

THE DIFFERENTIAL EFFECTS OF PRESENTATION RATE AND RETENTION
INTERVAL ON MEMORY FOR ITEMS AND ASSOCIATIONS IN YOUNGER
ADULTS: A SIMULATION OF AN AGE-RELATED ASSOCIATIVE DEFICIT

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ABSTRACT

Older adults show an associative deficit in episodic memory compared to younger adults. Previous research suggests two underlying brain areas, the frontal lobe (FL) and the medial temporal—hippocampal area (MTL/H), as potential mediators of this deficit. However, research remains unclear as to the effects of these brain areas on age-related associative deficits. Using behavioral manipulations suggested to reflect the operation of these brain areas, three experiments were conducted to separate out the effects of FL and MTL/H by simulating the associative deficit in younger adults. In Experiment 1, item and associative recognition memory were tested while manipulating the time at encoding and retrieval (1.5 seconds vs. 6 seconds) to simulate FL deficits, and the retention interval (1 minute vs. 10 minutes) to simulate MTL/H deficits. In Experiment 2, the retention interval manipulation was further strengthened by lengthening the long delay time to 24 hours. Due to possible floor effects in Experiment 2, one final experiment was conducted in order to raise overall performance with the use of repetition at study. Results indicate that both manipulations seem to contribute equally yet independently to the associative deficit. Some questions still remain about the additive/interactive effect of both manipulations in combination.