

Overcoming obstacles: Observational learning helps infants solve an action problem

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Background

Problem

- Infants often learn to produce goal-directed actions by observing and imitating others (e.g., Meltzoff, 1995)
- However, successful reproduction of an action can be hindered by motor constraints (e.g., size, strength, coordination)

Questions

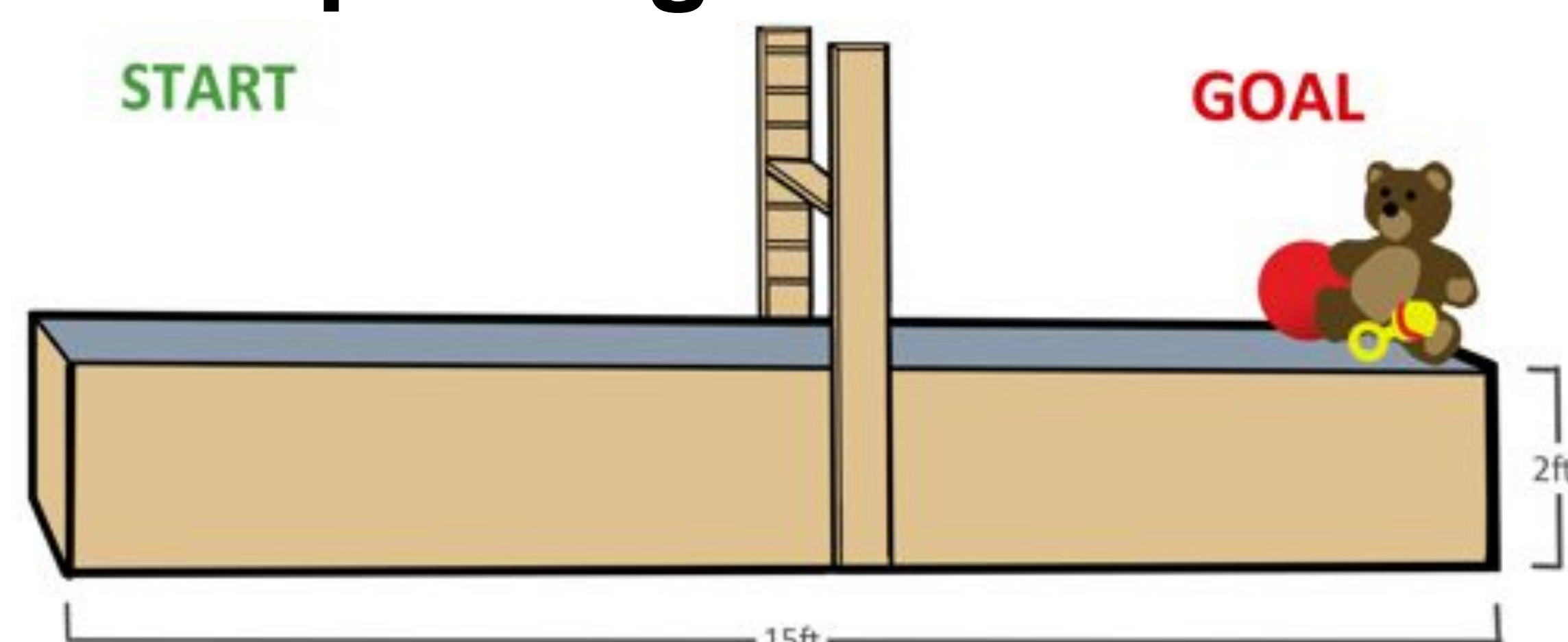
- Are infants' action strategies influenced by others' strategies for solving action problems?
- Can infants account for differences between their own action abilities and those of others while solving similar action problems?

Method

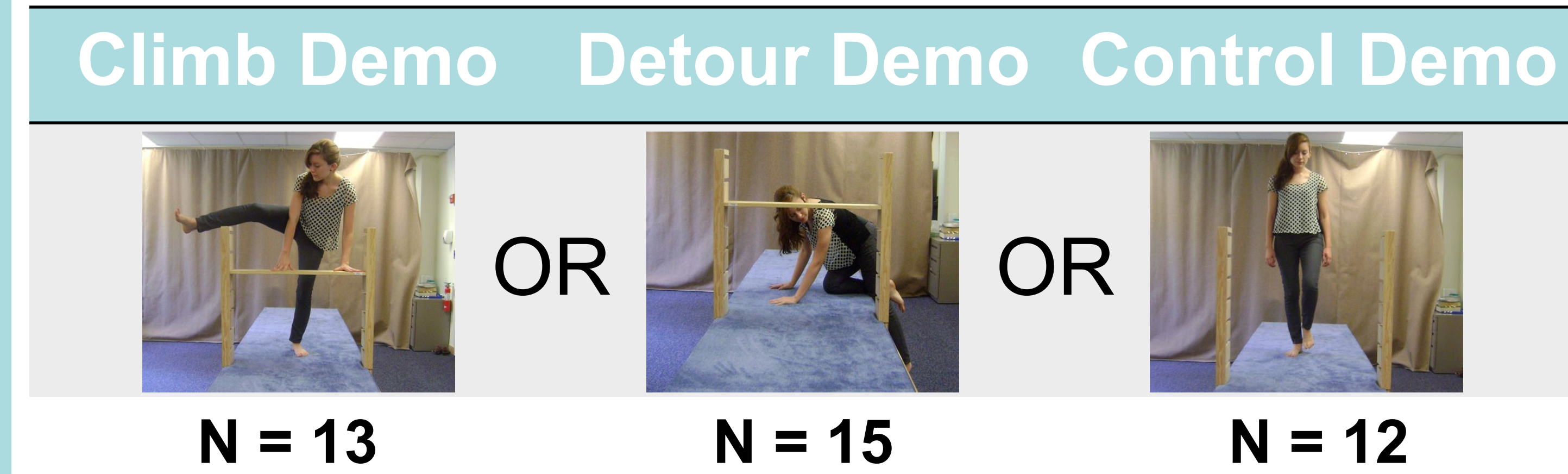
Participants

- 40 18-month-old infants (M age = 18.23 mos; range = 17.19 – 19.00 mos; 19 girls)

