

THE FUNCTION OF MID-DAY NAPS ON PRIOR DECLARATIVE LEARNING FOR PRESCHOOL CHILDREN

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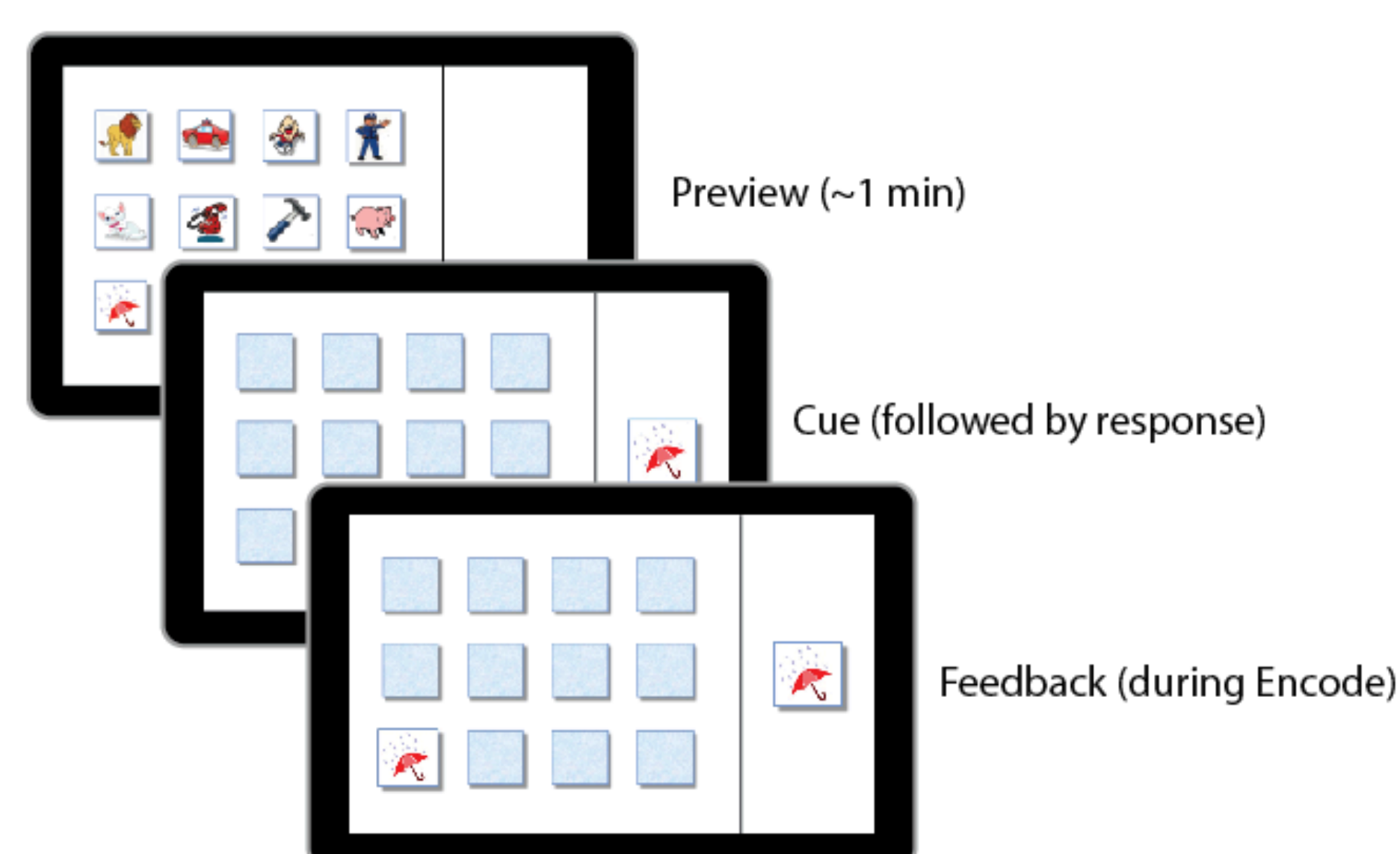
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INTRO

Naps in preschoolers have been found to benefit declarative learning. Intriguingly, these data also suggest that naps may recover memories that may have decayed over wake. That is, following an interval with >1hr awake followed by 2 hrs of sleep, performance was unchanged while accuracy declined if the 3hrs were spent awake. This study tested the prediction that memories decay over wake following learning and are then recovered by a delayed nap.

