SHRM Foundation’s Effective Practice Guidelines Series

Choosing Effective Talent Assessments to Strengthen Your Organization
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Organizational success is largely driven by the acquisition of the best talent available. However, statistics reveal that 25 percent of mission-critical positions often remain vacant after five months. As organizations compete for the top candidates, they expend large sums of money, time and other resources in advertising and recruitment. Research shows that the careful use of talent assessments can result in increased productivity, cost savings and better retention of top employees.

To help you sort through the many assessments available and find those that will work best for you, the SHRM Foundation has created Choosing Effective Talent Assessments to Strengthen Your Organization. This guide focuses on the tools of the trade and how to select the right assessment to achieve your business goals. It helps employers better understand the value of assessment, as well as the legal and technical issues involved. In addition, it offers a clear roadmap to selecting the effective assessment methods to target top talent and boost productivity.

This report is part of the SHRM Foundation’s Effective Practice Guidelines series, which now includes more than 20 titles. Created in 2004 for busy HR professionals, the series integrates research findings with expert opinion on how to conduct effective HR practice. It provides the tools to successfully practice evidence-based management. Other recent reports include Talent Acquisition, Creating a More Human Workplace and The Aging Workforce. To ensure the material is both practical and research based, the reports are written by subject-matter experts and are then peer-reviewed by both academics and HR professionals.

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We encourage you to learn more. Please visit shrmfoundation.org to download other complimentary resources and to find out how you can get involved with the SHRM Foundation. Thank you!

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Dr. Pulakos’s work has been recognized with several awards, including the Society for Industrial and Organizational Psychology’s (SIOP’s) Distinguished Professional Contributions Award, the M. Scott Myers Award for Applied Research in the Workplace, and the William A. Owens Scholarly Achievement Award. Elaine is a fellow of the American Psychological Association and SIOP, for which she also served as president. Currently, she leads two groups within CEB: global measurement product development and PDRI, a CEB company.

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Research reveals that careful talent assessment results in significant productivity increases, cost savings and decreased attrition.
CHOOSING EFFECTIVE TALENT ASSESSMENTS TO STRENGTHEN YOUR ORGANIZATION

THE BUSINESS CASE FOR EFFECTIVE TALENT ASSESSMENT

Organizations today compete fiercely for talent. Recent statistics indicate that 25 percent of critical positions remain unfilled after five months. Firms invest an enormous amount of money, time and other resources in advertising and recruiting strategies to attract the best candidates because today’s executives understand that one of the most important drivers of organizational success is outstanding talent. Research also reveals that careful talent assessment results in significant productivity increases, cost savings and decreased attrition.

<table>
<thead>
<tr>
<th>Questions Leaders Are Asking</th>
<th>Organization Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>How can we reduce turnover?</td>
<td>On average, one in four new hires leaves within a year.</td>
</tr>
<tr>
<td>How can I find people who will succeed in specific positions?</td>
<td>Each position has many applicants, but 65 percent of them do not meet basic requirements.</td>
</tr>
<tr>
<td>How can we identify effective leaders?</td>
<td>Only 12 percent of today’s employees are enterprise leaders.</td>
</tr>
</tbody>
</table>

Given the proven bottom-line value of attracting and retaining talent, why do so many organizations and HR professionals employ ineffective, haphazard approaches to selecting employees? This report addresses how and when to use assessments to improve hiring and retain the most valuable employees in a competitive market.

Although the term “assessment” can include a wide variety of tools, including resume reviews, applications, reference or background checks, and interviews, the focus here is on more formal scientific assessments. After a brief survey of the value of different types of assessments, we will focus on practical explanations of technical and legal issues and then offer a roadmap to choosing the methods that offer the best return on investment for your organization.
THE ASSESSMENT LANDSCAPE

The nature and variety of assessment tools have evolved considerably in recent years as analytics and data have become more important in the business environment. Formal assessments are used to hire new employees, evaluate current employees for different roles, identify employees with high leadership potential, compare talent within an organization against industry or geographical benchmarks, understand talent strengths and gaps, and develop employees’ long-term value. Advances in technology mean that more tools are accessible online, on-demand, and with immediate reporting and feedback.

Technology has also given rise to more available data on individuals and new tools that enable organizations to mine these data for competitive advantage. For example, social media and other data collected via technology are used for predictive analytics, modeling trends, passive assessment of candidates and uncovering insights to enhance business performance. The use of immersive, personalized assessment experiences is on the rise.

In the hiring context, organizations are using these new tools and experiences to provide job previews and sell the organization and its brand. Some firms want to provide brand-enhancing hiring experiences that will attract candidates and retain them as customers, even if they are not offered jobs. This trend is important because poor candidate experiences are broadly shared throughout social networks and can yield decreased use of the organization’s products and services. Approximately two-thirds of HR professionals report that their organizations are putting a premium on positive applicant experiences, although relatively few collect data to monitor reactions to assessment procedures.

One of the most dramatic shifts involves the evolution of the candidate-driven job market, which has changed how organizations compete for talent and the nature of their recruitment and assessment processes. Candidates want brief, informative, and engaging hiring experiences and transparency so they know what to expect, where they stand and how much effort to put into a hiring process. All these new expectations are transforming assessment methods and practices.

The Evolution of Assessment Technology

Unsupervised online testing has become the standard for assessment administration because it is so efficient, decreasing the time needed to fill vacancies and reducing costs. Initially, online testing prompted two major concerns: test security and candidate integrity.

Concerns about security arose because early versions of online assessments were static, meaning that all candidates received the same items, which could be copied and shared easily. If tests are copied and shared, they become invalid and must be replaced, creating unsustainable costs for companies.

Computer adaptive testing (CAT) methods are now the norm because CAT allows for dynamic selection of questions from a large set of items based on how each candidate is responding: If a candidate responds correctly, the next item will be more difficult; if a candidate responds incorrectly, the next item will be easier. A customized assessment with a unique combination of items focuses on each candidate’s level of ability and knowledge. CAT creates more secure and more efficient assessments, with fewer items in less time, to meet the demands of candidate-centric hiring.

CAT represents a critical innovation in online assessments but does not resolve the problem of candidate integrity or making sure that the person taking an online assessment is the same person who is applying.
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Test Equivalence Is a Key Issue
As assessment devices evolve from booklets to PCs to mobile phones and tablets, we need to consider whether the mode of administration, rather than the assessment itself, is leading to lower or higher scores. The ideal situation is that no matter what device is used, the candidate earns the same score.

Mobile assessment now provides even more convenience than assessments via desktop computers. Consumer data indicate that mobile devices may be more readily available to underrepresented groups, including African Americans, Hispanic Americans and women.

Assessment administration on mobile devices may therefore result in larger and more diverse candidate pools.

Differences in mobile devices mean that mobile assessment can be complex, requiring more nuanced evaluation. For example, larger screens on tablets allow some forms of assessment that will not work well on phones. How information is input, whether via touch screen or keyboard and mouse, presents unique challenges.

A new class of assessments that use mobile-centric design principles has arisen to optimize the user experience. We are seeing a demand for innovative assessments that go beyond multiple choice and look and feel more like games. The result of these innovations is that assessments are being judged as much as by their measurement and predictive qualities.

Low-effort assessment uses new technology and machine learning to sift through large amounts of unstructured information, including resumes and applications, to collect predictive information about candidates. The information is coded and validated against work outcomes, such as job performance and retention, to produce algorithms that managers can use to inform their hiring decisions. These techniques automate identification and scoring of predictive information so that large numbers of candidates can be screened in minimal time at low cost.

Low-effort assessment is still in its early stages, so all the advantages and disadvantages are not yet clear, but it is probably best suited for situations in which past experience is especially important in predicting future performance.

