

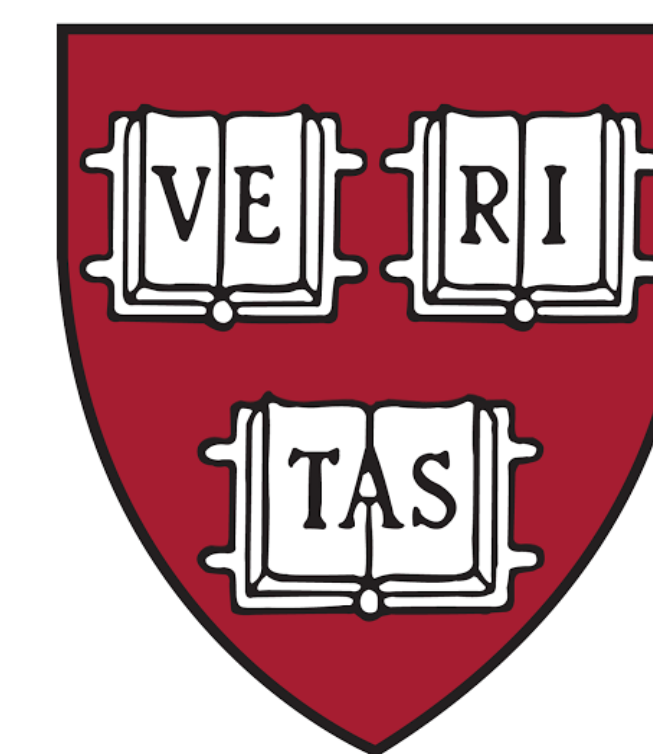


Preverbal Infants' Third-Party Imitator Preferences

Animated Displays versus Filmed Actors

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Introduction

1-year-old infants imitate social partners and respond positively to being imitated (Meltzoff, 1990; Jones, 2007; Agnetta & Rochat, 2004; Carpenter, et al, 2013). However, it is unclear how and when these behaviors and responses develop.

Previous research suggests that when witnessing imitative interactions as third parties, 4-month-old infants form preferences for agents who imitate their social partners, but do not have preferences for targets of imitation (Powell & Spelke, 2014a & 2014b).

The current research asks 2 questions:

- (1) Do these results replicate with animated displays similar to those used previously?
- (2) Will video displays featuring human actors in imitative and non-imitative interactions produce similar results?

These experiments will help determine whether young infants perceive imitation as a positive social response even in the context of ecologically valid stimuli.

Experiment 1 Methods

Familiarization

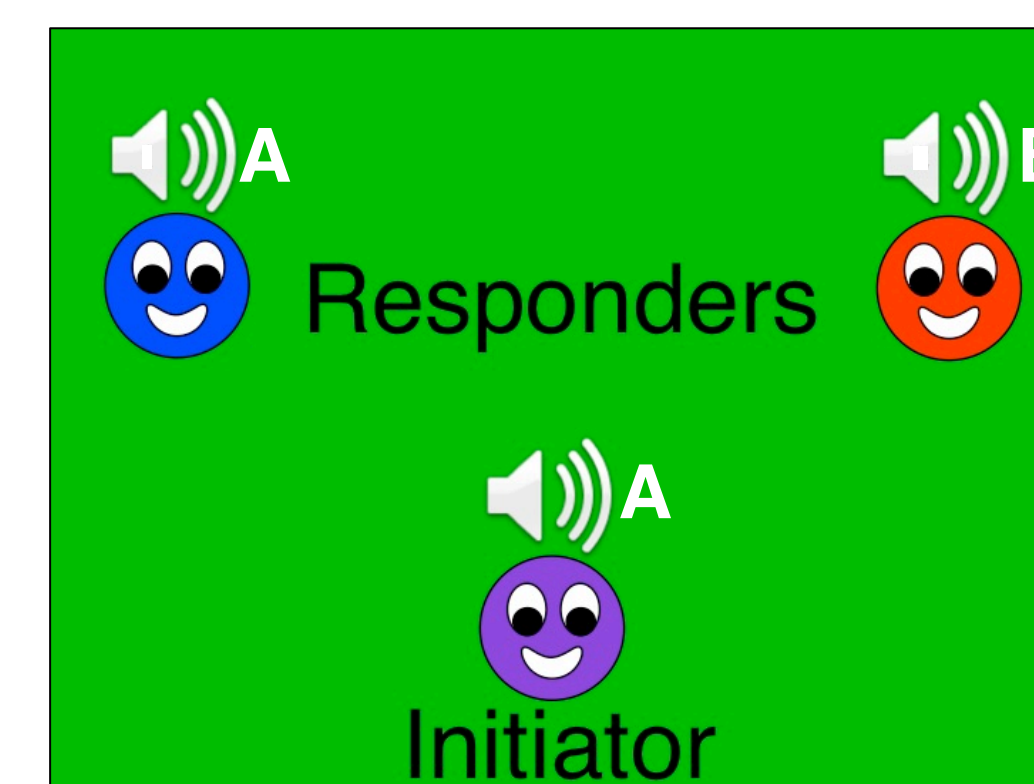
Infants watched four rounds of pairwise interactions.

