

Public Abstract

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Previous studies of working memory capacity have suggested that individuals with high capacities excel at several processes, including (1) distinguishing between information that is applicable versus irrelevant to the task at hand, i.e., overcoming proactive interference; and (2) inhibiting currently-irrelevant information. In many procedures focusing on inhibition, these two factors have been confounded but here we pit them against one another. A dual task procedure comprised list presentation with comparison of a picture to the last list item, and then free recall. The last list item was often ambiguous (e.g., fence) and was sometimes related to the following picture (e.g., related, a picket fence or a swordfight; unrelated, a dog). Moreover, an earlier list item was related to one, but not both, meanings of the final word. High- and mid-span individuals kept the tasks separate. For them, the picture task had no effect on recall though, for high spans, the type of relation between list words mattered. In contrast, low spans mixed up the tasks; recall was superior when the picture meaning was dominant in the language (e.g., a picket fence but not swordfight). In mid- and high spans, irrelevant meanings may not be inhibited but, rather, tagged relevant or irrelevant to each task separately.