Future Trends
Technology will continue to spark revolutionary changes in assessment methods and practices. For example, the ability to passively target candidates from available information sources could lead to transformational changes in hiring processes. Today, applicants apply for positions based on job postings, but tomorrow organizations may search data for key talent in ways that bypass postings. This is uncharted territory and will require new policies on privacy, legal and ethical considerations. As hiring practices span global markets, human resource professionals will also have to become familiar with additional laws and regulations.

Perhaps most important, early adopters of new technology should be aware that without sufficient research behind it, an innovation might undermine rather than help an organization to make effective, defensible hiring decisions. In some countries, litigation and audits of hiring practices will lead to new standards and precedents related to new assessment technology, and organizations must be alert for these changes. Later in this
report, we will look at the science behind assessments, legal requirements and workers’ rights to help organizations navigate these choppy new waters.

TOOLS OF THE ASSESSMENT TRADE

Organizations can use a broad array of techniques to make selecting the right assessment tool easier. The first order of business is to do a thorough job analysis, followed by a review of the various types of assessment methods available.

Job Analysis

The first step in selecting an assessment tool is to understand what the target job or role requires the employee to do by conducting a job analysis\(^1\) that focuses on identifying critical work activities and/or competencies.

An in-depth discussion of job analyses is beyond the scope of this report, but they typically include four major steps, as outlined above.

Investigator Job: Sample Work Activities

- Provide testimony by stating facts and answering questions.
- Gather and review information to obtain evidence, or develop background information on subjects.
- Integrate information to uncover relationships between individuals, events or evidence.
- Work in a team environment as a team member or leader.
- Calm and reassure victims and others in tense situations.

Investigator Job: Sample Competencies

- Communication: Speak and write clearly and concisely, with self-confidence and using effective inflection and gestures.
- Critical thinking: Question assumptions and identify merits in logic.
- Collaboration: Elicit cooperation from other individuals and organizations.
- Professionalism: Maintain a professional demeanor and appearance at all times.
- Handling stress: Remain calm and levelheaded.

Job Analysis Steps

**STEP 1.** Observe or interview job experts to develop a list of work activities and competencies workers need.

**STEP 2.** Ask job experts to rate which work activities and competencies are most critical for effective job performance.

**STEP 3.** Analyze the data to prioritize the most critical work activities and competencies for your organization.

**STEP 4.** Select assessments that measure the performance of the most critical work activities or competencies required on the job.

Every organization’s unique character is reflected in how it performs a job analysis and then chooses assessments. Business strategy, organizational culture and contextual factors always play major roles. Contextual factors may include high-versus-low growth, high-versus-low change and high-versus-low team interdependency.

A recent study of thousands of organizational leaders across 85 companies showed the importance of organizational context factors in successful identification of leaders at all levels.\(^1\) These results reinforce the value of thinking beyond job-specific competencies to broader performance requirements.

One useful source of job analysis information is O*NET, a database that is continually updated by surveying a broad range of workers from hundreds of occupations. Employers and job seekers can leverage the O*NET database to obtain information for virtually any job in the global economy. The database forms the heart of O*NET OnLine, an interactive application for exploring and searching occupational information (http://onetonline.org). Of course, it is always best to verify that job information from O*NET fits the specific job and situation in your organization.
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Work behavior is the tip of the iceberg—the observable performance on the job. Work behavior assessments require candidates to perform simulated aspects of the job and provide an observable measure of performance that should forecast real on-the-job performance. These assessments should correspond closely to the specific work that candidates will perform and tend to be expensive, time-consuming and somewhat limited in their use.

Acquired knowledge, skills and experience sit just below the surface. Although less directly observable than work behaviors, assessments of job-relevant knowledge, skills and experience are extremely effective predictors of job performance. Because these assessments require measuring unique capabilities relevant to specific jobs, they are not generally applicable across jobs.

Innate ability and attributes, including personality and interests, lie deep below the surface and also have been proven to be effective predictors of job performance. Because assessments of innate characteristics do not focus on job-specific traits, they are the most flexible and applicable for use across different jobs.

Assessment Methods

After you understand job requirements, you can select assessments that measure the most critical work activities or competencies. For example, is the assessment goal to select someone to perform a specific job in the near term or to predict employee potential for future leadership roles? In the former case, the assessment can be targeted to the most critical competencies for the job. In the latter case, a broader and more comprehensive whole-person assessment will probably be more useful.

Assessment types run along a continuum from more observable, direct measures of performance to less observable, indirect measures of performance. An iceberg analogy helps illustrate the different assessment types.

### Example of Cognitive Ability Test Items

<table>
<thead>
<tr>
<th>Verbal ability</th>
<th>Numerical ability</th>
<th>Reasoning ability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innocuous means the same as:</td>
<td>16% of 62.5 is:</td>
<td>1 3 2 4 3 5 4 6 5</td>
</tr>
<tr>
<td>a. Harmless</td>
<td>a. 844</td>
<td>a. 4</td>
</tr>
<tr>
<td>b. Preventative</td>
<td>b. 8.44</td>
<td>b. 5</td>
</tr>
<tr>
<td>c. Distasteful</td>
<td>c. 084</td>
<td>c. 6</td>
</tr>
<tr>
<td>d. Futile</td>
<td>d. 8.4</td>
<td>d. 7</td>
</tr>
</tbody>
</table>

Below we discuss specific assessment methods, all of which are backed by strong research over decades. They are all readily available and effective for small and large companies. We do not include some newer assessment methods with less research available to back them up.

Cognitive ability assessments typically consist of multiple-choice items that measure various mental abilities, such as verbal and numerical ability, reasoning, and reading comprehension. These assessments have proven to be extremely useful predictors of job performance and are used frequently in hiring for many types of jobs. Some measure distinct abilities, whereas others measure a
combination to provide a measure of general mental ability or “g.” Cognitive ability tests administered online in unsupervised testing situations often employ adaptive methods. The mobile environment poses some unique challenges because the typical questions are too complex and lengthy for mobile phones, although they may work well on tablets. Newer test designs will probably be optimized for mobile administration.

**Personality assessments** measure stable, job-relevant characteristics that have been shown to be effective predictors of job performance, particularly in combination with measures of cognitive ability. In work situations, conscientiousness, extraversion, agreeableness, openness to experience and emotional stability are measured most frequently. Research suggests that conscientiousness is the most robust and useful predictor of performance across jobs. Achievement orientation is also a strong predictor in many jobs.

Personality assessments typically consist of several multiple-choice or true/false items that measure a variety of personality factors. Desirable answers are often quite obvious in this format, so there is considerable concern about how easy it is to “fake” a positive impression. On the other hand, even when candidates do respond with what they assume are the desired answers, personality assessments are still useful for predicting job performance. Some assessments avoid the problem by using a format that presents equally desirable response options representing different personality traits. This item format—asking candidates to choose which answer is most like them—is less transparent than a simpler scale. These assessments work well across different devices.

**Integrity assessments** measure attitudes and experiences related to honesty, trustworthiness and dependability. They are typically presented in a multiple-choice format. Similar to personality assessments, integrity assessments can be easily administered across different devices without problems.

Physical fitness tests measure overall fitness, strength, endurance or other capabilities necessary to perform a job. By nature, they don’t work in an online environment.

**Biographical data (bio data) assessments** ask candidates questions about their past experience in areas that have been shown to predict future performance. For example, a question about the number of volunteer organizations to which someone has belonged could indicate the extent to which he or she is willing to pitch in and help others. A question about where one’s spending money came from in high school could indicate a history of responsibility and independence.

Some bio data assessments are scored using data-driven techniques, meaning the points associated with each response option are determined according to the relationship between that response and an important job outcome. Other bio data...
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Automated scoring algorithms are used. Accomplishment records are effective predictors of job performance.28

**Job knowledge assessments** measure critical knowledge areas—usually technical knowledge—needed to perform a job effectively.29 These assessments are appropriate to use when candidates must possess a specific body of knowledge prior to job entry, not when candidates will be trained on the job. Job knowledge tests typically consist of multiple-choice items, but they sometimes include essay items. In addition to hiring assessments, job knowledge tests are used often for certification and licensing assessment.