Responders Condition

The central character alternately initiates interactions with each of the two side characters; one responds by imitating, and the other performs a contrasting behavior.

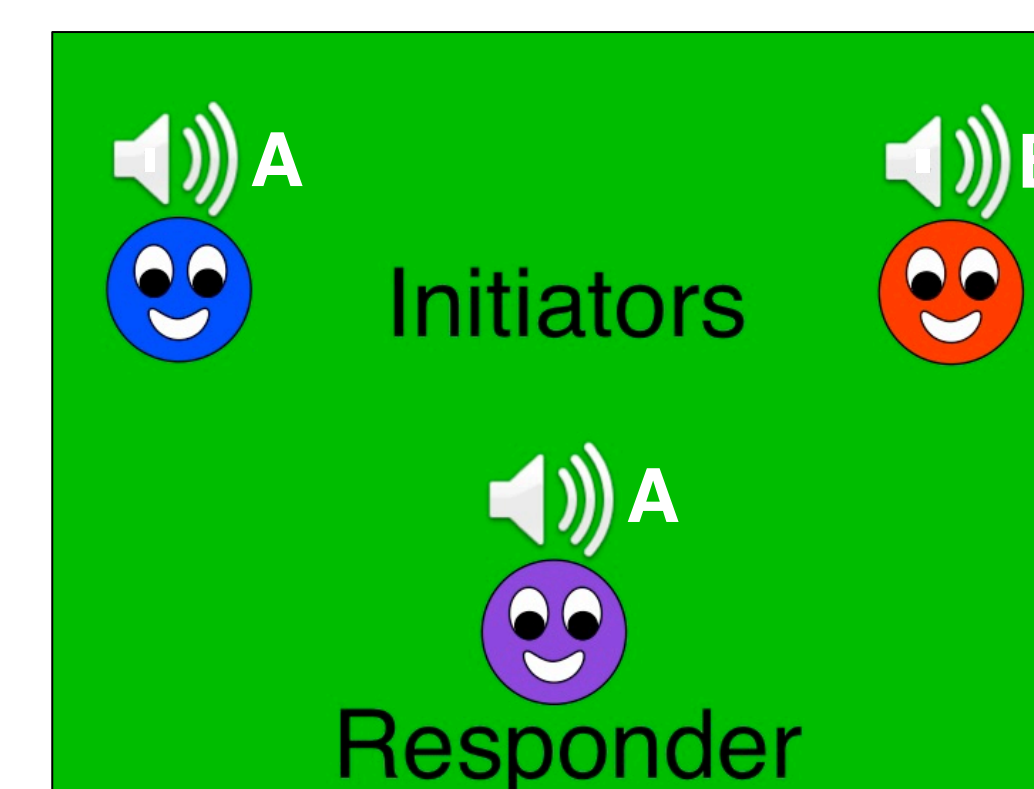
Animated Displays

Characters jump up and down and produce a sound (high or low pitched).



