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## INTRODUCTION

- Speech perception is a multisensory process that depends on auditory and visual information.
- The **McGurk effect** indexes such audiovisual integration (Rosenblum et al., 1997).
- Adult native speakers of Asian languages were found to exhibit a weaker McGurk effect than those of non-Asian languages (Burnham & Lau, 1998; Sekiyama & Tohkura, 1991).
- This study examines whether Eastern and Western infants show differences in the McGurk effect.

## METHOD

Participants:

25 Caucasian Canadian infants (190 to 350 days; 10 females)

47 East-Asian Chinese infants (182 to 375 days; 28 females)

Experimental stimuli:

Type	Visual stimuli	Audio stimuli	Auditory percept
McGurk stimuli	/ga/	/ba/	/da/
	/ka/	/pa/	/ta/
Non-McGurk stimuli	/ba/	/ga/	/ga/
	/pa/	/ka/	/ka/

Caucasian &amp; East-Asian female faces (8 in each face-race set)

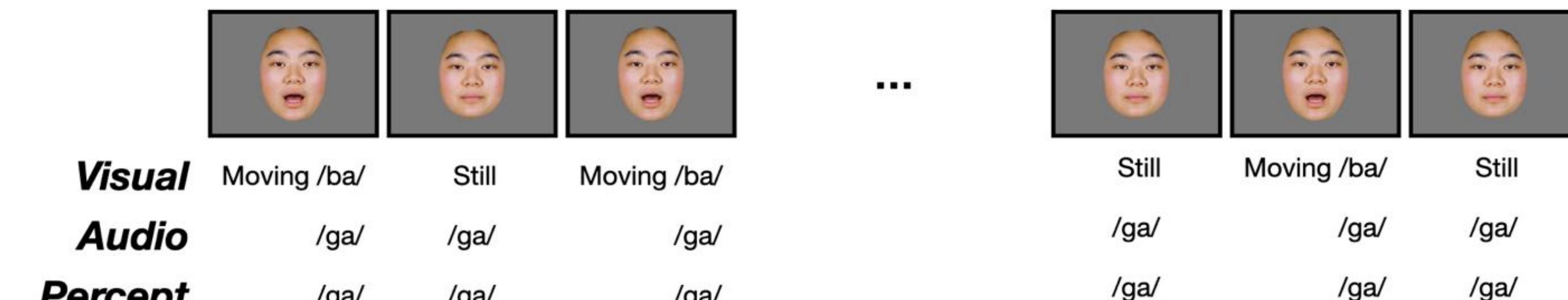
Infants watched familiar-race faces.

Procedures:

