
The effects of divided attention on retrieval processes in bilingual memory: Evidence from auditory repetition priming within and between languages

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Psycholinguistic research into bilingual memory and bilingual cognitive processes has always been a subject of major interest to those involved in SLA research and language pedagogy. Priming paradigm is one of the main tools these researchers have applied to uncover the mental representation of more than one language in memory and to examine bilingual lexicon organization. We combined *priming paradigm* with a *divided attention* procedure at retrieval and transferred it to auditory modality. Motivated to demonstrate the effects of priming and dividing attention during implicit retrieval, we investigated spoken L2 word processing in a group of unbalanced proficient bilinguals (L1=Persian, L2=English) using behavioral measures (i.e. reaction time and accuracy). Auditory word repetition priming (Experiment 1), within L2 semantic priming (Experiment 2) and translation priming in the L2-L1 (Experiment 3) and L1-L2 (Experiment 4) directions were used in two different attention conditions. The present study compared a Divided Attention (DA) condition, in which participants carried out one of these priming tasks as the memory test in auditory modality while simultaneously performing a secondary task in visual modality, and a Full Attention (FA) condition, in which participants performed only the priming task. We also examined whether conceptual or perceptual types of secondary tasks had different effects on the same memory test and whether retrieval produced large and consistent costs to secondary tasks.

Results revealed that priming effects were present in all experiments in the FA condition. It is implied that high bilingual proficiency can enhance bilingual memory performance in different priming tasks. However, unbalanced bilinguals in our study did not demonstrate the level of second language fluency needed to exploit the divided attention skill. Despite the symmetrical cross-language interactions in bilingual auditory word recognition in the FA condition, attention manipulation can diminish the strength of the links between L2 lexicon and the concepts. The conceptual secondary tasks were found to be significantly more detrimental than perceptual secondary task and to be disrupted by memory tests in all experiments. In closing, the present results may open up a new dimension of research into the nature of language processing in the bilingual, by extending investigations previously confined to visual modality.