

**Title:** The Relationship of Verbal and Non-verbal Stroop Tests to Language Ability in Monolingual and Bilingual Adults.

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**Introduction:**

Previous research has shown a positive relationship between executive function (EF) and vocabulary (Blair & Raza 2007). Research has also shown that bilingual adults tend to have higher EF than monolinguals (Filippi et. al 2012). However, bilingual adults tend to have lower vocabulary in each language than monolinguals (Allman 2005). Given these findings, we aimed to test 1) whether there is a different relationship between EF and language for bilinguals than monolinguals, and 2) whether using verbal versus non-verbal Stroop tasks to measure EF might alter these relationships.

**Method:**

Twenty three adults who all had English as their first spoken language (14 monolingual, 9 bilingual) completed the Peabody Picture Vocabulary Test 4th edition (PPVT-IV) to assess their vocabulary skills. They also completed a verbal Stroop task to assess their level of EF.

In an ongoing study monolingual and bilingual (English not first language) adults will complete the PPVT-IV to assess their vocabulary and will complete a nonverbal Stroop task to measure their EF.

**Results:**

In the first study we saw no significant differences in mean scores for the monolingual and bilingual adults in language or Stroop tasks but interesting patterns when Spearman Correlations were performed. We observed an expected positive correlation between vocabulary and EF measures for monolingual adults. However, we saw an unexpected negative correlation between vocabulary and EF in bilingual adults. Data collection is ongoing for the second study.

**Conclusion:**

Results of the first study suggest that there may be a different relationship between EF and language in bilinguals than monolinguals. If the same pattern of correlation holds true for the ongoing study then it is likely that the unexpected results are not due to small sample size, but rather reflect a true difference in the relationship between EF and language. Moreover, results from the nonverbal Stroop may provide a better overall indicator of EF and a better predictor for vocabulary than the verbal Stroop for bilinguals.