

The Legacy of Ability and Skills Assessment in Career Development: Where We've Been and Where We're Going

Brittany Melvin, PhD Candidate
Rebecca Hale, Ed.S./M.S.

Presenters

- ▶ Brittany Melvin, Ph.D. Candidate.
Currently a Career Advisor in the Florida State University Career Center pursuing her doctorate in Counseling Psychology and School Psychology.
- ▶ Rebecca Hale, Ed.S./M.S.
Health and Law Professions Advisor/Counselor at the University of Virginia. Previous Career Advisor in the Florida State University Career Center.

Which Assessment Tools do Career Centers Use to Measure Abilities & Skills?

- ▶ What do you use?
- ▶ What do the statistics* say?
 - 91% of career centers in higher education use assessment tools; almost all offer computer-based assessments
 - Most used assessments: Myers-Briggs Type Indicator (MBTI) and the Strong Interest Inventory. Percentage break-down:

Assessment	% of Respondents
MBTI	76%
Strong	66%
Focus	34%
Discover**	13%
SIGI	7%

* NACE 2012–2013 Career Services Benchmark Survey

** Discover has been decommissioned

Which Skills and Abilities are Employers Looking For?

Ability to:

- ▶ Verbally communicate with persons inside and outside the organization
- ▶ Work in a team structure
- ▶ Make decisions and solve problems
- ▶ Plan, organize, and prioritize work
- ▶ Obtain and process information
- ▶ Analyze quantitative data
- ▶ Apply technical knowledge related to the job
- ▶ Proficiently use computer software programs
- ▶ Create and/or edit written reports
- ▶ Sell
- ▶ Influence others

Job Outlook 2013, National Association of Colleges and Employers

History

- ▶ Assessing abilities and skills has been a major component of the career intervention process since the earliest career counseling models (Hansen, 2005)
- ▶ Parsons even mentions abilities and skills in his original three-step process for career counseling. When describing the career decision-making process, Parsons wrote, “these vital problems should be solved in a careful, scientific way, with due regard to your **aptitudes, abilities**, ambitions, resources, and limitations” (Parsons, 1909, p. 100)

History

- ▶ World War I and Objective Assessment
 - Armed Services Vocational Aptitude Battery
- ▶ Self-estimation of abilities and skills came to the forefront as a major category of ability assessment after Mabe and West's 1982 meta-analysis (Krane & Tirre, 2005)

Self-Assessment

- ▶ Majority of career centers in higher education use self-assessment measures to determine an individual's skills and abilities
- ▶ These self-assessments are often part of a more extensive assessment or a system of assessments
- ▶ Self-assessments require little monetary or temporal resources:
 - Median cost (including total cost of more extensive assessments) – \$10*
 - Median time commitment – 12.5 minutes*

*See charts for further detail

Self-Assessment

▶ Psychometric Validity

- Sound evidence of predictive validity regarding major choice (CISS; Severy, 2009)
- Significant evidence of convergent validity (AE and Harrington O'Shea; Wei-Cheng, 2009)

▶ Psychometric Reliability

- Measures have shown strong internal consistency such as a .91-.94 range for the KSA scales (Schenck, 2007) and a range of .84-.88 for the SCI (Jenkins, 2007)
- Test-retest reliability is also evident. For example, the SCI showed test-retest reliability of .80-.90 (Parsons & Betz, 1998)

Self-Assessments: Validity in Measuring Actual Ability/Skills

- ▶ Lack of validity because individuals don't possess enough environmental data to accurately self-rate; their information often consists of biased or flawed feedback (Carter & Dunning, 2007)
- ▶ Low correlations with objective measures of abilities and skills ($r=.29$; Mabe and West, 1982; $r=.18-.54$; Gati, Fishman-Nadav, & Shiloh, 2006)
- ▶ Many measures focus on individual's **confidence** or **self-efficacy** for various skills, **not** actual ability or performance level
- ▶ Inconsistencies found when comparing individuals' estimated performance levels on a given skill and their actual relative performance levels (Ehrlinger, Johnson, Banner, Dunning, & Krugger, 2008)

