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Don't forget to bind: Memory binding and interference in development

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Abstract: This work investigates the development and causes of memory interference effects. Specifically, we measured proactive and retroactive interference effects in children and adults when learning multiple sets of contingencies, as well as individuals' memory binding for the same contingencies. We measured proactive interference by examining memory for a second set of contingencies after learning a first set, and retroactive interference by examining memory for the first set of contingencies after learning the second set. We measured memory binding by presenting participants with partial information about each contingency and measuring their accuracy and pattern of errors when asked to identify the completed contingency. Results indicate that both children and adults experienced substantial interference effects, but children were more prone to interference and substantially worse at memory binding. Additionally, individuals' memory binding abilities were predictive of the magnitude of interference effects, suggesting that memory binding is an important mechanism modulating memory interference.