Knowledge tests can be administered well online using large banks of items and adaptive technology, but there is no definitive research about whether they can be administered effectively on mobile devices. Certification and licensing assessments, especially those that are high stakes, are still administered in a supervised testing environment for the most part.

Automated writing assessments can be developed to measure various competencies beyond the writing itself, including a candidate’s persuasiveness, critical thinking, attention to detail, commercial focus and political savvy. Technology is used in lieu of human scoring with a technique called latent semantic analysis. Writing assessments are especially useful in selecting people to fill positions with significant writing demands, such as attorney, analyst or investigator.

Development of the writing prompts and scoring algorithms requires quite a bit of time and resources, but the efficiency and cost savings after the initial investment can be significant. This type of assessment is suitable for online environments as long as it is possible to confirm that the candidate, and no one else, is the one providing the writing sample.

**Situational judgment tests** present candidates with situations just like those they would encounter on the job, with viable options for handling each situation.30 Candidates might be asked to select the most effective, or the most and least effective, ways of handling a situation from a few options. These tests are more expensive and complicated to develop than many other types because developing scenarios with several equally attractive,
Example Situational Judgment Item

You have just prepared a report and checked it for accuracy. Before you attend a meeting to submit your report, you review the typed version and note many serious errors. In this case, you would:

a. Show the original and the typed version to the person in charge of typing and demand that the errors be changed before the meeting.

b. Present the report at the meeting, point out the errors and explain the typist made them.

c. Present the errors to the typist, ask him or her to make the corrections and explain to those at the meeting that the report is still being typed.

d. Present your report at the meeting without mentioning the errors. Notify everyone of the corrections after the meeting.

Structured Behavioral Interview Question and Sample Rating Criteria

Tell me about a time when you were able to establish rapport with someone in a situation that made it difficult to do so. What were the circumstances? What did you do? What were the results?

<table>
<thead>
<tr>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

Made minimal attempts to understand the person’s perspective. Developed only a surface-level relationship in a simple situation.

 Attempted to understand the other person’s perspective. Developed a positive working relationship with the person in a moderately difficult situation.

 Effectively reached out and sought to understand the person’s views. Developed an extremely positive relationship with the person in an extremely difficult situation.

Work simulations measure how a candidate performs activities that the job requires, and of course, employers should use them only when knowing how to perform those activities is truly a prerequisite.32 These simulations can be time-consuming and expensive to develop. Sometimes, trained evaluators do the scoring, but today assessment and feedback are often automated.

Physical ability tests are used to select people for physically demanding jobs, such as police officer, firefighter or warehouse worker.33 These assessments require candidates to perform actual work tasks to determine whether they can meet the physical requirements of a job. The tests are often scored on a pass/fail basis and are often timed. Physical ability tests are specific to work activities, whereas physical fitness tests measure more general overall physical health, strength and endurance.
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HOW TO SELECT THE RIGHT ASSESSMENT METHOD
In this section, we provide guidelines to help human resource professionals make informed decisions about assessments. We will look at four important criteria, and the answers will be based on solid research over time:

- **Validity:** Is the assessment method useful for predicting job performance?

- **Adverse impact:** Do members of protected groups, including minorities, women and employees over age 40, systematically score lower than others?

- **Cost:** What is the expense of developing, administering and maintaining the assessment?

- **Candidate reactions:** Do candidates react positively or negatively to the assessment?

The results, explained in the table below, demonstrate that no simple formula for choosing the right assessment exists because each type measures specific aspects, and each has advantages and disadvantages. Often, a combination of assessments works well to optimize results based on your organization’s specific goals and needs. Assessments can be phased in—using a shorter one first, to screen out the most unqualified candidates, and then using more complex methods for higher-potential candidates.

**Sample Physical Ability Tests**

**Firefighter**
- Climb a ladder while carrying equipment.
- Drag a hose.
- Carry a person down from a building.

**Warehouse Worker**
- Lift materials of weight that must be lifted on the job.
- Drag materials for distances required on the job.
- Roll barrels.
- Carry materials the distance they must be carried on the job.

**Evaluation of Assessment Methods on Four Key Criteria**

<table>
<thead>
<tr>
<th>Assessment Method</th>
<th>Validity</th>
<th>Adverse Impact</th>
<th>Costs to Develop/ Administer/ Maintain</th>
<th>Candidate Reactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive ability</td>
<td>High</td>
<td>High (minorities)</td>
<td>Low-high/low/high</td>
<td>Somewhat favorable</td>
</tr>
<tr>
<td>Personality</td>
<td>Low-moderate</td>
<td>Low</td>
<td>Low-high/low/low</td>
<td>More favorable if job-relevant</td>
</tr>
<tr>
<td>Integrity</td>
<td>Moderate-high</td>
<td>Low</td>
<td>Low/low/low</td>
<td>Less favorable</td>
</tr>
<tr>
<td>Physical fitness</td>
<td>Moderate to high</td>
<td>High (females and over age 40)</td>
<td>High/high/low</td>
<td>More favorable</td>
</tr>
<tr>
<td>Biographical data</td>
<td>Moderate</td>
<td>Low-high for different types</td>
<td>High/low/moderate</td>
<td>More favorable if job-relevant</td>
</tr>
<tr>
<td>Job knowledge</td>
<td>High</td>
<td>High (minorities)</td>
<td>Low-high/low/high</td>
<td>More favorable</td>
</tr>
<tr>
<td>Writing</td>
<td>High</td>
<td>High (minorities)</td>
<td>High/low</td>
<td>Somewhat favorable</td>
</tr>
<tr>
<td>Situational judgment</td>
<td>Moderate</td>
<td>Moderate (minorities)</td>
<td>High/low/moderate</td>
<td>More favorable</td>
</tr>
<tr>
<td>Behavioral interviews</td>
<td>High</td>
<td>Low</td>
<td>High/high/low</td>
<td>More favorable</td>
</tr>
<tr>
<td>Work simulations</td>
<td>High</td>
<td>Low-high, depends on what is measured</td>
<td>High/high/high</td>
<td>More favorable</td>
</tr>
<tr>
<td>Assessment centers</td>
<td>Moderate to high</td>
<td>Low-high, depends on what is measured</td>
<td>High/high/low</td>
<td>More favorable</td>
</tr>
<tr>
<td>Physical ability</td>
<td>Moderate to high</td>
<td>High (females and those over age 40)</td>
<td>High/high/low</td>
<td>More favorable</td>
</tr>
</tbody>
</table>
What is an assessment center, and when do you need one?

An assessment center offers a specific type of work simulation, usually related to executive, managerial, or supervisory jobs. Candidates respond to situations, problems, and tasks in role-play exercises, “in-box exercises” that ask them to prioritize and make decisions based on incoming information, case exercises, and group discussion. Video and voice recordings mirror what candidates see and hear on the job. More sophisticated options, such as branching role-plays, can automate personal communication by providing adaptive responses based on what the candidate does or says.

In some cases, assessment centers can also be used for non-managerial job candidates. “Day in the life” simulations ask job seekers to handle scenarios in workflows similar to what happens on the job. These simulations provide robust information for those making hiring decisions for the candidates. As they become easier, cheaper, and more flexible, use of simulations may increase over time, especially in latter stages of a hiring process when people tend to be more willing to invest in a longer, in-depth commitment.

Validity: The Most Important Consideration

Does the assessment predict how individuals will perform on the job?

Criterion Validity

- Determines the strength of the relationship between scores on an assessment and job performance effectiveness, tenure or other important outcomes.
- Validity is measured using a correlation coefficient, which ranges from 0.0 to 1.00.
- Assessment validities typically range from .10 to .40.
- A minimum validity to target is .25 or above.

