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

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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:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBTI</td>
<td>76%</td>
</tr>
<tr>
<td>Strong</td>
<td>66%</td>
</tr>
<tr>
<td>Focus</td>
<td>34%</td>
</tr>
<tr>
<td>Discover**</td>
<td>13%</td>
</tr>
<tr>
<td>SIGI</td>
<td>7%</td>
</tr>
</tbody>
</table>

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

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<td><strong>Kuder Skills Confidence Assessment</strong> (P. Rottinghaus)</td>
<td>Determines respondent’s confidence in each of the 6 Holland types, part of the Kuder Navigator and Journey online career planning systems</td>
<td>$1-$5/ admin. (estimated)</td>
<td>4-10 minutes</td>
</tr>
<tr>
<td><strong>Clifton Strengths Finder</strong> (Gallup)</td>
<td>Measures 34 most common talents, online measure of personal talents</td>
<td>$24/book or $9.99/code</td>
<td>59 minutes maximum</td>
</tr>
<tr>
<td><strong>Motivated Skills Card Sort</strong> (R. Knowdell)</td>
<td>Users sort skills according to skill level then rate whether they enjoy using the skill</td>
<td>$10/deck or $12/online admin.</td>
<td>10-15 minutes</td>
</tr>
<tr>
<td><strong>Harrington-O'Shea Career Decision-Making System -R</strong> (R. Feller, &amp; A. J. O'Shea)</td>
<td>Helps individuals identify occupational abilities, interests and values; reports 6 interest area scores (career clusters that correspond to Holland theme)</td>
<td>$2.84/admin</td>
<td>20-40 minutes</td>
</tr>
<tr>
<td><strong>Ability Explorer</strong> (AE; J. C. Harrington, T. F. Harrington, &amp; J. E. Wall)</td>
<td>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</td>
<td>$2.20/admin</td>
<td>30-45 minutes</td>
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</table>
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

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<tr>
<td><strong>World of Work Inventory’s Career Training Potentials</strong> (WOWI; R. Ripley, G. Neidert, &amp; N. Ortman)</td>
<td>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</td>
<td>$25/admin</td>
<td>30-40 minutes</td>
</tr>
<tr>
<td><strong>Multidimensional Aptitude Battery II (MAB-II)</strong></td>
<td>Focuses on 10 areas of intelligence or aptitudes, results in a profile of 10 subtests as well as a full-scale IQ</td>
<td>$2.55/admin</td>
<td>1 hour, 40 minutes</td>
</tr>
<tr>
<td><strong>WorkKeys Assessments</strong> (WorkKeys; Act, Inc.)</td>
<td>11 content areas assessed and 8 directly measure abilities; part of a system for assessing job skills, specific sites for testing</td>
<td>$5-20/area</td>
<td>All areas: 7 hours, median time/area: 55 minutes</td>
</tr>
<tr>
<td><strong>Differential Aptitude Tests</strong> (DAT; G. Bennett, H. Seashore, &amp; A. Wesman)</td>
<td>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</td>
<td>$7.63/admin</td>
<td>2.5 hours or 1.5 hours (partial battery)</td>
</tr>
<tr>
<td><strong>Career Ability Placement Survey</strong> (CAPS; L. Knapp, &amp; R. R. Knapp)</td>
<td>Measures abilities in 8 career clusters, requires test taker to complete a task relevant to the ability being tested</td>
<td>$4.00/admin</td>
<td>50 minutes</td>
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## Objective Assessments of Skills

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