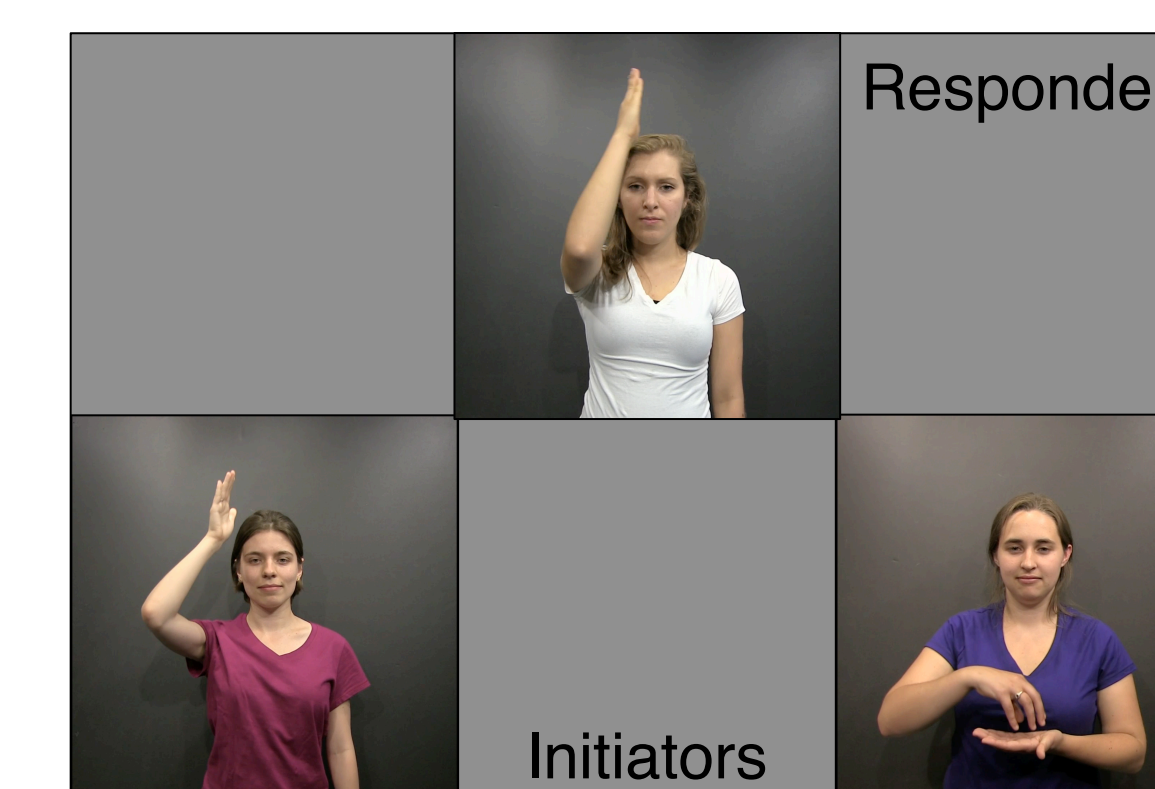
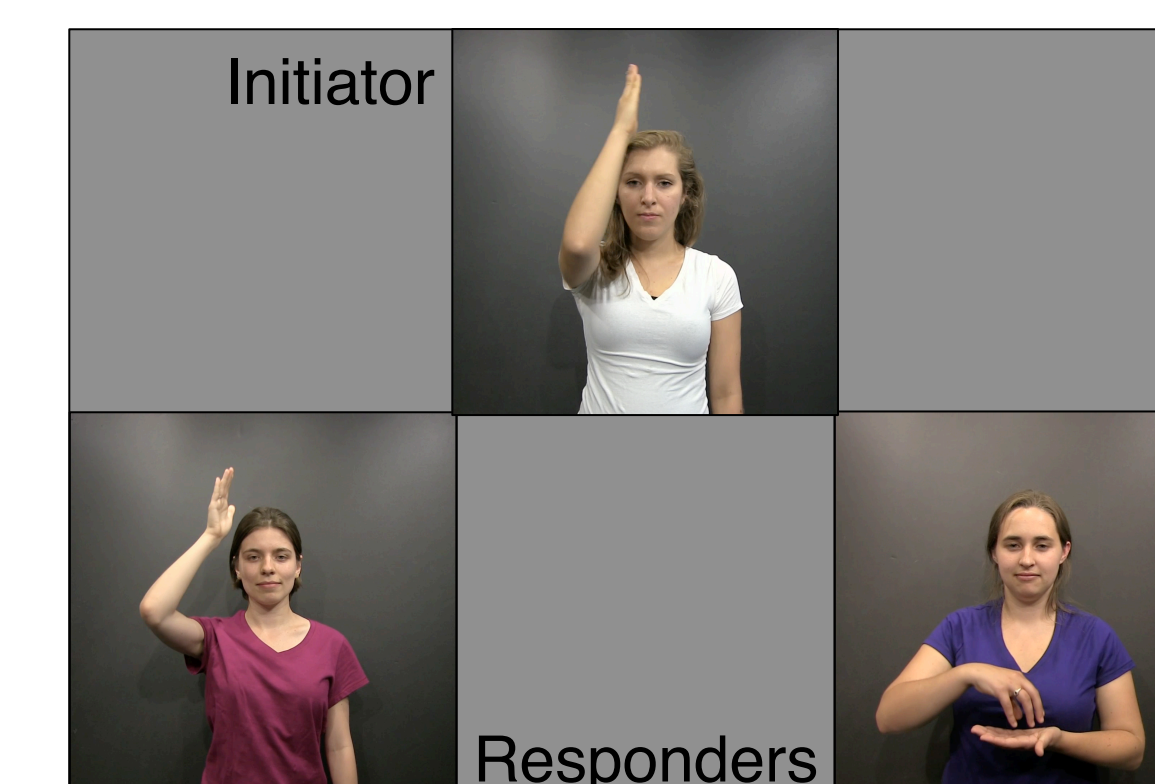
Initiators Condition