Content Validity

- Involves providing evidence that an assessment is a direct measure of work behaviors.
- Based on expert judgment.

Validity

Validity means that an assessment is job-relevant and useful for predicting performance. Clearly, this is the most important consideration in selecting an assessment. The two most common types of validity human resource professionals encounter are criterion and content validity.15

Criterion validity involves demonstrating a useful relationship between scores on an assessment and important job outcomes. For example, assume that a sales job requires exceptional customer service. If the assessment is a valid predictor of job performance, candidates who score higher on customer service will perform better, with higher sales and higher customer loyalty ratings, and those who score lower will not perform as well. To establish criterion validity, a firm would evaluate the strength of the relationship between performance on the assessment and job performance on a scale of 0 to 1.00—although scores would never reach a perfect 1.00 because so many other factors are at play.

Tip: Look at Validation Studies

In considering the use of commercially available assessments, HR professionals should look for how many criterion validity studies have been conducted on the assessments and meta-analysis results, if available. The more successful validation studies a vendor can produce from other organizations and the larger the number of individuals included in validity studies, the more confidence you can have in the quality of the assessment.
Comparisons of criterion and content validity reveal that criterion validity is stronger and tends to be viewed as more credible. However, content validation is perfectly acceptable for demonstrating the job relevance of work samples, simulations and other direct measures of work behavior. Criterion validity can be used to validate any type of assessment and is the only type of validity that can be used when an inference needs to be made about the relevance of an assessment for predicting job performance instead of using a direct measure of performance. Most assessments, including cognitive ability, personality, bio data and integrity, require inferences about their relevance for predicting performance, so criterion validation is the most common form of validity.

Successful criterion validation relies on having performance or other such outcome measures that accurately distinguish employees’ effectiveness on the job. Performance ratings that are available in human resource information systems (HRIS) or performance management systems are often of such poor quality that they do not enable successful validation.

The bottom line is that criterion validity studies are so complex that conferring with an assessment expert is best if you need to do criterion validation work.

Adverse Impact

Adverse impact is a concept defined by the U.S. government to establish evidence of discrimination. It occurs when the results of an assessment or hiring lead to a disproportionately

After multiple validation studies have been conducted for a given assessment type, summarize the results across studies, and make a stronger statement about the true validity of the assessment. In the table above, we analyzed validation studies and used them to identify “low” (.20 or less), “moderate” (.20 to .40) and “high” (.40 to .50) validity.

Assessments with low-to-moderate validities can add value, especially when they are used in combination with other assessments. For example, cognitive ability and personality are largely unrelated, but, cumulatively, they combine to produce higher validity than when used alone.

Content validity involves demonstrating that an assessment provides a direct measure of critical work activities or behavior. Comprehensive job analysis information and expert judgment are used to develop work simulations, ensuring that the assessment closely mirrors job requirements.

Example of Criterion Validity Studies

- Administer the assessment to be validated to a large group of employees (at least 300).
- Collect measures of these same employees’ performance on the job.
- Correlate the assessment scores with the job performance scores, using a correlation coefficient.
- The correlation is the strength of the relationship between the assessment and job performance.

Looking at the Numbers: Effect Size and Adverse Impact

An effect size can be calculated to compare the assessment scores between two groups. Effect sizes range from 0, indicating no difference between groups, to 1.00 or more, indicating a large difference. Effect sizes less than .20 are considered small, and those near .80 or more are considered large, signaling a likely adverse effect. Understanding effect sizes is useful because they are often reported in test manuals and research reports evaluating assessments.

Adverse Impact

An assessment has adverse impact if it results in hiring proportionately fewer protected group members than majority group members.

Calculating Adverse Impact

The 80 Percent Rule:
- 50 females are assessed and 30 females are hired, or 60 percent.
- 50 males are assessed and 45 males are hired, or 90 percent.
- The ratio of females to males hired is 67 percent.
- A ratio of < 80 percent is evidence of adverse impact.
small number of protected group members (e.g., racial minorities, females, individuals over age 40) being selected. If the proportion of protected group members hired is less than 80 percent of the proportion of majority group members hired—referred to as the 80 percent rule—adverse impact is suspected. If an assessment produces an adverse impact, the only way to defend its use is by showing that it is a valid predictor of performance and that alternative measures are not feasible. The 80 percent rule is not the only way adverse impact is defined or evaluated. The U.S. Office of Federal Contract Compliance Programs uses an alternative approach, one to which commercial businesses of a certain size, with federal contracts, must comply. With the exception of South Africa, the concept of adverse impact is not widely used outside the United States, but other countries have specific laws, regulations and compliance requirements that govern hiring practices and employee rights. Adverse impact does not only happen in the assessment process. Resume screening, reference checks, interviews and recruitment practices can also result in an adverse impact against protected groups. HR teams should not shy away from using assessments just to avoid adverse impact, especially given the improved performance and business outcomes that proven assessments provide.

Strategies to Reduce Adverse Impact

What To Do
- Recruit more qualified candidates from protected groups.
- Assess a wider set of competencies, such as contextual performance (e.g., citizenship, helping others, expending extra effort), which is predicted by measures that produce minimal adverse impact (e.g., personality and bio data).
- Use assessments with more adverse impact later in the process, although this approach is likely to help only when there are many applicants per position.

What Not To Do
- Administer test preparation programs. They may increase candidate comfort but do not reduce adverse impact.
- Remove test items with large group differences.

Tradeoffs Between Validity and Adverse Impact

All organizations want the best-performing workforce, and most also want a diverse workforce that does not exclude protected groups. While evidence of validity can be used to justify and defend assessments that produce an adverse impact, most organizations want to mitigate adverse impact as much as possible. Some assessments that produce high levels of validity also produce high adverse impact. A number of strategies may reduce adverse impact without reducing validity, including enhanced recruiting of protected groups, assessing a broader array of competencies beyond the technical to include motivational and behavioral factors, and adjusting the placement of assessments within the hiring process. Less effective strategies include providing test preparation sessions for candidates and removing test items that have larger group differences. While some strategies have shown promise, elimination of adverse impact entirely is still a challenge and is something that organizations should monitor and manage across all talent management processes, systems and decisions.

Assessment Utility

What are the business outcome benefits of using assessments?

Selection Success Gains
- Number or proportion of successful candidates before and after implementing a valid assessment

Business Outcome Gains
- The financial consequences of using a valid assessment
- Revenue and profitability increases compared to assessment costs

Assessment Utility: Business Benefits

Assessment utility addresses the business benefits of using assessments and is helpful in explaining the value of assessment to decision-makers who are outside the human resource team. Two types of utility are apparent in assessments: selection success gains and business outcome gains.

Selection success gains compare successful candidates before and after assessment implementation. The greater the selection success gain, the higher the assessment utility.
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Business outcome gains are more interesting, particularly the revenue and margin gains that result from selecting higher-performing employees compared with the assessment costs. The formulas used to evaluate business outcome gains are more complicated than simply comparing revenue/profits versus costs. They consider additional factors, including how effectively the assessment predicts performance, the number of applicants and tenure of the selected group.  

When decision-makers see the positive impacts of assessment in terms of key business outcome metrics, the value of assessment usually becomes more apparent and compelling.

Costs

Some assessment methods involve higher costs to develop, maintain and administer than others, although technology has significantly reduced the large variability in costs. Mobile administration should further reduce and equalize administration costs. In terms of development, automated work simulations tend to be the most costly to develop because they typically require test experts to work with job experts and IT developers on design and automation. Work samples that are not automated can be even more expensive than automated assessments because they involve equipment, facilities and training evaluators to observe and score candidates. At the other extreme, online multiple-choice assessments of innate characteristics can usually be developed independently by testing experts and are highly efficient to administer and score.

