TITLE: Preschoolers’ Use of Semantic Memory to Solve a Future-Oriented Problem

AUTHORS: Nathaniel B. Foster

FACULTY SPONSER: Dr. Rebecca Williamson, Assistant Professor, Department of Psychology

Introduction: Foresight is an invaluable tool in humans’ ability to anticipate and prepare for the future. Research has demonstrated that even children use their memory of past events to predict future events (Suddendorf, Nielsen, & von Gehlen, 2011). Specifically, this work focused on the role of episodic memory (one’s personal experience). The current project tests whether children also use semantic memory (one’s store of knowledge) to solve novel, future oriented problems.

Methods: We presented 3- to 4-year-old children \( n = 55, M = 44.6 \) months, \( SD = 8.71 \) months) with a task that required them to remember to get something to be used at a later time. Specifically, they were presented with a box that was covered with pieces related to a farm theme. The children were told that the box was missing a piece that was needed to open it. Later in the session, they were shown two pieces (a barn and a tropical fish) and given the opportunity to select a piece. Importantly, the pictures on both pieces were novel. Thus, knowing which piece to choose required the use of semantic memory. Children were prompted to choose one piece to play with.

Two between-subjects control groups are also included to establish a) the children’s baseline preferences for the pieces, and b) the role of priming in children’s responses. In all conditions, we recorded what piece the children selected and why they chose it.

Results: Data collection is in progress \( n = 55/60 \) children). To date, there is no significant difference between the conditions, \( \chi^2 = 0.33, p = 0.85 \); however, there is a trend in the predicted direction. More children in the experimental group have taken the target piece (53%) versus the control piece (47%). In contrast, the children in the baseline group have chosen the control piece 56% of the time.

Discussion: While these preliminary results are not significant, further research can expand our understanding of semantic memory in preschoolers’ future-oriented memory. Children may not be limited to specific past events to solve future-oriented problems, but may also integrate their more general knowledge on such tasks.

Keywords: memory, preschoolers, foresight