DEVELOPMENTAL IMPROVEMENT IN STRATEGIES TO MAINTAIN VERBAL INFORMATION IN WORKING MEMORY

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Although it has been proposed that maintenance of verbal information in adults' working memory relies on two strategies, articulatory rehearsal and attentional refreshing, little is known about the interplay of these strategies in children. To examine strategy changes around the age of 7, children were asked to maintain digits during a retention interval introduced between encoding and recall. In Experiment 1, this interval was either unfilled in a delayed span task or filled with an attention-demanding task in a Brown-Peterson task. This concurrent task was either silent or aloud to vary the availability of rehearsal. Experiment 2 introduced variation in the attentional demand of the concurrent task, and an independent concurrent articulation. As predicted, recall performance was better in older children, but was reduced under concurrent articulation or when attention was less available, bringing further evidence in favor of two maintenance strategies. Moreover, the measure of the availability of attention for refreshing was correlated with recall performance in 8- and 7-year-olds, though only when rehearsal was impeded for 7-year-olds, but it did not correlate with 6-year-olds' recall. This could suggest that rehearsal is the default strategy in young children who can adaptively switch to refreshing when articulatory processes are unavailable.