The buy-versus-build decision is key for any organization. Should you license standard assessment content or develop and host custom assessments in-house? There are issues of time, cost and convenience to consider in each case.

Some organizations prefer custom assessment content that is uniquely designed and validated for their specific situation and embeds the organization's values, culture and context. Using a custom assessment is most important when the assessment is intended to serve as part of a larger, highly branded hiring experience or as both a job preview and an assessment. Some organizations believe custom assessment provides a competitive advantage and better identifies candidates who are best matched to the organization and job.

After development, custom assessments need to be administered and maintained, which requires ongoing investments in online hosting, maintaining databases of test scores, analyzing and reporting data for decision-making, revising items, and potentially revalidating in the future. If an organization's global assessments have to be adapted for use in different countries, the firm should ensure that the content is adjusted and nuanced so candidates in different cultures can understand it. Effectively managing a custom assessment program...
requires specialized expertise among in-house staff or external expert consultants.

Organizations may choose to use commercially available assessments, which assessment providers can implement quickly and host, update and maintain. Commercial assessments should always come with evidence of assessment quality across organizations. Some commercial assessment providers offer benchmarking data against which organizations can evaluate how their talent stacks up in their industry or geographical area. Some providers have also amassed large volumes of data globally, which allows them to provide localized assessments with appropriate norms. Some providers can also customize products to meet a specific organization’s needs.

In setting up assessment programs, employers should seek the guidance of assessment experts. In many organizations, assessment programs are executed through a combination of in-house staff and external experts or vendors. SHRM provides comprehensive and valuable information about available assessments and related topics through the SHRM Testing Center (shrm.org/testing/).

**Candidate Reactions**

As many organizations move toward candidate-centric hiring, candidates’ reactions have become increasingly important in judging assessments. Candidates who have a positive hiring experience report higher levels of satisfaction and are more likely to recommend a company to others.42

The most critical factors influencing applicants’ reactions boil down to whether they believe the organization provided:

- An overall great candidate experience.
- Helpful information and feedback.
- Assessments relevant to the job.

In general, candidates favor assessments that measure work behavior directly through methods like work samples and simulations rather than multiple-choice tests of abstract concepts. Cognitive assessments tend to be viewed more favorably than personality, integrity and bio data assessments.43 Job candidates view assessment items aimed at diagnosing personality or clinical disorders much less favorably than items that measure job-relevant personality characteristics like conscientiousness and agreeableness.

Candidates want information about the job, the organization and how they are doing in the hiring process, including how they could have performed better—but this is a tricky matter. Employers should provide as much information as is reasonable, but discussing assessment performance in detail can divulge information that could lead to security breaches. And providing in-depth feedback for all candidates would be extremely expensive.

A final topic relevant to candidate reactions concerns views of mobile assessment. Some studies have found no differences in perceived fairness moving from PCs to mobile devices, but others have come to the opposite conclusion.44 Research has shown that satisfaction increases as screen size increases, irrespective of the content. Item types with excessive words were viewed less favorably on mobile devices compared with graphic and image-based items. As mobile technology expands and assessments are designed to take advantage of more mobile features, such as swiping instead of clicking, additional research will be needed to fully understand candidate reactions.

**LEGAL ISSUES**

Human resource professionals who administer assessments should have a basic understanding of the legal issues and requirements that govern their use. In the United States, two pieces of legislation are especially helpful: Uniform Guidelines on Employee Selection Procedures and the Americans with Disabilities Act of 1990 (ADA).

**The Uniform Guidelines** specify requirements for selection systems covered under the Civil Rights Acts and under Executive Order 11246 (see https://www.eeoc.gov/laws/regulations/).
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The Importance of Compliance
Some managers and others within your organization may believe that using informal selection methods instead of formal assessments will avoid legal issues and eliminate the need to comply with federal regulations. This is not the case. If any aspect of the hiring process clearly produces an adverse impact, an organization will be required to demonstrate validity if challenged or audited. In practice, well-developed and validated formal assessments actually help mitigate legal risk and exposure.

If members of your firm view legal requirements as burdensome, let them know that the procedures in the Uniform Guidelines are, in fact, the same procedures an assessment expert would employ if the only goal were to identify the best-qualified candidates for a job. Thus, compliance with legal requirements in this case is synonymous with best practices and will yield the best outcomes for any organization.

Federal Contractors and Subcontractors: Pay Attention to Recent Regulatory Guidelines for Hires with Disabilities
Regulatory guidelines updated in 2013 reflect increased emphasis on hiring individuals with disabilities, and hiring goals are now in place for federal contractors and subcontractors, with stipulations for actions to be taken in the areas of recruitment, training, record-keeping and policy dissemination. The guidelines call for voluntary disclosure from job candidates to self-identify as individuals with disabilities or protected veterans. The guidelines also require workforce surveys to gather this self-reported information. The data are used to create action-oriented programs.

For the full text of the Uniform Guidelines). These requirements address the question of whether a procedure is causing an adverse impact, and if so, which validation requirements should be met before using the procedure. Two documents can assist in applying the Uniform Guidelines:

- The Society for Industrial and Organizational Psychology’s Principles for the Validation and Use of Personnel Selection Procedures (see http://siop.org).

The Americans with Disabilities Act created substantial requirements for providing reasonable accommodations to applicants with disabilities. If a job requires a skill that a person with a disability is unable to perform, an organization is not required to provide reasonable accommodation in assessing that skill. However, if there are ways to accommodate disabilities both on the job and in the assessment process, an organization must do so. Examples of reasonable accommodation include:

- Substituting an oral assessment for a written one.
- Providing extra time to complete an assessment.
- Offering an assessment in Braille.
- Providing items in larger print.
- Providing an interpreter who can communicate items in sign language.

Organizations increasingly are held accountable for ensuring that recruitment and selection processes are fair and accessible, and research is slowly accumulating on the fairness of selection tools and accommodations for people with disabilities. For example, research on longer exam times found that they generally improved the performance of all students, not just those with disabilities.

Several sources offer guidance to help HR professionals understand and meet their responsibilities under the ADA. One of the most comprehensive sources of information is the Job Accommodation Network (see http://askjan.org), maintained by the U.S. Department of Labor, which provides free, expert and confidential guidance on workplace accommodations and disability employment issues.
Validity means that an assessment is job-relevant and useful for predicting performance. Clearly, this is the most important consideration in selecting an assessment.
CONCLUSION

In recent years, technological advances, competitive demands for talent and candidate-centric hiring have created powerful commercial forces that are driving changes in assessment methods. Many organizations are demanding shorter, more engaging candidate experiences and less obtrusive assessment methods to help them target talent. Innovative assessment techniques are also being developed. These factors, coupled with continued technological advancement, will almost certainly lead to revolutionary and rapid changes in the assessment field.

Always remember, however, that the primary criterion for evaluating assessments does not change. Managers and human resource professionals must continue to seek effective assessments that will result in talented candidates with strong performance on the job—employees who bring long-term value to the organization.
The buy-versus-build decision is key for any organization. There are issues of time, cost and convenience to consider in each case.
Sources and Suggested Readings

Job Analysis

This is a user-friendly book about how to conduct a job analysis and use the results. Topics covered include the building blocks of job analysis methods, work (task)-oriented methods; worker knowledge, skills and abilities (KSA) methods; hybrid methods that combine both task and KSA job analysis; job analysis for management jobs and teams; job analysis and the law; doing a job analysis study; and uses of job analysis in job descriptions, performance appraisals, job evaluation, job design, staffing and training.

The author argues that job analysis is the hub of virtually all human resource administration and management activity and necessary for the successful functioning of organizations. The handbook addresses job analysis topics and issues comprehensively, with material relevant to a wide audience of practitioners working in business, industry, labor unions, universities, the military, and federal, state and local governments.