Skill Self-Assessments

Assessment Measure	Basic Information	Cost	Time Needed
Skills Confidence Inventory (SCI; N. E. Betz, F. H. Borgen, & L. W. Harmon)	Measures confidence in skills per Holland type using General Confidence Theme (GCT) scores; part of Strong Interest Inventory	\$12.50/ administration (includes SII)	Less than 30 minutes (with SII)
Focus 2 (D., Super, Chief Architect of System)	Career Guidance System that has 5 self-assessments, including skills, a career readiness measure, career research resources and an online portfolio	\$985/year, unlimited uses	10-15 minutes
Sigi³ (Educational Testing Services)	Career guidance system with four areas of focus for self-assessment: skills, personality, interests, values; each focus area as 3 different options for survey type; has occupational information as well	\$895/year, unlimited uses	Less than 10 minutes
Self-Directed Search (SDS; J. Holland & PAR staff)	Assessment that measures interests as well as competencies and self-rated abilities, produces a 3 letter Holland code for each user	\$4.95/ administration	20-30 minutes
Campbell Interest and Skill Survey (CISS; D. Campbell)	Measures vocational skills confidence and interests self-reported by the test taker; 7 orientation scales split into 29 basic scales correspond to Holland types	\$17.65/ administration	25 minutes

Skill Self-Assessments

Assessment Measure	Basic Information	Cost	Time Needed
Kuder Skills Confidence Assessment (P. Rottinghaus)	Determines respondent's confidence in each of the 6 Holland types, part of the Kuder Navigator and Journey online career planning systems	\$1-\$5/ admin. (estimated)	4-10 minutes
Clifton Strengths Finder (Gallup)	Measures 34 most common talents, online measure of personal talents	\$24/book or \$9.99/code	59 minutes maximum
Motivated Skills Card Sort (R. Knowdell)	Users sort skills according to skill level then rate whether they enjoy using the skill	\$10/deck or \$12/online admin.	10-15 minutes
Harrington-O'Shea Career Decision-Making System -R (R. Feller, & A. J. O'Shea)	Helps individuals identify occupational abilities, interests and values; reports 6 interest area scores (career clusters that correspond to Holland theme)	\$2.84/ admin	20-40 minutes
Ability Explorer (AE; J. C. Harrington, T. F. Harrington, & J. E. Wall)	Self-assessment that helps individuals rank their strengths according to 12 relevant vocational abilities; testers report "how good they are or would be" according to each activity presented	\$2.20/admin	30-45 minutes

Objective Assessments

- ▶ Require significantly more time than self-assessments but not necessarily more expensive—have a wider cost range:
 - Median cost – \$7.63, Ranges from \$0-\$500*
 - Median time commitment – 1 hour 40 minutes*
- ▶ Generally more complex than self-assessments
- ▶ Who uses them?
 - Career counselors, rehabilitation services, organizations
 - ASVAB targets recruits for the military, including high school students

*See charts for further detail

Objective Assessments

▶ Validity

- Self-assessment developers see value of objective assessments--use objective assessments as a validity check for their self-assessment measures (Mihal and Graumenz, 1984; Gati, Fishman-Nadav, and Shiloh (2006)
- Since test takers are required to perform a task in an aptitude area rather than rate themselves based on perception or confidence, viewed as having greater validity than self-assessment measures (Osborn & Zunker, 2012)
- Strong evidence of concurrent validity (ASVAB and DAT, .85; Osborn & Zunker, 2012); strong evidence of face validity (World of Work Inventory, Sheehan, 2007)
- “The BAB has been shown to be a statistically and practically significant predictor of course grades, achievement test scores, and ratings of employee training and job performance”
(<http://www.careervision.org/about/BallAptitudeBattery.htm>)

Objective Assessments

▶ Reliability

- Strong evidence of reliability based on item response theory. For example, ASVAB subtests ranged from .69 to .88 (Patrick, 2009)
- The CAPS showed strong evidence of 2-week test-retest reliability (.70-.95; Knapp, Knapp, & Knapp-Lee, 1992)
- According to the Ball Foundation, aptitudes are consistent over time

