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Congruency Effects and Individual Differences in Bilingual Experience Influence Simon Task Performance

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Abstract

Prior work examining executive control during the Simon task has focused on global congruency alone and/or has primarily contrasted bilinguals with monolinguals. This is problematic for two reasons: (1) prior trial experience on current trial performance is unaccounted for (Grundy et al., 2017) and (2) bilinguals are not a homogeneous group. Here, we examined the interaction between prior and current trial congruency in the Simon Task for 65 bilingual young adults who varied continuously in bilingual experience. Generally, current trial congruency effects were larger when the prior trial was congruent vs. incongruent. However, as non-L1 experience increased, this interaction diminished; the overall prior trial effect was reduced independently of age of acquisition. Crucially, neither non-L1 experience nor age of acquisition influenced current trial congruency alone. Although preliminary, these results suggest that both congruency effects and bilingual experience influence performance on a non-linguistic executive control task.