Unproctored and Mobile Assessment

This commentary raises organizational examples and mitigating factors associated with unproctored Internet testing (UIT) in three areas: cheating, ethics and legal concerns. The authors encourage I/O practitioners to execute a research agenda associated with UIT.

This paper examines the criterion-related validity of unproctored assessments. Results generally indicate that assessments administered in proctored and unproctored settings have similar validities.


This study was conducted in partnership with a client organization in the customer service field, with the objective of obtaining empirical support for the organization to deliver its pre-employment tests via mobile devices.


This study demonstrates that the use of mobile and non-mobile devices did not produce any practically significant score differences on assessment across devices or applicant demographic subgroups.


This paper examines the equivalence of mobile Internet testing (MIT) compared with testing on personal computers (PCs) and whether attitudes and other individual differences influence responses and reactions to MIT. Results demonstrated equivalence for a supervisory situational judgment test across testing modes, but not for a cognitive ability test. Respondents reported significantly more positive reactions when tested on a PC versus a mobile device.


This study examined measurement equivalence of mobile Internet testing (MIT) compared with testing on personal computers (PCs) and whether attitudes and other individual differences influence responses and reactions to MIT. Results demonstrated equivalence for a supervisory situational judgment test across testing modes, but not for a cognitive ability test. Respondents reported significantly more positive reactions when tested on a PC versus a mobile device.


The study consisted of 219 individuals who completed five commercially available and previously validated assessments from a large human resource consulting firm across two time points three weeks apart. The authors found relatively small differences in magnitude that were limited to cognitive-type measures.


This study examines the measurement equivalence of online selection assessments delivered on mobile and non-mobile devices. Measurement invariance tests conducted with multigroup confirmatory factor analysis suggest that mobile versions of a cognitive ability-type assessment, two bio data assessments, a multimedia work simulation and a text-based situational judgment
test appear to be equivalent to non-mobile versions. However, mobile device user latent means were half a standard deviation lower than their non-mobile counterparts for the situational judgment test.

Tippins, N. T. (2009). Internet alternatives to traditional proctored testing: Where are we now? Industrial and Organizational Psychology: Perspectives on Science and Practice, 2, 2-10.
This focal article explores Internet alternatives to traditional, proctored testing. It provides a comprehensive review of the definition and history of UIT, the factors that contribute to the rise of UIT and the mitigating factors that pose risks to organizations that use UIT.

COGNITIVE ABILITY TESTS
This article discusses and rebuts seven common arguments that general intelligence (g) is of little or no practical importance in employment and illustrates the effect that differences in intelligence in a workforce may have on the structure and functioning of whole societies.

A review of the research literature indicates that general cognitive ability (GCA) predicts supervisor ratings and training success as well as objective, rigorously content-valid work sample performance. The author argues that the findings from this study support classic learning theory over behaviorist theories of learning and performance.

PERSONALITY ASSESSMENTS
This study examines the validity of five personality measures for predicting performance in five occupational groups (professionals, police, managers, sales, and skilled or semi-skilled). Three different kinds of performance measures were used in this study: job proficiency, training proficiency and personnel data. One of the personality measures—conscientiousness—was consistently related to all three performance measures for all of the occupational groups. Extraversion was a valid predictor for two occupations involving social interaction—managers and sales. Openness to experience and extraversion were valid predictors of the training proficiency criterion. Overall, the results illustrate the benefits of using the five-factor model of personality in assessment research.

The authors investigated the roles of general cognitive ability (g) and specific abilities or knowledge (s) as predictors of work sample job performance criteria in seven jobs for U.S. Air Force enlistees. Analyses reveal that g was the best predictor and that s added a statistically significant but practically small amount to this prediction.

A considerable number of research studies have shown support for a five-factor model of personality traits. These include conscientiousness, extraversion, agreeableness, openness to experience and emotional stability. The claim that these factors represent the basic dimensions of personality is
based on four lines of reasoning: Longitudinal and cross-observer studies have demonstrated that all five factors are enduring dispositions that are manifested in patterns of behavior; traits related to each of the factors have been found in a variety of personality systems and in the natural language of trait description; the factors have been found in different age, sex, race and language groups, although they may be somewhat differently expressed in different cultures; and evidence of heritability has suggested that all have some biological basis.


This article describes the Personality-Related Position Requirements Form (PPRF), a job analysis form used in making hypotheses about what personality predictors will be relevant for predicting performance in different jobs. The Big Five personality factors provided an organizing framework for the PPRF. Subsequent development resulted in identifying 12 specific sets of items for facets of each of the Big Five.


This study examines past research to a) assess the overall validity of personality measures as predictors of job performance; b) investigate moderating effects of several study characteristics on personality scale validity; and c) investigate the predictability of job performance as a function of eight personality measures: neuroticism, extraversion, openness, agreeableness, conscientiousness, locus of control, Type A and miscellaneous. Consistent with predictions, studies using confirmatory research strategies produced corrected mean personality scale validity that was more than twice as high as that based on studies adopting exploratory strategies.

An even higher mean validity was obtained based on studies using job analysis explicitly in selection of personality measures.

**BIO DATA TESTS**


This study describes the development of the "accomplishment record" method, which resulted in self-reported descriptions of accomplishments in areas that were highly relevant for making selection or promotion decisions. The accomplishments were reliably rated using specially prepared rating scales and guidelines. To test the validity of the accomplishment record method, 329 attorneys prepared accomplishment records according to specified instructions and also completed a battery of more typical assessment methods. Scores on the accomplishment record inventory were unrelated to the traditional assessment measures (e.g., aptitude tests, grades and honors), but they correlated with job performance. The accomplishment record had also been found to correlate with self-perceptions of success, hard work and self-assurance and with the length of time spent practicing a profession.

The authors used a content-oriented validation strategy to develop three alternative selection inventories that were designed to reflect the job content of positions held by attorneys employed with a large federal agency. These inventories and three traditional assessment methods were completed by 329 agency attorneys as part of a concurrent validation study. Criterion-related validities of two traditional inventories (a background inventory and an interest and opinion inventory) and one alternative inventory (an accomplishment record inventory) were statistically and practically significant.


This paper presents an attempt to use different types of biographical data scales in a concurrent validation to predict service orientation. Several types of scales showed positive validity results with the performance measures. The results were promising in terms of both the prediction and understanding of customer service orientation.


This book is a comprehensive reference that provides information for understanding and using biographical data in selection in the public and private sectors (including selection of blue-collar and federal government employees and work team members), career counseling and development, and job classification.

INTEGRITY TESTS


This article describes two independent reports, completed by the American Psychological Association (APA) and the U.S. Congress Office of Technology Assessment, that examined scientific and measurement issues concerning integrity testing. Data were presented on a variety of tests collected by surveying test publishers. The survey data provided a view of the industry’s scope (e.g., test audience, user screening, score reporting) that was not available elsewhere. The article also addresses unresolved issues regarding integrity testing.


This report presents the findings of an APA task force that was appointed to review available commercial tests used for the purpose of assessing the honesty and integrity of prospective employees. The report focuses exclusively on commercially published instruments used for pre-employment selection decisions about the trustworthiness of job applicants.


The authors conducted a comprehensive examination of the validity of integrity tests based on 665 validity coefficients. Results indicated that integrity test validities were substantial for predicting job performance and counterproductive behaviors on the job, such as theft, disciplinary problems and absenteeism. Results of validity studies conducted on applicants using external performance measures (i.e., excluding self-reports) indicated that integrity tests predicted the broad criterion of organizationally disruptive behaviors better than they predicted employee theft alone. The authors concluded that integrity test validities were positive across situations and settings.


