

## **A Preliminary Analysis of the Performance of Monolingual and Bilingual Students on Executive Functioning Tasks**

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### **Abstract**

Executive functions (EFs) allow humans to complete and juggle multiple tasks successfully. It organizes and dominates a wide range of cognitive abilities and behaviors necessary to meet environmental demands. Among those cognitive processes, cognitive inhibition plays a part in the ability of bilingual individuals to shift between two languages to communicate effectively with their surroundings. Thirty-six MDC students participated on this research [13 monolinguals, 22 bilinguals (English and Spanish), and one trilingual], ranging in age from 18 to 30 years old. They completed a 2 ½ hours battery of tests that included measures of working memory. This experiment intended to replicate and expand previous work by Dr. Fernandez at Nova Southeastern University (Fernandez, 2013 and 2014). One of the objectives was to validate an auditory and a visual task of working memory tapping into a neural marker of cognitive inhibition. This study speculated that bilinguals would outperform monolingual participants in tasks measuring executive functions. Preliminary data analysis seems to indicate only differences in the Shipley Abstraction Test, and it favors scores of the monolingual participants. However, further data analysis is still pending, including data from the N-Back test. Furthermore, we are seeking to recruit and test of an additional group of monolingual students. The study presented some limitations such as commuting to one campus for testing as well as in finding true monolinguals in a cosmopolitan and multicultural city like Miami.

Keywords: Executive function, monolinguals, bilinguals, Shipley, N-Back