

## Abstract

# A META-ANALYSIS OF INFORMATION PROCESSING MEASURES OF INTELLIGENCE, PERFORMANCE, AND GROUP SCORE DIFFERENCES

by

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Intelligence is one of the most studied constructs in industrial-organizational (I-O) and educational psychology. Findings from numerous studies and meta-analyses have consistently demonstrated the power of intelligence measures to predict performance across a wide range of domains. This research has been fruitful and provides strong evidence for the importance of intelligence measures in organizations and schools. However, while intelligence measures have been developed and applied for over a century, most research in I-O psychology has relied on operationalizations of intelligence that focus on a person's knowledge. Meta-theories of intelligence propose that intelligence can simultaneously be conceptualized as a person's ability to process information. From this perspective, intelligence is not just what a person knows but also a person's ability to maintain, learn, and use information to reason. Approaching intelligence as information processing offers unique opportunities for assessing intelligence that may explain additional variance in workplace outcomes in conjunction with commonly used intelligence measures. Furthermore, theory and early data suggests information processing measures may reduce group score differences typically reported with other types of intelligence measures. For these reasons, it is important to understand the existing literature on information processing measures. The current study offers insight into the utility of information processing measures in applied settings through a meta-analytic design. Samples examining information processing measures were collected and examined to evaluate if they predict job performance,

job-oriented training performance, and academic performance. Several variables, including the theoretical approach used to develop the measure, the diversity of task types in the measure, and the language knowledge requirement needed to respond to items on the measure, were tested as moderators of these relationships. In addition, the group score differences between African Americans and Caucasians on information processing measures were analyzed. Overall, the findings support information processing measures as valid predictors of outcomes across several critical domains. Group score differences were also found to be smaller than estimates from prior meta-analyses examining other intelligence measures. Results from the moderator tests provided several interesting trends in the data that require further examination in future research. The current study offers insights into how information processing measures operate in applied settings and is a step towards expanding the use of these measures in I-O psychology.