This article reviews journal articles, books, book chapters, law review articles, convention papers and dissertations regarding integrity testing for personnel selection.
Developments include an examination of professional and congressional inquiry into this area of testing, rapid growth of the validity database, new insight into similarities and differences between different tests, and links to the Big Five personality dimensions. Inquiries into relationships with other constructs are reviewed, as are applicant reactions to these tests.

**STRUCTURED INTERVIEWS**


This article reviews the research literature on the many ways selection interviews can be structured. Fifteen components of structure were identified that may enhance either the content or the evaluation process of the interview. The authors conclude that interviews could be easily enhanced by using the various components of structure. They recommend that improvement of this popular selection procedure be a high priority for future research and practice.


This article proposes an employee-interviewing technique that includes the following steps: 1) develop questions based on a job analysis; 2) ask the same questions of each candidate; 3) use examples and illustrations; 4) have a panel record and rate answers; 5) administer the process to all candidates; and 6) emphasize job relatedness, fairness and documentation. When the interview was used to hire 149 entry-level production employees, it revealed high interrogator reliability and predictive validity as well as evidence for test fairness and utility.

**PHYSICAL FITNESS AND PHYSICAL ABILITIES TESTS**


This article examines six studies in which isometric strength tests were used as part of selection procedures. The study focuses on the relationship between performance on four isometric strength tests and both supervisory ratings of physical performance and performance on work simulations. Results indicate that isometric strength tests were valid predictors of both types of performance measures across all of the jobs examined.


This review article argues that improvements in personnel selection systems for physically demanding jobs are needed due to EEO considerations, concern for worker physical well-being and the lack of alternative procedures.
Choosing Effective Talent Assessments to Strengthen Your Organization


This chapter identifies factors that affect the ability to perform in the workplace, including physiological responses, training, ability and injury, and workload. It reviews procedures and methods for designing personnel selection systems for physically demanding jobs and emphasizes the unique physical ability content of job analyses, performance measures and assessments. In addition, the chapter argues that the need to improve development and implementation of fair physical ability selection procedures and the need to understand the relationship between physical performance and other organizational effectiveness outcomes are important issues for future research.

SITUATIONAL JUDGMENT TESTS


This study examines the effects of race, reading comprehension, method of assessment, face validity perceptions and performance on a situational judgment test. The situational judgment test was administered via a videotape and via a paper-and-pencil instrument. The results show that the racial differences in situational judgment test performance and face validity reactions to the test were substantially smaller with the video-based method of testing compared with the paper-and-pencil method.


From critical-incident analysis and judgments by subject-matter experts, a low-fidelity simulation was developed for selecting entry-level managers in the telecommunications industry. The simulation presented applicants with descriptions of work situations and five alternative responses for each situation. It asked them to select one response they would most likely make and one they would least likely make in addressing each situation. The results show that samples of hypothetical work behavior can predict performance, without the props, equipment or role players often required by high-fidelity simulations, such as work-sample tests or assessment centers.


Using three different samples, the authors assess the increases in the validity produced by situational judgment inventories (SJIs), relative to job knowledge, cognitive ability, job experience and conscientiousness, in the prediction of job performance. The SJI was a valid predictor in three samples and produced substantial increases in validity in two samples. Relative to the other predictors, SJIs’ correlation with performance, controlling for the other predictors, was superior in most comparisons. The authors concluded that the SJI should prove to be a valuable additional measure in the prediction of job performance, but they also suggested several additional areas of research.

WORK SAMPLE TESTS


This study reviews the validity evidence for a wide sample of motor and verbal work sample tests, which were designed to measure on-the-job behaviors. Motor tests were shown to have higher validities than verbal tests when job proficiency was the performance measure, but this pattern was reversed when success in training was the performance measure. These validities were somewhat lower than those for biographical information but higher than those for other predictors.


This paper examines the validity of assessment centers across
a large number of studies. Higher validities were found in studies in which ratings of potential were the performance measures, and lower validities were found in studies in which the assessment center was used to make promotion decisions. The authors also found that the validities were higher when a) the percentage of females who were being assessed was high, b) when several evaluation devices were used, c) when assessors were psychologists rather than managers, d) when peer evaluation was used, and e) when the study was methodologically sound.

Howard, A. (1983). Work samples and simulations in competency evaluation. *Professional Psychology: Research and Practice, 14*, 780-796. This article argues that the evaluation of professional competence in psychology—by licensing boards, the American Board of Professional Psychology or other boards—has not taken full advantage of expertise in psychological measurement within the profession. The advantages and disadvantages of work samples and simulations for such purposes are discussed and compared with those of paper-and-pencil tests. Examples from various professions and from psychological research in personnel selection are presented. A comparison of work samples with simulations shows greater advantages for the latter, but a combination of exercises in an assessment center model is recommended.

Thornton, G. C., III (1992). *Assessment centers in human resources management*. Boston, MA: Addison-Wesley. While assessment centers have been used for numerous human resource management functions, all assessment centers are not alike. This book shows how assessment for managerial selection/promotion, diagnosis of managerial training needs and team building among managerial groups are done differently. The author also shows how the assessed dimensions, observations and participant feedback all must be tailored to the specific application of the assessment center method.


**ADVERSE IMPACT**

Roth, P. L., Bevier, C. A., Bobko, P., Switzer, F. S., & Tyler, P. (2001). Ethnic group differences in cognitive ability in employment and educational settings: A meta-analysis. *Personnel Psychology, 54*, 297-330. The authors conducted a meta-analytic review on factors underlying the one standard deviation effect size difference observed in previous research for Black-White differences for college application tests (e.g., SAT) and overall analyses of tests of g for job applicants in corporate settings. They determined that the one standard deviation summary of group differences fails to capture many of the complexities in estimating ethnic group differences in employment settings.

Sackett, P. R., & Ellingson, J. E. (1997). The effects of forming multi-predictor composites on group differences and adverse impact. *Personnel Psychology, 50*, 707-721. It is commonly assumed that including predictors that demonstrate smaller group differences with others that demonstrate larger group differences will help alleviate the adverse impact observed. The purpose of this paper was to answer the question, “If two or more predictors that have smaller and larger group differences are combined, what will be the magnitude of group differences and, consequently, of adverse impact?” A number of conclusions were drawn that clarified the extent to which combining
predictors with smaller and larger group differences affected subsequent adverse impact.


Cognitively loaded tests of knowledge, skill and ability often contribute to decisions regarding education, jobs, licensure or certification. Users of such tests often face difficult choices when trying to maximize both the performance and ethnic diversity of chosen individuals. The authors describe the nature of this quandary, review research on different strategies to address it and recommend using selection materials that assess the full range of relevant attributes using a format that minimizes verbal content as much as is consistent with the outcome one is trying to achieve. Regardless of the strategy adopted, however, they suggest that it is unreasonable to expect that one can maximize both the performance and ethnic diversity of selected individuals.


This study examines the effects of selection process variables on employee performance and on minority hiring. The authors look at how selection rules that did and did not include within-group norming fared in terms of tradeoffs between performance and minority representation. The results showed that the preferred strategy depended on the relative value the organization placed on performance versus minority representation. Results also showed that the effects of different screen-then-select selection strategies varied as a result of the selection ratios at the screening and selection stages, thus precluding simple conclusions about the merits of each selection strategy.

APPLICANT REACTIONS


This study uses a justice framework to examine reactions of candidates for an entry-level accounting job at three time periods: before testing, after testing but before feedback on whether they passed or failed the test, and after-test performance feedback. Several procedural justice measures (information known about the test, chance to perform, treatment at the test site, consistency of the test administration and job relatedness) predicted applicant evaluations regarding the organization, perceptions of employment testing and applicant test-taking self-efficacy. Test outcome favorability (passing or failing the employment test) predicted outcomes beyond initial reactions more consistently than procedural justice perceptions. Procedural justice perceptions explained incremental variance in some analyses after the influence of outcome favorability was controlled.


