Bilingualism influences perceptual inhibition more than stimulus-response inhibition

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Abstract: Bilinguals outperform monolinguals at suppressing task-irrelevant information, with advantages likely deriving from cognitive mechanisms employed during bilingual processing. In this study, monolinguals' and bilinguals' inhibition performance was compared on two nonlinguistic inhibition tasks: a Stroop-like task (with perceptual conflict among stimulus features) and a Simon-like task (with stimulus-response conflict, given an arbitrary response rule). Bilinguals in their early twenties had an accuracy advantage over monolinguals on the Stroop task but not the Simon task. Bilinguals showed smaller Stroop than Simon effects in their performance accuracy, while monolinguals performed similarly on the two tasks. Findings suggest that bilingual experience may target Stroop-type inhibition more than Simon-type inhibition, likely due to the perceptual conflict component of Stroop tasks that is also present in bilingual processing. Findings have implications for identifying loci of influence of bilingual experience on the cognitive system, and suggest that Stroop-type cognitive mechanisms may be especially sensitive to bilingualism.