



# Effects of Procedural Variations on Implicit Sequence Learning in Preschool-Aged Children: Role of Task Pace and Accuracy Feedback

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## Introduction

Studies using serial-reaction time (SRT) tasks have suggested that in adults, measurements of implicit learning are robust across variations in task procedures. However, disparate results exist regarding the developmental invariance of implicit learning, possibly due to children's increased sensitivity to SRT task demands.

Most SRT tasks have used response-contingent pacing in which the participant's own reaction time determines the duration of each trial. In contrast, recent paradigms with adults and children have used fixed trial pacing. While this method can control for total stimulus exposure and task duration across participants, it is accompanied by changes in response demands and accuracy feedback.

The purpose of this project was to investigate whether procedural variations in SRT tasks (task pacing and accuracy feedback) impact implicit learning in preschool-aged children.

## Questions

- 1) Do children show increased learning on tasks with self-paced trials compared to fixed-paced trials?
- 2) When children are able to control their pace, does accuracy feedback impact implicit learning?

## Participants

All participants were screened for serious medical conditions, learning disabilities, and family history of learning and/or psychological disorders.

**Experiment 1:**

Task	N	Mean Age (sd)	Gender
Fixed	30	4.80 (.24)	15 female
Self NC	30	4.69 (.24)	15 female

**Experiment 2:**

Task	N	Mean Age (sd)	Gender
Self NC	30	4.69 (.24)	15 female
Self	30	4.85 (.17)	15 female

**Excluded Participants:** Children who were explicitly aware of the sequence (5), children who failed to complete the task (15), and children who had poor accuracy (< .70 acc, (37)).