The side characters alternately initiate interactions with the central character, who responds by imitating one initiator and not the other.



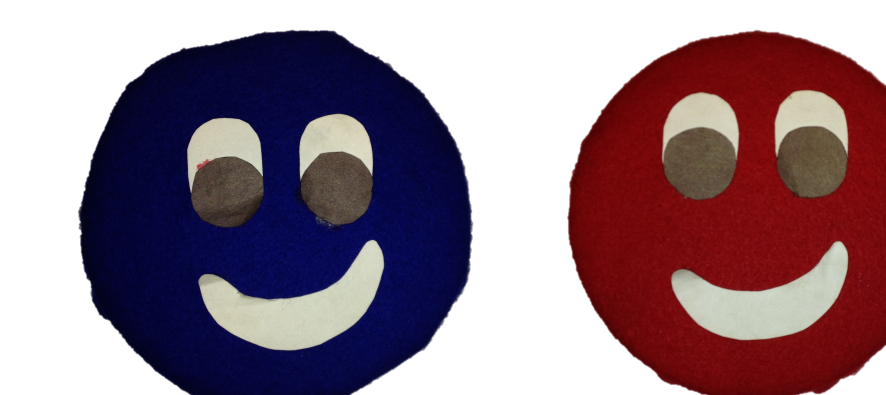
Video Displays

Actors say "ah" and produce an action modified from American Sign Language.

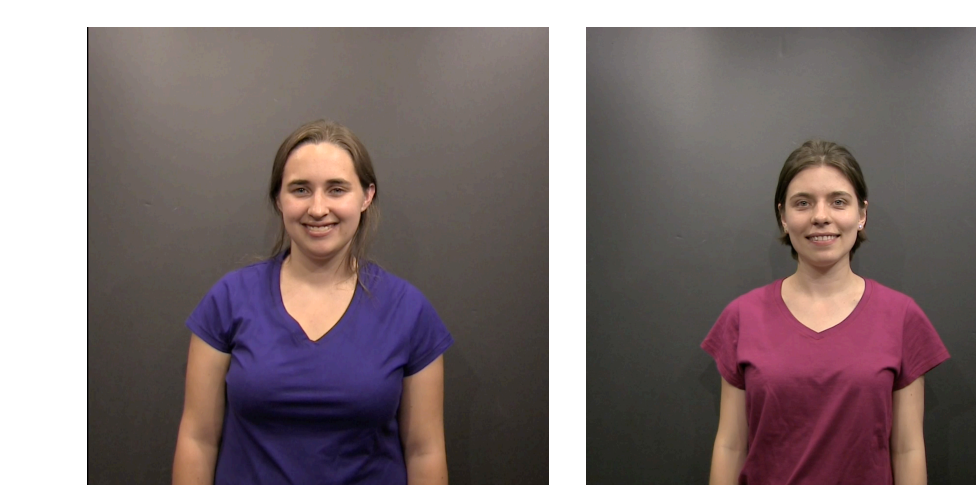


Preference Test

Infants were given 20 seconds to look at the two side characters (i.e. imitator and non-imitator or target and non-target of imitation, depending on condition).