Obstacle paradigm



1. Observed an adult demonstrate **one** of three motor strategies to cope with an obstacle:



2. Then received 15 trials with alternating obstacle heights (5 of each):

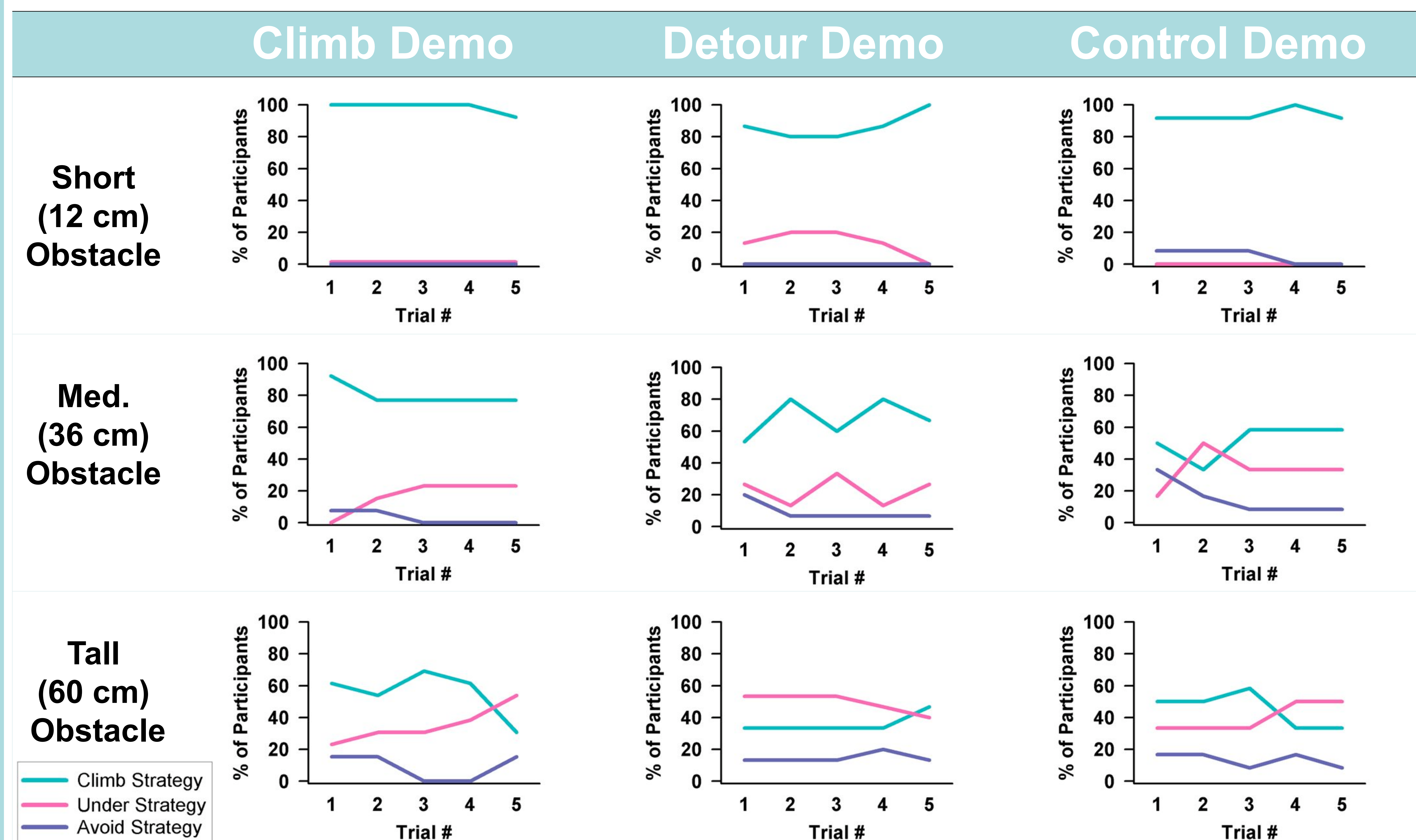


Initial Action Strategies

	Climb	Under	Avoid	Detour
Overall	10.23 (3.45)	3.55 (3.27)	1.15 (2.50)	0.08 (0.35)
Climb Demo	11.69 (3.17)	2.62 (2.63)	0.62 (1.19)	0.08 (0.28)
Detour Demo	9.53 (2.64)	4.27 (3.17)	1.20 (2.48)	0.00 (0.00)
Control Demo	9.50 (4.30)	3.67 (3.96)	1.67 (3.47)	0.17 (0.58)

Table 1. Mean number of trials (out of 15) in which participants used each action strategy. Standard deviations are shown in parentheses. No condition effects were observed for any initial strategy ($ps > .18$)

Changes in Initial Action Strategies Across Trials



- Although action strategies were tailored to obstacle height, they also varied with demonstration condition, suggesting that infants' behaviors were influenced by others' actions
- Infants' use of various strategies also changed with experience, suggesting that they were accounting for differences between the actions performed by others as well as the outcome of their own actions on previous trials