Objective Assessments of Skills

Assessment Measure	Basic Information	Cost	Time Needed
World of Work Inventory's Career Training Potentials (WOWI; R. Ripley, G. Neidert, & N. Ortman)	Aids test takers in uncovering occupations that best align with career related abilities, 6 aptitude-achievement focus areas, part of a larger assessment including interests and personalities	\$25/admin	30-40 minutes
Multidimensional Aptitude Battery II (MAB-II)	Focuses on 10 areas of intelligence or aptitudes, results in a profile of 10 subtests as well as a full-scale IQ	\$2.55/admin	1 hour, 40 minutes
WorkKeys Assessments (WorkKeys; Act, Inc.)	11 content areas assessed and 8 directly measure abilities; part of a system for assessing job skills, specific sites for testing	\$5-20/area	All areas: 7 hours, median time/area: 55 minutes
Differential Aptitude Tests (DAT; G. Bennett, H. Seashore, & A. Wesman)	A series of eight tests are used to measure ability in 3 core areas: general cognitive ability, perceptual ability, and clerical/language skills; has a corresponding interest test	\$7.63/admin	2.5 hours or 1.5 hours (partial battery)
Career Ability Placement Survey (CAPS; L. Knapp, & R. R. Knapp)	Measures abilities in 8 career clusters, requires test taker to complete a task relevant to the ability being tested	\$4.00/admin	50 minutes

Objective Assessments of Skills

Assessment Measure	Basic Information	Cost	Time Needed
Ball Aptitude Battery (BAB; Ball Foundation)	Includes 16 aptitudes in 4 main areas; results in an aptitude profile or an overall pattern of aptitudes	Around \$500 (varies)	3 hours
O*NET Ability profiler (US Department of Labor)	Helps test takers to identify vocational abilities; part of a larger set of assessments, can use O*NET to link abilities to occupations	Free	1 hour
Armed Services Vocational Aptitude Battery (ASVAB; US Department of Defense)	Eight subtests with 3 score composites, multiple-aptitude test battery, also has an interest inventory accompanying it	Free	3.5 hours
CareerScope Aptitude Battery (Vocational Research Institute)	Part of the CareerScope system, evaluates 6 areas of aptitude, creates profiles and occupational clusters to guide testers in career choice	\$14/admin for entire CareerScope system	25 minutes
Occupational Aptitude Survey and Interest Schedule (R. Parker)	Produces a set of relative strengths in 5 aptitude areas; allows test takers to use results and match them with occupations	\$1.46 or \$5.10	35 minutes
The Highlands Ability Battery (tHAB; R. McDonald & L. Emanuel)	19 subtests called work samples used to compare test taker to other test takers in ability areas	\$450/admin	3 hours

Overall Challenges

- ▶ Avoiding the confusion between a person's **perceived** and **actual** ability or skill level
- ▶ Finding the balance between a measure that is feasible, given time constraints, as well as valid, depending on the skill assessment goal
- ▶ Choosing the best assessment by being informed about what's available (both in the self-assessed and objective realms) and which are high quality

Helping Clients More Accurately Self-Assess Skills

- ▶ Informed self-estimates – ensuring individuals clearly understand exactly which ability or skill they are attempting to self-assess (Ackerman & Wolman, 2007)
- ▶ 4 key factors imperative for accurate self-ratings (Mabe & West, 1983):
 - Past experience with self-ratings, such as through a particular work environment
 - Guaranteed anonymity of self-ratings
 - Raters think that their ratings will be validated against objective criterion measures
 - Rating in a relative sense instead of an absolute sense
- ▶ Help clients consider past experience and feedback received before completing self-assessment measures. Feedback can include input from significant others and scores from past objective ability and skills tests completed (Prediger, 1999)

Techniques/Interventions

- ▶ e-Portfolios – users consider skills they have and experiences that helped develop the skills. (example: career.fsu.edu/portfolio)
- ▶ Resume development with a transferable skills discussion
- ▶ Encouraging reality testing of skills such as joining a student organization or doing an internship
- ▶ Having a discussion about a past internship or organization experience as it relates to skills
- ▶ Discussing skill items to ensure the test taker understands exactly what the item is testing and how he/she should answer; discuss past experiences to anchor his/her answer

Selected Resources & References

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