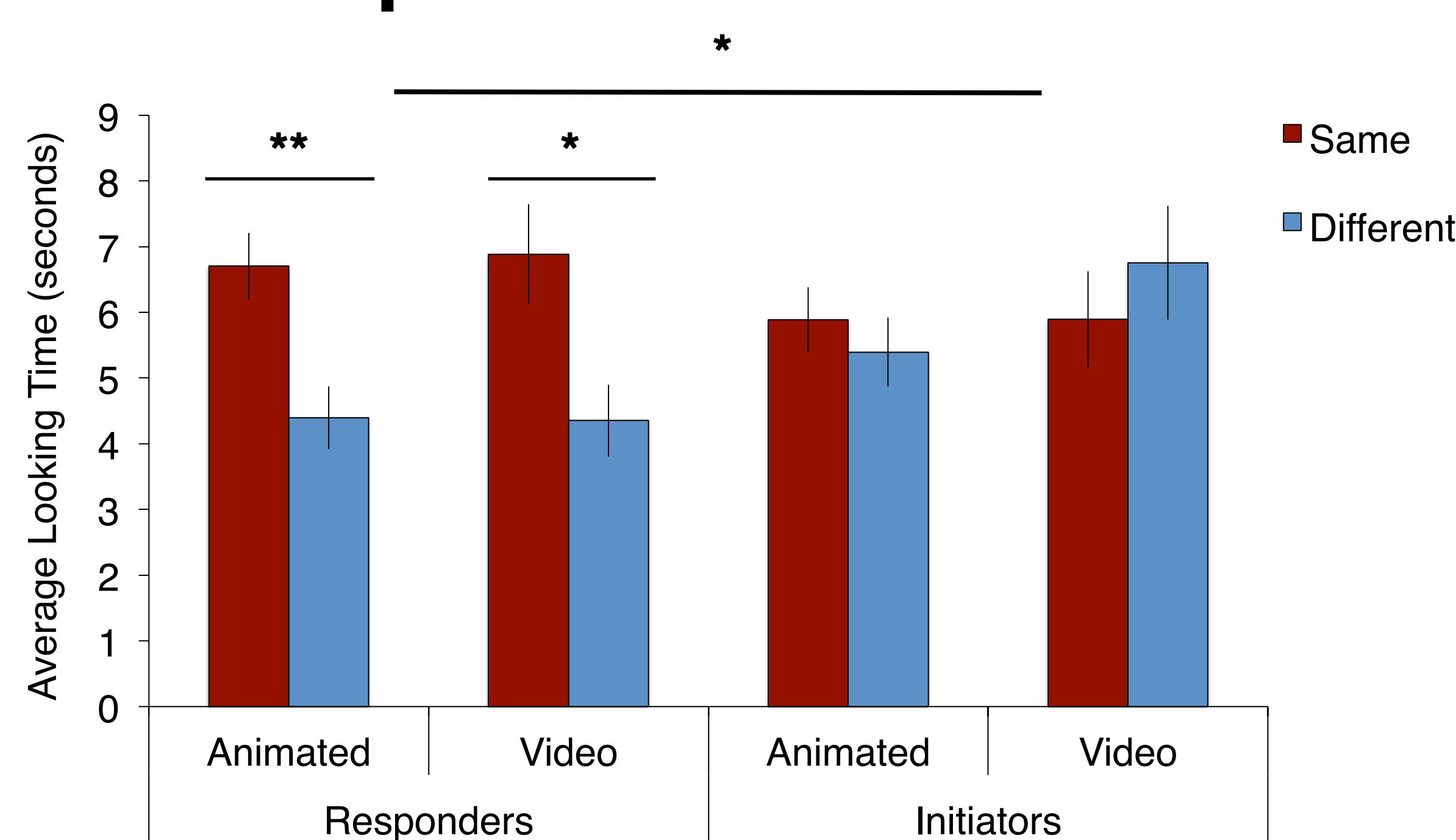


3D characters were presented following the animated displays.



Videos of actors were presented following video displays.

Experiment 1 Results



- Participants: 97 4.0- to 5.5-month-old infants.
- Responders condition: infants look longer at the imitator than the non-imitator for both display types [animated: $t(23) = 3.26, P < 0.01$; video: $t(23) = 2.80, P < 0.05$].
- Initiators condition: Infants consistently fail to differentiate between the target and non-target of imitation [animated: $t(24) = 0.63, P > 0.5$; video: $t(23) = 0.62, P > 0.6$].
- The interaction between condition type and imitation-related preference was significant [$F_{(1,97)} = 6.58, P < .05$].

