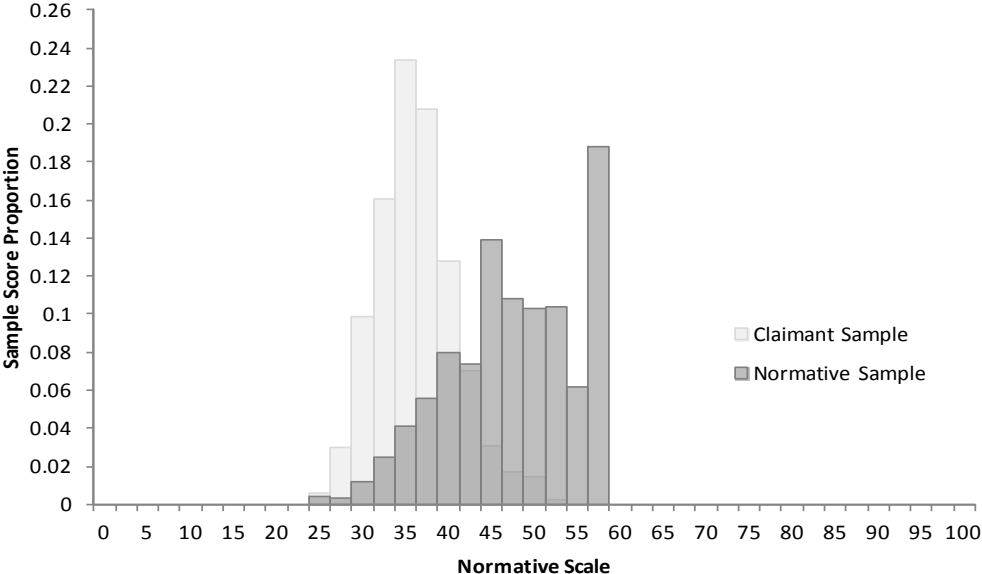
Mental Health Function



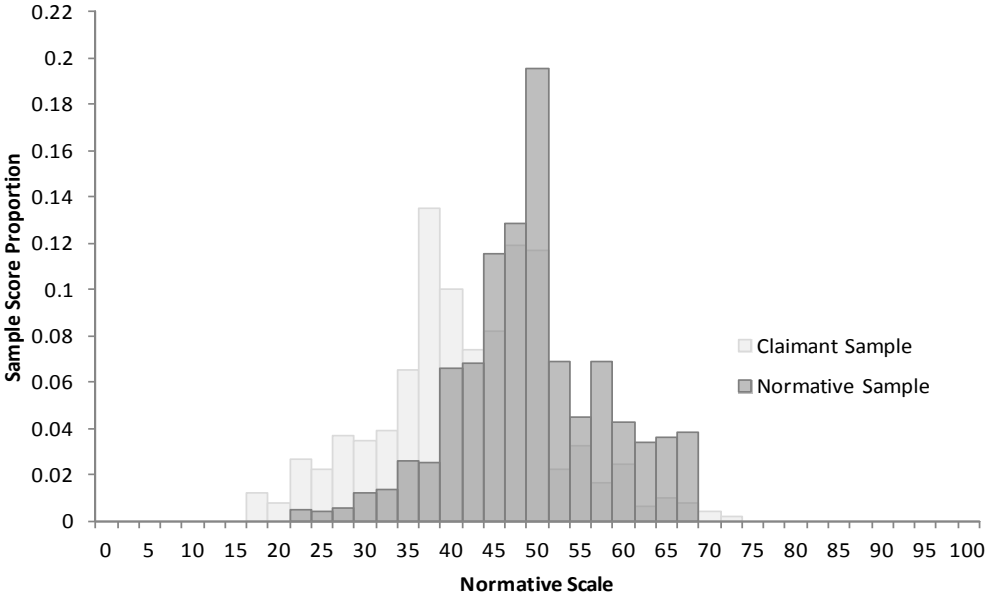
Score Distributions

WD-FAB score distributions distinguish claimant and general working-age adult samples

Basic Mobility



Resilience and Sociability



WD-FAB Development Studies

Tested the WD-FAB to see how it performs:

- ❑ Concurrent Tests
 - ❑ Comparison to legacy instruments
- ❑ Criterion Tests
 - ❑ Situational assessments
- ❑ Reliability
 - ❑ Test-retest
- ❑ Refinement & Replenishment
 - ❑ Item bank expansion
 - ❑ Ongoing replenishment
- ❑ User Simulation Study
 - ❑ 4 SSA Field Offices

Reliability and Validity of the WD-FAB

- ❑ Good test-retest reliability in adults with work-disability and general adult samples
- ❑ Low respondent burden
- ❑ Measurement accuracy:
 - ❑ Very high for Physical Function
 - ❑ More variability in Mental Health
- ❑ Convergent validity correlations with legacy measures were moderate to strong

WD-FAB Strengths

- Efficient: Over 300 items yet completed in ~15-20 minutes
- Multiple administration modes depending on user needs
 - ▣ in-person, phone, web-based, paper/pencil via short forms
- Can create functional profiles and track changes over time
- Item pools are not static and may be replenished and improved
- Provides a standardized and consistent approach to the assessment of function
- Thresholds for minimal detectable differences have been established

WD-FAB Limitation

- ❑ WD-FAB outcomes must be linked to workplace demand
 - ❑ WD-FAB measures at the activity level, according to ICF
 - ❑ Work disability must link activity (whole person functioning) to participation (work)
 - ❑ No known gold standard
 - ❑ Potential approach to this key issue:
 - ❑ Use WD-FAB to develop functional profiles by occupation

Studies to Further Enhance the WD-FAB

- ❑ Robustness of the WD-FAB
 - ❑ Response Pattern Recognition
 - ❑ Effort Measures
- ❑ Proxy respondent study
- ❑ Translation to other languages
- ❑ Replenishment
- ❑ Administer WD-FAB to applicants and obtain qualitative feedback to inform integration into established processes
- ❑ Optimize reporting for users

Applications of the WD-FAB

□ Research

- Assess the use of WD-FAB in SSA's CDR process
 - Monitor function over time
- Supported Employment Demonstration (Funded by SSA)
 - 3000 study participants will take the WD-FAB

□ Claimant support

- Identify functional profile thresholds and sociodemographic characteristics of program constituency
- Examine functional profiles relative to occupational demand to allow assessment of “fit”
- Identify functional thresholds relative to inability to sustain work

Q & A

