

Abstract

Research has shown an association between bilingualism and enhanced inhibitory control attributed to non-selective activation during language selection. However, little is known about how individual differences in language experience may impact attentional control outside of solely linguistic task settings, also considering visual processing. To investigate this, we tested 28 bilingual participants on two eye-tracking experiments examining how individual differences in bilingualism and inhibitory control influence task performance. In the first experiment, participants completed an anti-saccade task requiring them to suppress looks towards an emerging dot and instead redirect attention in the opposite direction. Based on our preliminary analyses, lower age of second language (L2) acquisition is associated with improved accuracy and higher current level of proficiency in L2 is associated with longer trial time in the anti-saccade condition. This implies that in the second experiment, a visual search task, we asked participants to determine if a target was present or absent in a photorealistic search array while their eye movements were recorded. These arrays consisted of varying distractions, which could be visual, semantic, or a combination of both. The linguistic cue for the target was provided in either German or English. Our preliminary analyses show that frequent language mixing is associated with faster correct reaction time and improved accuracy in the English-language block. Overall, our findings suggest that the effect of bilingualism may go beyond the purely non-linguistic setting.