Experiment 2

Methods

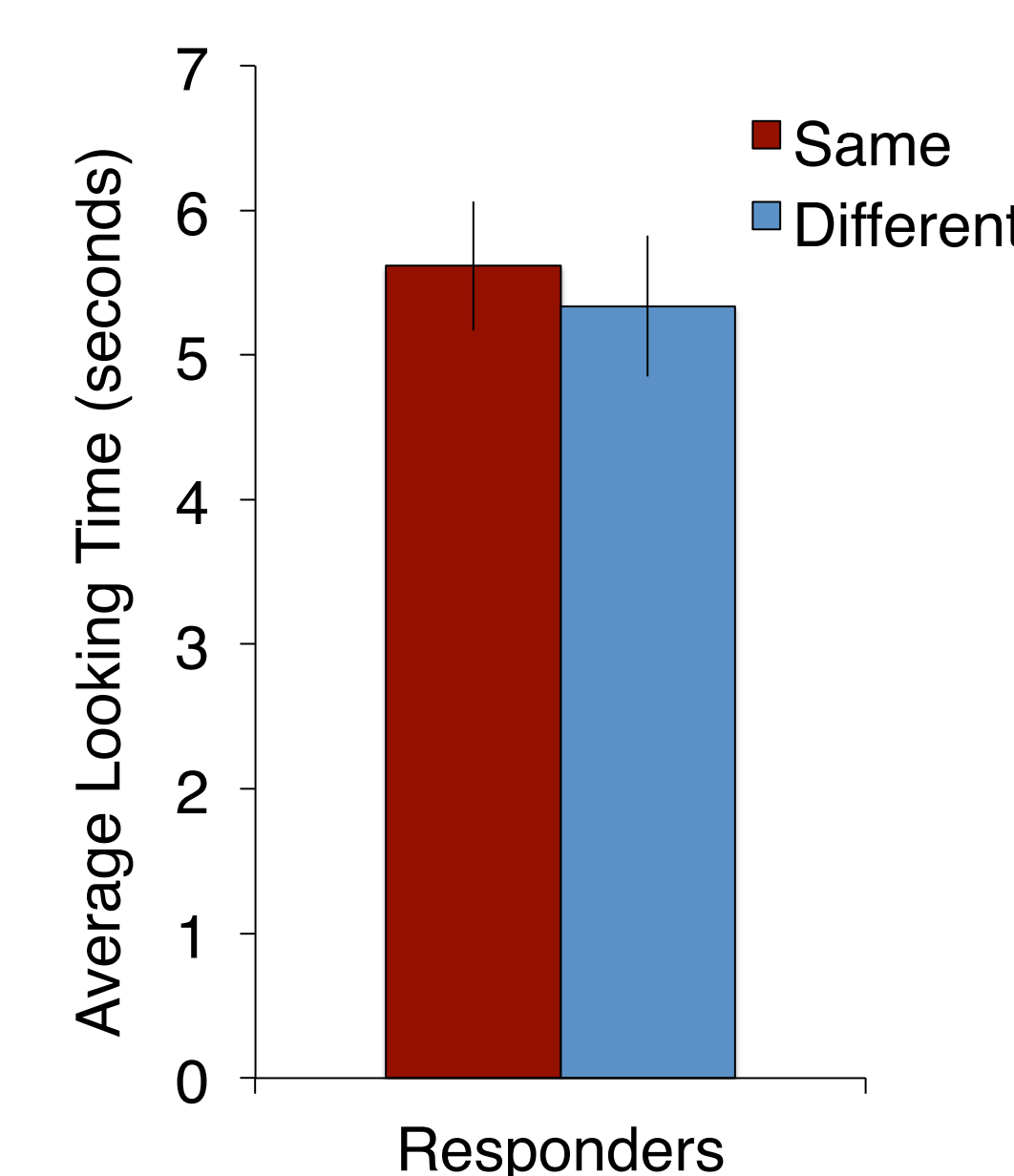
- Responders condition only.
- New actors.
- Simplified movements, accompanied by three vocalizations ("Ah, Ah, Ah").



Possible reasons for replication failure:

- Visual similarity of actors.
- Failure to distinguish actions.
- Complexity of actions.
- Different experimenter.
- Increase in matching vocalizations.

Results



- 32 4.0- to 5.5-month-old infants
- Infants failed to differentiate between the imitator than the non-imitator [$t(23) = 0.95, P > 0.3$].

Conclusions

- Infants prefer third-party imitators but do not demonstrate a similar preference for targets of imitation.
- Infants' imitator preferences are reliable in both animations and video displays.
- Differences between the video stimuli in Experiment 1 and Experiment 2 impacted infants' third-party imitator preferences. The cause of this difference is unclear.

References

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