

Possible Mechanisms of Bilingual Advantage on Creativity

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Abstract

The bilingual advantage is widely debated in the field today. Some research supports advantages in executive control, later onset of dementia, and creativity. Other research has found no differences between monolingual and bilinguals in these domains. Bilinguals are purported to be more creative than monolinguals, however the mechanism for this is still unresolved. We examine bilingualism and creativity, examining whether this advantage exists in the realm of creativity and hypothesized mechanisms for the relationship including semantic network differences. We specifically analyzed the statistics of individuals' semantic networks (average shortest path length, clustering coefficient, and modularity) and the average number of items listed in a fluency task. Bilingual (n = 32) and monolingual (n = 35) participants went through a set of tasks: a creativity task (Guilford's Alternative Uses), an intelligence task (Raven's Progressive Matrices), a fluency task to acquire semantic network measures, and a language background task (LEAP-Q). We found no differences in creativity between monolingual and bilingual participants, with a Bayesian test showing substantial evidence for the null hypothesis. We found that most semantic network features (average shortest path length, clustering coefficient, and modularity) did not predict creativity, or went in the opposite as expected direction as indicated by previous research. The average number of items listed was the best model for predicting creative performance. These findings suggest that, contrary to previous work, the bilingual advantage does not exist in the realm of creativity, and that creativity is not mediated by semantic networks.