

## Research Proves that CritiCall® is a *Strong Predictor* of Job Success!

*A research study known as a “criterion validation” was recently performed, the results of which show a very strong relationship between scores on the CritiCall tests and job performance in a dispatch environment.*

### **Introduction**

CritiCall Pre-Employment Testing Software includes a series of work-sample tests designed to measure a job applicant’s ability to successfully perform many of the work functions they would be required to perform on the job (measuring abilities required prior to their receiving any training or experience on the job).

### **Criterion Validation Study**

In 2013, Biddle Consulting Group, Inc. (BCG) facilitated a criterion-related validation study designed to address Section 15B of the federal [Uniform Guidelines on Employee Selection Procedures](#) in order to determine the strength of the relationship between overall CritiCall test performance and overall dispatcher job performance for the Florida Highway Patrol (FHP).

During that study, test scores were collected from 62 incumbent dispatcher employees of the Florida Highway Patrol’s district office in Jacksonville, Florida. Supervisor ratings of those same employees’ job performance were also collected and the two were correlated to reveal the strength of any existing relationships between them.

### **Review of Job Information**

In 2010, Biddle Consulting Group, Inc., conducted a national dispatcher job analysis study, which collected data from more than 75 PSAPs from around the United States and Canada. A review of FHP dispatchers revealed that the major work behaviors they perform are *extremely similar* to the major work behaviors performed by employees at other PSAPs around the US and Canada.

### **Participating Employee Description**

The 62 incumbent dispatchers and calltakers who participated in the study were diverse in terms of their race/ethnicity, gender, and age. The actual counts for each are shown in the full criterion-related validation report.

### **Criterion Measure – Job Performance**

The criterion used during the current study was an overall rating of job performance by FHP employees’ supervisors. The steps that were taken to help ensure that the criterion measures would be free from factors which would unfairly influence the ratings are shown in the full criterion-related validation report.

### **Description of the Test (Predictor)**

The CritiCall overall composite score was based on the weighted scores from 12 sub-tests contained within the CritiCall AutoTest Code used by the FHP. Scores were captured using three different metrics: Keystrokes-per-Hour (KPH), Words-per-Minute (WPM), and percentage scores (%). The weights used for computing the overall score was 20% WPM, 40% KPH, and 40% percentage scores. The list of sub-tests included in the CritiCall test version that the test takers took can be found in the full criterion-related validation report.

### **Test Reliability**

The overall reliability of the CritiCall test as used by the Florida Highway Patrol was  $r_{xx} = 0.92$ . The United States Department of Labor’s **General Guidelines for Interpreting Reliability Coefficients** in their publication *Testing and Assessment: An Employer’s Guide to Good*



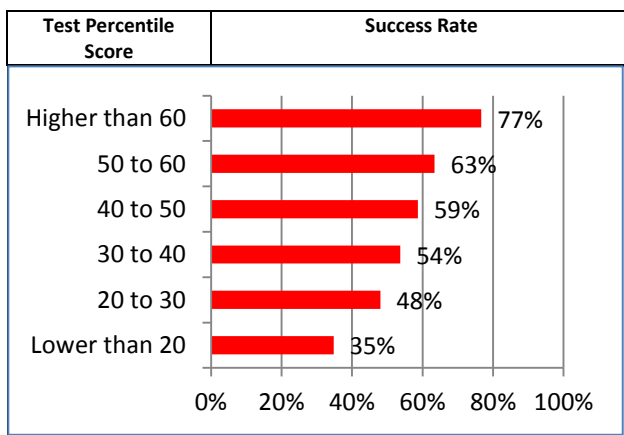
Practices (2000) indicates that test reliabilities of .90 and higher are interpreted as being *excellent*.

**Validity: Relationship of Test Scores to Job Performance**

The uncorrected validity coefficient (correlation) between composite CritiCall test performance and overall job performance as rated by the employees’ supervisors was  $r_{xy} = 0.41$  ( $n = 61, p < 0.01$ ). The U. S. Department of Labor (2000) classifies a validity coefficient of this strength to be “very beneficial” (its highest rating description). When corrected for unreliability of the criteria (i.e.,  $r_{yy} = 0.88$ ), the relationship was  $r_{xy} = 0.44$ .

**Uses and Applications**

The findings of the current study determined that higher composite CritiCall test scores are related to the likelihood that the test taker would be successful on the job, if hired. For example, let us assume that 60% of test takers would be successful on the job if there were no pre-employment screening devices used during the selection process. As can be seen in the table below, when using the 60% assumption, more than 76% of the test takers whose composite percentile score is higher than 60 on the CritiCall test would likely be successful if hired, whereas only 35% of test takers whose percentile score is lower than 20 on the test would likely be successful.



In other words, using the CritiCall composite test scores for identifying the most qualified applicants can result in PSAPs selecting employees who are dramatically more likely to be successful at performing their job, even if 60% of the test takers are likely to be successful if no tests were given.

**Transportation of Validity to other PSAPs**

The federal Uniform Guidelines allows criteria-related evidence of validity from one employer to be acceptable for demonstrating the validity of testing for a similar position at another employer, as long as the major work behaviors performed by employees at both organizations are substantially the same (see Section 7B). BCG will work with PSAPs that wish to determine whether their major work behaviors are sufficiently similar to allow for the transportation of the validity of composite test scores to job(s) performed at their PSAP.

**For More Information**

To receive additional information, or to receive a complimentary copy of the Measures of the full criterion-related validation report, contact:

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Notes: A criterion-related validation study designed to address 15B of the federal Uniform Guidelines for Employee Selection Procedures was conducted in 2013 using dispatchers and calltakers from the Florida Highway Patrol. The uncorrected validity coefficient of the relationship between overall CritiCall test performance to supervisors’ ratings of overall job performance was  $r_{xy} = 0.41$  ( $n = 61, p < 0.01$ ), which the United States Department of Labor classifies as “very beneficial.”

The validity coefficient corrected for the reliability of the criterion was  $r_{xy} = 0.44$ . An expectancy analysis revealed that the likelihood of success on the job increased from 37% (when using the lowest band of scores) to 75% (which using the top band of scores), when the assumption is made that 60% of test takers would succeed on the job if testing was not performed.