Applicant reactions to selection procedures were examined in terms of the satisfaction and/or violation of 10 procedural justice rules. The author first collected 237 critical incidents describing fair and unfair treatment during selection processes from 31 individuals who had recently participated in job search and hiring. The critical incidents were categorized into 10 procedural justice rules, and the distribution of these incidents was examined for different hiring outcomes and different selection procedures. The most common procedural concerns reflected selection procedure job relatedness and the interpersonal treatment applicants had received.


An updated theoretical model of applicant reactions to selection procedures is proposed and tested in this article. Results indicate that applicants who held positive perceptions about selection were more likely to
view the organization favorably and report stronger intentions to accept job offers and recommend the employer to others. The average correlation between applicant perceptions and gender, age and ethnic background was near zero. Face validity and perceived predictive validity were strong predictors of many applicant perceptions, including procedural justice, distributive justice, attitudes toward tests and attitudes toward selection. Interviews and work samples were perceived more favorably than cognitive ability tests, which were perceived more favorably than personality inventories, honesty tests, bio data and graphology.

Ryan, A. M., Greguras, G. J., & Ployhart, R. E. (1996). Perceived job relatedness of physical ability testing for firefighters: Variations in reactions. Human Performance, 9, 219-240. This research explores perceptions of physical abilities testing by examining the perceived job relatedness of physical abilities tests. Experience, self-efficacy and consistency of test administration were found to be related to perceptions of job relevance.

Smitther, J. W., Reilly, R. R., Millsap, R. E., Pearlman, K., & Stoffey, R. (1993). Applicant reactions to selection procedures. Personnel Psychology, 46, 49-76. The premise of this research is that applicant reactions to selection procedures may be of practical importance to organizations’ attractiveness to candidates and to selection procedure validity and utility. In part one of this two-part study, 110 newly hired entry-level managers and 44 recruiting-employment managers judged simulations, interviews and cognitive tests with relatively concrete item types (such as vocabulary, standard written English and mathematical word problems) as significantly more job-related than personality, bio data and cognitive tests with relatively abstract item types (such as quantitative comparisons and letter sets). A measure of new managers’ cognitive abilities was positively correlated with the managers’ perceptions of the job relatedness of selection procedures. In part two, the reactions of 460 applicants to a range of entry-level to professional civil service examinations were found to be positively related to procedural and distributive justice perceptions and willingness to recommend the employer to others.

AMERICANS WITH DISABILITIES ACT


Eyde, L. D., Nester, M. A., Heaton, S. M., & Nelson, A. V. (1994). Guide for administering written employment examinations to persons with disabilities. Washington, DC: U.S. Office of Personnel Management. This paper provides guidance for administering written examinations to persons with disabilities. It also includes information on legal requirements for reasonable accommodations and offers detailed guidelines for testing applicants who are deaf or hard of hearing or who have vision or motor impairments. The paper includes a checklist for physical accessibility of test sites and information on effective personal interactions with persons with disabilities.

written questions (e.g., about the existence of a disability, about ability to perform job-related functions), and specific requests (e.g., how the applicant would perform job-related functions with or without reasonable accommodation).

**LEGAL GUIDANCE**


This article discusses the American Psychological Association’s Standards for Educational and Psychological Testing. It discusses issues surrounding the enforcement of the standards as well as the possibility of developing more specific standards.


This document outlines principles adopted by the Society for Industrial and Organizational Psychology (SIOP) of the American Psychological Association for the validation and use of personnel selection and assessment procedures, including performance appraisal. The principles specify SIOP policy on conducting validation research using principles of good practice in the choice, development and evaluation of personnel selection procedures.

**GENERAL REFERENCES**


In this chapter, the authors argue that selection criteria should embrace a domain of organizational behavior broader than just technical task performance. Specifically, performance measures should be expanded to also include contextual activities, such as helping co-workers when needed and putting in extra effort to get the job done.


The authors examine a large number (147,328) of correlations from published research in applied psychology reported in two top-tier journals (*Journal of Applied Psychology and Personnel Psychology*) from 1980 to 2010 to produce empirical effect size benchmarks for 20 common research domains. Results indicate that the usual interpretation and classification of effect sizes in statistical methods books as small, medium and large bear almost no resemblance to findings in the field.


This book is a guide to power analysis in research planning that provides users of applied statistics with the tools they need for more effective analysis.


The authors use Monte Carlo simulation to explore the trade-off between expected mean performance and minority hiring in multistage selection strategies and to identify those strategies most effective in balancing the trade-off. The results show that an increase in minority hiring was associated with a decrease in predicted performance for many scenarios, although the results also show that certain multistage strategies are much more effective than others for managing the performance and adverse impact trade-offs.


McHenry, J. J., Hough, L. M., Toquam, J. L., Hanson, M. A., & Ashworth, S. A. (1990). *Project A validation results: The relationships between predictor and criterion domains*. *Personnel Psychology, 43*, 335-353. In this study, a predictor battery of cognitive ability, perceptual-psychomotor ability, temperament/personality, interest and job outcome preference measures was administered to enlisted soldiers in nine Army occupations. Scores from the cognitive and perceptual-psychomotor ability tests provided the best prediction of job-specific and general technical task proficiency, whereas the temperament/personality measures best predicted giving extra effort, supporting peers and exhibiting personal discipline. Scores from the interest inventory correlated more highly with technical task proficiency than with demonstrating effort and peer support.


Potosky, D., & Bobko, P. (2004). *Selection testing via the Internet: Practical considerations and exploratory empirical findings*. *Personnel Psychology, 57*, 1003-1034. This article presents equivalence information and practical lessons concerning selection testing via the Internet. The authors identify several issues associated with measurement and validity, the role of individual characteristics, respondents’ reactions and behaviors, and other considerations regarding Internet test administration. They also report results from an exploratory study of the correlation between paper-and-pencil and Internet-administered cognitively oriented selection tests (including timed and untimed, proctored tests).

Ryan, A. M., & Tippins, N. T. (2004). *Attracting and selecting: What psychological research tells us*. *Human Resource Management, 43*, 305-318. This article reviews research on which selection tools work, which recruitment strategies work, how selection-tool use relates to workforce diversity, and which staffing and recruiting processes lead to positive applicant perceptions. The goal is to assist the reader not only in understanding the present gaps between research and practice in recruitment and selection but also in developing skills for employing research in HR practice.

Rynes, S. L., Colbert, A. E., & Brown, K. G. (2002). *HR professionals’ beliefs about effective human resources practices: Correspondence between research and practice*. *Human Resource Management, 41*, 149-174. In this study, 5,000 human resource professionals were surveyed regarding the extent to which they agreed with various HR research findings. Responses suggested that large discrepancies existed between research findings and practitioners’ beliefs in some areas, especially staffing. In particular, practitioners placed far less faith in intelligence and personality tests as predictors of employee performance than HR research would recommend.

will receive increasing attention in the years ahead. The book examines specific topics such as recruitment and retention, structured-versus-unstructured interviews, the ethics and effectiveness of computerized psychological testing, perceptions of selection fairness, productivity, turnover, and absenteeism.


This article summarizes the practical and theoretical implications of 85 years of research in personnel selection. It presents the validity of 19 selection procedures for predicting job and training performance and the validity of paired combinations of general mental ability (GMA) and the 18 other selection procedures.
Technology will continue to spark revolutionary changes in assessment methods and practices.
Choosing Effective Talent Assessments to Strengthen Your Organization

ENDNOTES

1. CEB. (2016). Competing for critical talent [Webinar].
2. CEB. (2012). Q4 global labor market survey.
9. Tippins, N. T. (2009). Internet alternatives to traditional proctored testing: Where are we now? Industrial and Organizational Psychology: Perspectives on Science and Practice, 2, 2-10
10. Ibid.


14. Ibid.


23. Ibid.


39. Ibid.


41. Ibid.


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