

MEASURING WORK BEHAVIORS THROUGH TESTING

Effective work behavior tests are created by psychologists following a rigorous process of strict scientific and statistical procedures. This process allows PSP's work behavior testing to be a key component for predicting successful job performance.

The objectivity and the reliability of employment testing are possible because the same conditions are provided for each person and the tests are not influenced by potentially biasing characteristics of candidates. Unlike human evaluators, tests do not have good days or bad days that may negatively influence the evaluation. Tests also are not influenced by typical interview errors such as halo effects or the responses of the previous candidate.

The research data shows that most interviewers make up their mind about a candidate within the first two minutes, well before most candidates could realistically have an opportunity to be accurately evaluated even by the most skilled interviewers.

How Psychologists Create Work Behavior Tests

The creation of work behavior tests follows a rigorous scientific and statistical process that includes content selection, factor analysis and empirical criteria rating. In content selection, a series of items is selected based on relevant behavioral content. For example, a test that measures extroversion will often, but not always, be expressed in content that would be perceived to measure such behavior, such as questions about enjoyment of social events. However, it is important that not all of the questions "telegraph" the work behavior being tested.

Initially, more items than necessary are created and later, through statistical analysis, weaker items—in terms of predictive power—are eliminated. Through factor analysis, individual items are grouped into relatively homogeneous and independent scales measuring a specific behavior.

It is important to understand the contribution of empirical criteria rating that allows psychologists to statistically select items based

on specific scoring weights that predict a particular behavior. Typically, a single scale measuring a specific behavioral attribute, such as energy and drive, will contain as many as 40 individual test items that have been selected through this

rigorous statistical process. A more complicated behavioral construct, such as leadership, will require the use of several scales on the work behavior test that may involve as many as 100 or more test items.

Empirical criteria rating allows psychologists to use items that do not appear on their face to be measuring a characteristic, yet can be established scientifically and statistically to be predictive of specific behaviors. This helps to prevent falsification in behavior testing and allows it to measure what candidates will actually do, which often differs from what they say they will do. Falsification scales are also established using empirical criteria rating to detect an individual's attempt to answer items in an effort to create a favorable impression.

Psychologists can verify the predictive power of test items by determining how candidates are rated on another established measure of that particular behavior (criterion validity). Through the use of independent outside measures of behavior, test items and individual scales are further validated. An example of this is the energy and drive scale, which highly correlates with how long it takes most individuals to complete the testing process—that is, measuring and relating a candidate's work pace to his score on the energy and drive scale. Thus, the higher a candidate scores on the energy and drive scale, the faster he will complete the test.

Uses of PSP's Databases for Individual Positions

In all cases, PSP compares an individual candidate with a benchmark. The use of these benchmarks, or norms, allows us to compare someone in sales with other people in sales who have demonstrated success in that role. The same goes for an engineer, an accountant, a supervisor or a manager. As PSP has been in business for 60 years, we have an extensive



database of occupations that is kept up-to-date through our regular research and benchmarking process.

Research Validation

PSP has conducted hundreds of empirical research validation studies on different jobs ranging from hourly production, sales and engineering to financial positions, supervisors, managers, executives, etc. In all cases, we obtained performance data and conducted statistical analysis comparing more successful with less successful individuals tested. Through these research studies, PSP has been able to determine key factors for success in specific jobs, such as energy/drive for successful outside sales representatives and administrative orientation for inside sales personnel. (See "Hiring Accuracy: A Case Study" by Stephen L. Guinn in *HR Focus*, September 1993, p. 15, published by the American Management Association.)

How Behavioral Testing Solves Many Problems That Occur in the Interview

Often candidates arrive at the interview with "halo effects." Some are relatives or friends of staff members. Some have prestigious degrees or experience. In addition, some are more articulate and are better communicators than others. Many have had coaching and practice interviewing. Others have had professional help writing their resumes. At least 25 percent have a sizeable number of inaccuracies on their resumes. Combine this with the fact that some interviewers are more perceptive and stronger in their interview skills than others, and it is easy to see why interviewing alone is not highly effective in predicting job success.

PSP recommends that testing be part of a total selection process that includes reference checking and behavioral interviewing techniques. When all three processes concur in indicating potential success, the individual has a much higher likelihood of job success.

In most cases, testing works best when it is conducted early in the application process, after the first round of interviews but before the final interviews and reference checking. It's important to "sell" the testing process as an integral part of your employee selection program, stating that the testing will help both the company and the candidate to make the best decision.

Behavioral testing has seen a resurgence in popularity in recent years due to the changing nature of organizational dynamics, with greater emphasis on teams, lean management, customer service and public relations, greater diversity, and a higher regard for such behavioral characteristics as emotional intelligence, communication and facilitative leadership skills. These important work behaviors are difficult to measure in an interview or with references. Yet candidates most often fail because of poor work behaviors in these and other areas.

Work Behaviors Are Most Accurately Measured in Behavioral Testing

No system is completely foolproof. Predicting the behavior of individuals is a highly complex and difficult task. Research

HIRING ACCURACY: A Case Study

The Elliott Company, a producer of turbo machinery, was undergoing a plant expansion in 1989. The company employs operators of very complex machinery who must perform work at exacting tolerances and meet world competitive standards, such as ISO 9000. In order to use testing for selecting new plant workers, an analysis of the key skills and attributes on the job was conducted, along with a validation study of existing plant workers.

In the validation study, existing workers were tested in the areas of intellectual abilities, career interest patterns and behavioral attributes to establish benchmarks for the more successful machine operators within the company. The validation study showed that testing could predict the more successful workers and, therefore, demonstrate a business necessity.

The resulting hiring decisions were exceptionally accurate: only 4 of the 195 machine operators hired failed to meet performance standards during the first 60 days of the company's probationary period. This case showed how testing, when integrated into a recruitment program that included interview and background/reference checks, can yield an outstanding rate of hiring accuracy. (From "Gain Competitive Advantage Through Employment Testing" in *HR Focus*, September 1993.)

studies have shown that work behaviors are most accurately measured in behavioral testing and that these measures are strongly related to success in employment. It is important, however, to understand that behavior testing is a tool and not an end in itself. It is a tool that facilitates decision making, and like any tool, the quality of its construction and the way it is used are critical to achieving the desired results. One must recognize that not all behavioral testing in the marketplace is as well researched or follows the rigorous scientific and statistical processes outlined in this document.

What often gets lost in discussions about behavior testing is that interviewers make judgments and draw conclusions about the very same work behaviors, using first impressions, partial information, bias, preconceived ideas, etc., with very low predictive accuracy.

Most managers recognize that selecting and promoting people are among the most important and most difficult decisions for the success of their organization. Behavioral testing is a tool that allows managers to make more informed decisions and be better prepared for the coaching and support required to help employees succeed on the job.

For further information:

"Gain Competitive Advantage Through Employment Testing" by Stephen L. Guinn in *HR Focus*, September 1993, published by the American Management Association. (Copies of this article are available upon request from PSP.)