

**Prestigious Scientific Journal Addresses Common  
Misconceptions Regarding Cognitive Ability Testing**

By David W. Arnold, Ph.D., J.D.



White Papers



## COMMON MISCONCEPTIONS REGARDING COGNITIVE ABILITY TESTING

### Prestigious Scientific Journal Addresses Common Misconceptions Regarding Cognitive Ability Testing

#### INTRODUCTION

The *American Psychologist* is the official journal of the American Psychological Association (“APA”). According to the APA, the *American Psychologist* is the authoritative source for substantive and feature articles advancing the field of psychology.

In the May-June 2008 edition of the *American Psychologist* an article entitled “High-Stakes Testing in Higher Education and Employment” was published.

According to the authors, this article was published in response to the extensive number of myths and unsubstantiated criticisms that surround the use of cognitive ability tests. The authors note that much of this criticism is found in the popular press rather than scientific literature, and they argue that much of this criticism is unjustified and contrary to research findings. This paper summarizes the aforementioned article and its findings with respect to the use of cognitive ability assessments in the employment domain.

Specifically, the *American Psychologist* article addresses the five following misconceptions regarding cognitive ability tests:

#### MYTH 1: COGNITIVE ABILITY TESTS DON'T PREDICT WELL.

According to the article, one of the most common assertions in criticizing tests is that they don't predict well, if at

all. In determining the veracity of such an assertion, the authors reviewed some very large-scale studies that appear in the professional literature. In doing so, they found that large scale research consistently yielded favorable results with respect to the effectiveness of cognitive ability tests. For instance, the authors determined that when they took a combined look at studies involving 1.1 million job applicants, the research showed a sizable relationship between individual cognitive ability and the acquisition of job skills through training. Additionally, when looking at the effectiveness of these tests at predicting job performance with studies involving 300,000 job applicants, the authors determined that the performance of these assessments was “quite strong.”

#### MYTH 2: COGNITIVE ABILITY TESTS ARE ONLY PREDICTIVE OF INITIAL WORK PERFORMANCE.

Another criticism commonly levied by test critics is that they only predict performance in the early stages of employment. In reviewing the relevant research, the authors found that there is “strong” evidence that the predictive power of cognitive ability tests extends well beyond the short-term. This conclusion was based on large-scale research exemplified by a study that tracked employees' performance over the course of ten years. Here the researchers determined that across various occupations “...test validity was relatively constant through the 10-year period.”



## COMMON MISCONCEPTIONS REGARDING COGNITIVE ABILITY TESTING

### **MYTH 3: COGNITIVE ABILITY TESTS ARE NOT EFFECTIVE PREDICTORS OF THE ENTIRE SPECTRUM OF WORK BEHAVIOR.**

Critics also attack the use of cognitive ability tests because they are not effective predictors of some aspects of work behavior (e.g., integrity, drug use, reliability). Here the authors acknowledge the veracity of the assumption that these tests do not tap into all aspects of workplace behavior. The authors further note that employee selection systems are typically multi-faceted, often including background checks, drug tests, interviews, application blanks, assessment centers as well as testing. The article states that “There is no reason to expect all aspects of the selection system to be related to all criteria.”

### **MYTH 4: THE EFFECTIVENESS OF COGNITIVE ABILITY TESTS IS LIMITED TO VERY LOW ABILITY LEVELS.**

Another common criticism levied against cognitive ability tests is that they are only useful in screening out applicants with very low ability levels. Thus, it is generally not appropriate to prefer higher-scoring individuals over lower-scoring individuals once a minimal score has been achieved. In addressing this issue, the authors looked at 174 studies involving about 36,000 individuals. Based on this review, they concluded that there is strong evidence that higher test scores are commonly associated with higher levels of job performance throughout the range of test scores.

### **MYTH 5: COGNITIVE ABILITY TESTS ARE NOT FAIR TO RACIAL MINORITIES.**

A final criticism addressed in this paper that was discussed in the article is whether cognitive ability tests are fair. That is, does a specific test score have the same meaning regardless of subgroup membership (e.g., race) or will employees who perform a job at the same level tend to earn the same test score even when they are from different subgroups? In their review, the authors indicated that there is extensive evidence bearing upon this issue, which indicates that cognitive ability tests are not biased regardless of an individual’s racial subgroup status.

### **CONCLUSION**

While this paper does not provide an exhaustive discussion of the issues included in the *American Psychologist* article, it addresses some of the more common misconceptions about the use of cognitive ability testing in the workplace. As indicated by the authors, and contrary to articles periodically found in the popular press, cognitive ability assessments are generally valid for their intended purposes and typically do not exhibit bias against minority group members. This also helps to explain the extensive use of such instruments by organizations that truly understand the technical and scientific support upon which these assessments are based.

*If you have any questions or would like further information regarding this paper, please contact Wonderlic’s General Counsel (David Arnold).*