The contribution of executive functions and vocabulary in bilingual children’s reading comprehension

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The Simple View of Reading posits that reading comprehension can be predicted by decoding skills and listening comprehension (Gough & Tunmer, 1986). More recently, research has revealed that executive functions (working memory and planning) also contribute to reading comprehension of monolingual children (Sesma et al., 2009) but the joint contribution of decoding skills, oral language comprehension and executive functions across different groups of bilinguals remains underexplored. Research on bilingualism has shown that bilinguals have lower vocabulary scores than monolinguals (Oller, Pearson, Cobo-Lewis, 2007; Bialystok, Luk, Peets & Yang, 2010), but a considerable body of research points to a possible bilingual advantage in executive functions (Valian, 2015). Given that both vocabulary and executive functions are important factors in reading development, the present study seeks to investigate the contribution of these two factors in bilingual children’s reading comprehension skills.

36 Greek-English bilingual children and 44 monolingual English control children aged 7;3-12;3 were assessed on their non-verbal abilities (RAVEN’s Progressive Matrices, Raven et al., 1998), reading skills (York Assessment for Reading Comprehension, Snowling et al., 2009), vocabulary (Word-finding Vocabulary Scale, Renfrew, 1980) and verbal working memory (Backwards Digits Span Task) in English.

Results showed that bilingual children did not differ from monolingual children in their non-verbal abilities (\(F(1,78)=1.55, p>.05\)), but they had lower vocabulary scores than monolingual children (\(F(1,78)=16.54, p<.001\)). Despite this difference, there were no group differences in their decoding skills (\(F(1,78)=.174, p>.05\)) and reading comprehension (\(F(1,78)=2.84, p>.05\)). Moreover, bilinguals performed better on verbal working memory compared to monolinguals (\(F(1,78)=4.76, p=.032\)).

We suggest that the bilingual advantage in verbal working memory compensates for their lower vocabulary scores leading to similar performance on reading comprehension as the monolingual children.

Keywords: Reading, Vocabulary, Executive Functions, Bilingualism.