METHODS

Forty-seven preschool-aged children (M age = 51.9 mo, 54.5% female) learned a visuo-spatial memory task in the morning on two separate occasions separated one week apart, where on one occasion they napped and the other they did not.



Recall was tested immediately after encoding, and after the afternoon nap/wake interval. Additionally, performance was probed either 1hr (pre-test A) or 2hrs (pre-test B) after immediate recall.

Initial Learning	Immediate Recall	Pre-test A	Pre-test B	Nap/Wake	Delayed Recall	24-hour Recall
9:30-10am	10am	~11am	~12:30pm	1-3pm	3:30pm	9:30am

Does sleep-dependent memory consolidation rescue memories from decay in early childhood?

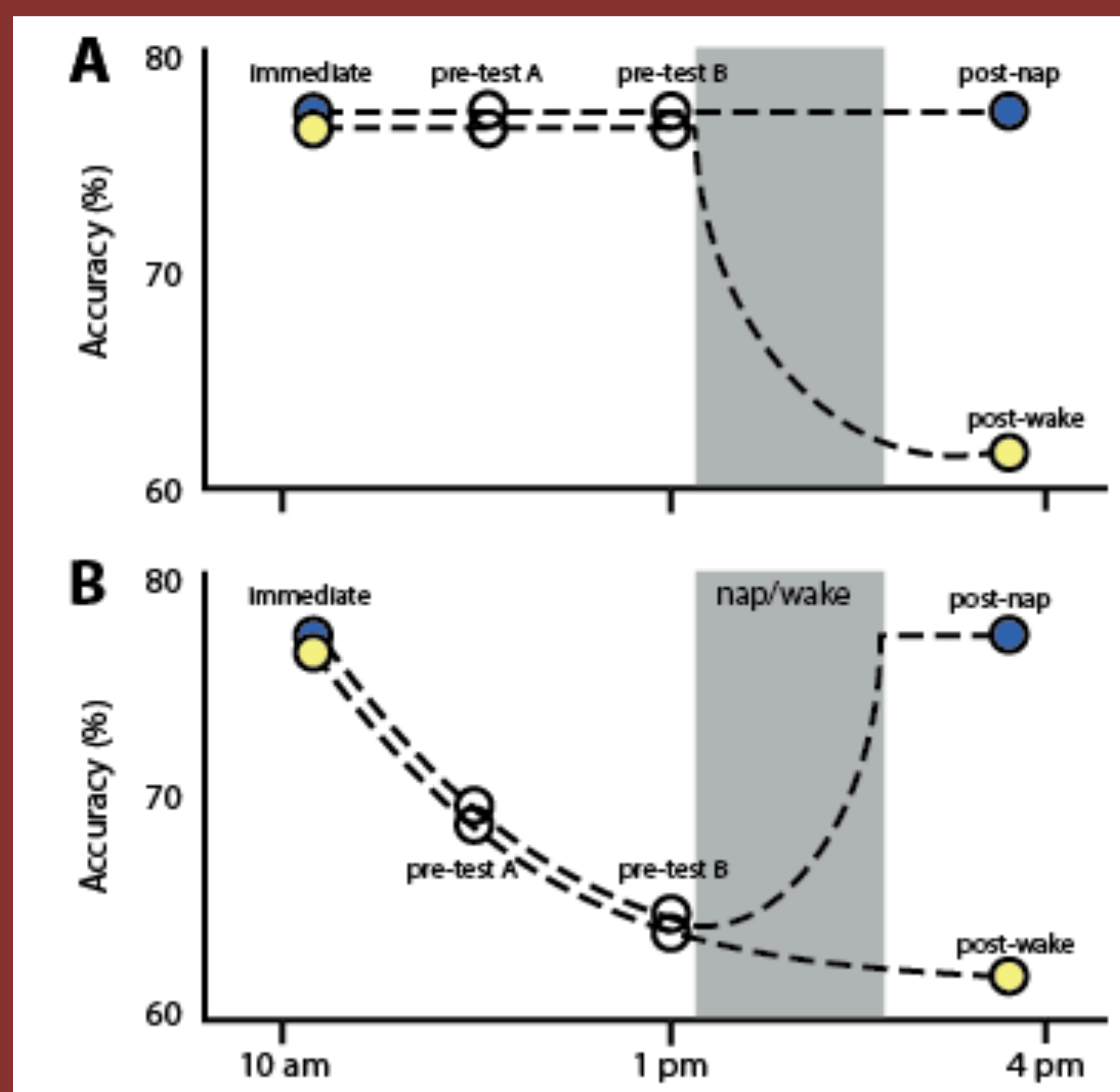


Figure A is depicting the hypothesis that the nap plays a passive role and Figure B is depicting the hypothesis that the nap is playing an active role in consolidation.

