

# **CURRENT RESEARCH**

Investigating the role of working memory capacity and executive attention in real-life situations

Imagine you just received an important phone call from someone while reading an email from your boss asking for assistance on updating Excel spreadsheets immediately. As you try to manage the three different tasks altogether, the doorbell rings and there is a mailman standing outside requiring your signature. Meanwhile, the fire alarm goes off as the pizza you are baking is burning in the oven. This may be an extreme scenario where multitasking, a crucial corollary of working memory capacity and executive attention, is demanded, but we exercise these abilities everyday in following verbal and map directions, solving complex problems, and carrying out similar daily activities. Multitasking, an indicator of a high working memory capacity and executive attention, is undoubtedly one of the most desirable skills that people in the age of the Information Technology can have, and is consequently increasingly sought after by companies looking to hire adept individuals who will help increase their business capacity, productivity, and efficiency. Dr. Randall Engle, Professor in Psychology at the Georgia Institute of Technology, studies individual differences resulting from limitations in working memory capacity and executive attention (i.e. WMC/EA). Through his research, he hopes to understand how those limitations impact performance of complex cognitive tasks, and whether and how those limitations in information processing can be ameliorated.

Based on his previous work, Dr. Engle has created various simple, unbiased tasks that evaluate individuals' WMC and EA abilities that can predict their performance in complex, real-world situations. These tasks were then used in numerous significant agencies like the Office of...

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#### **AFFILIATION**



Georgia Institute of Technology

#### **EDUCATION**

- Ph.D. in 1973, The Ohio State University
- M.A. in 1969, The Ohio State University
- B.A. in 1968, West Virginia State College

#### **AWARDS**

- Mortar Board Excellence in Teaching Award, 1988 and 1994
- Invited address to American Psychological Association, Division 3, 1996 annual meeting
- Chair of Executive Board of Council of Graduate Department of Psychology
- · Elected to Executive Committee of Division 3 of APA
- Elected to Governing Board of Psychonomic Society

### **RESEARCH AREAS**

Life Science, Neurological / Cognitive, Veteran's Causes, Neurological / Cognitive

## **FUNDING REQUEST**

Your contributions will help support the labor-intensive research of Dr. Randall Engle and his team of students and international scholars to construct the tests and analyze data. His work involves sophisticated statistical procedures and experiments which may require as many as 600 subjects for 4-8 hours at \$20/hour as well as multiple equipments. Having already made profound discoveries, with funding Dr. Engle will be able to take his research into deeper areas of psychological and genetic science.

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