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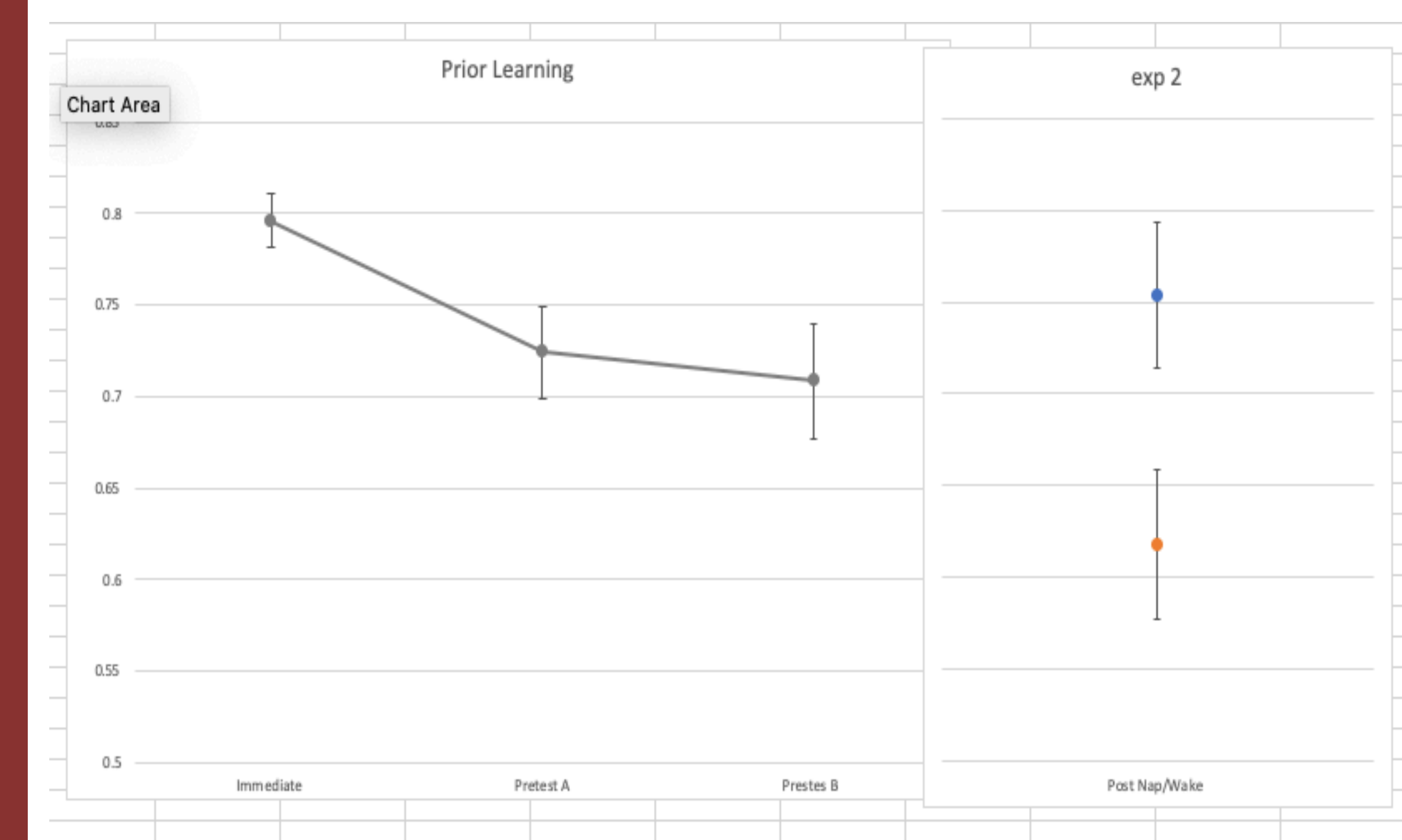


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RESULTS



- Accuracy decayed between immediate recall and pre-test A ($p=0.010$; $n=27$)
- Between immediate recall and pre-test B ($p=0.005$; $n=20$).
- An additional 6 participants replicated previous findings that learning was protected following the nap and decayed following wake ($p=0.038$).

DISCUSSION

These results thus far are consistent with predictions that naps can recover memories. Whether or not the memories were recovered by an active or a passive role is ongoing. Future analysis will include more participants to further explore the role of mid-day naps in preschool aged children.

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