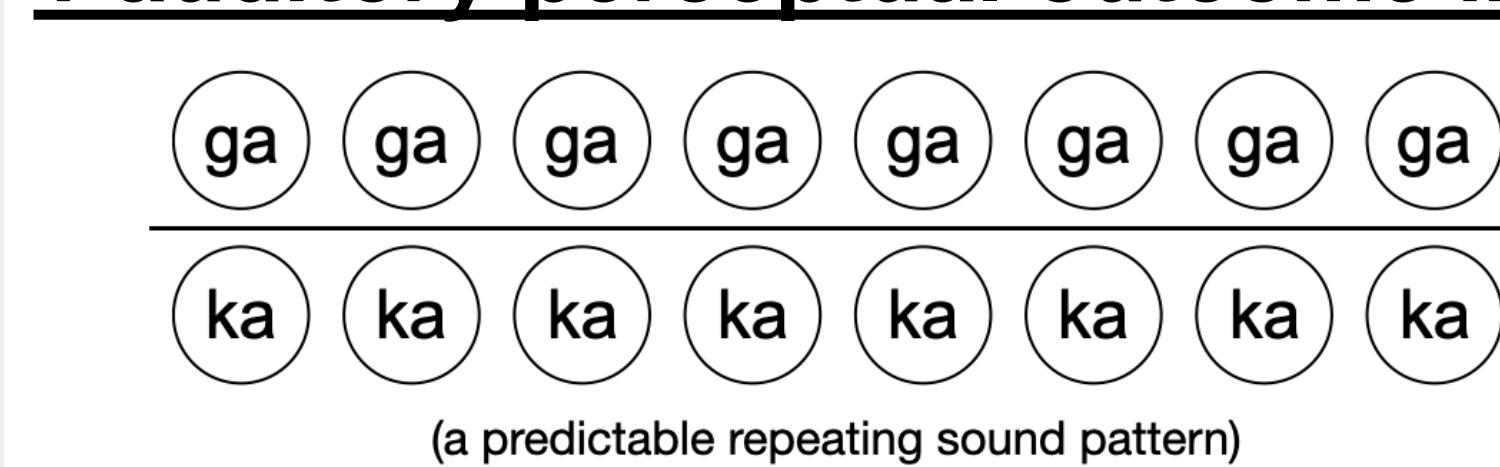
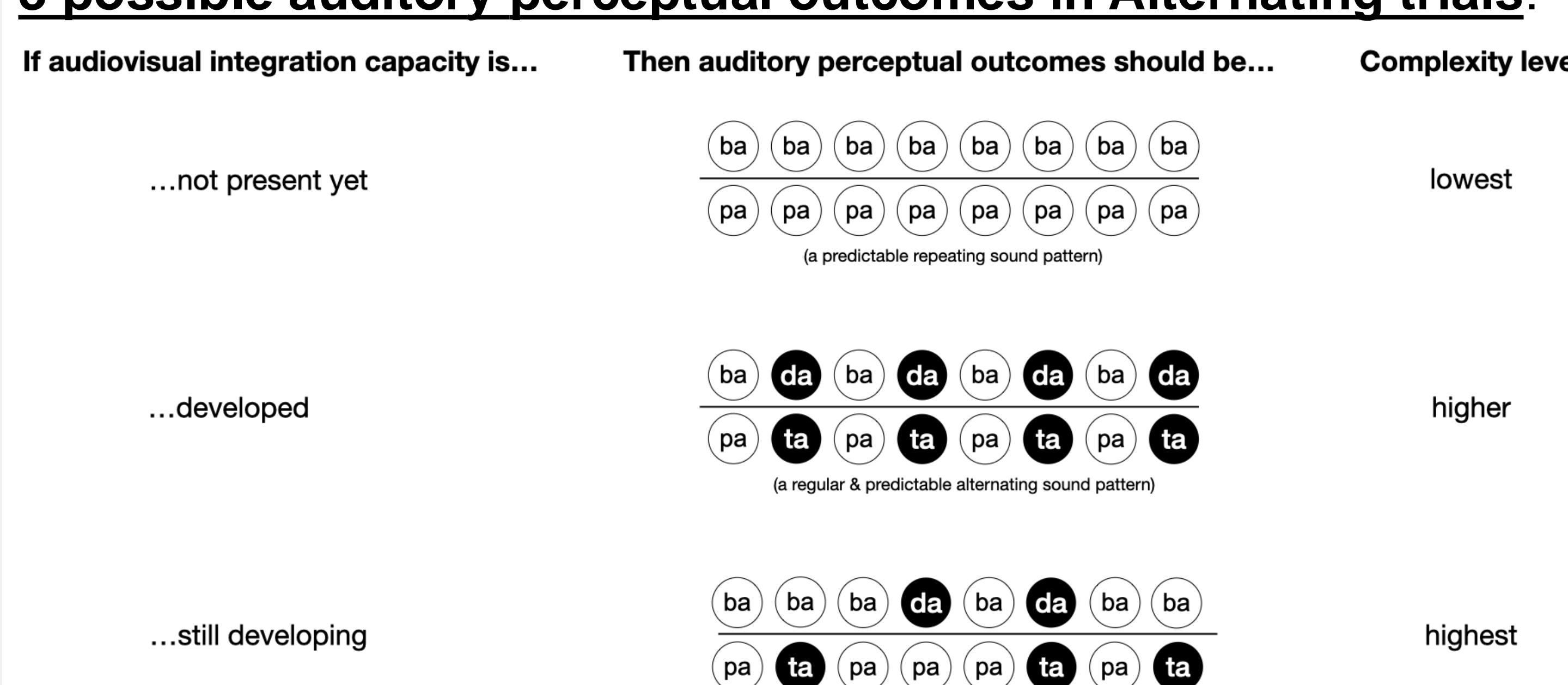
## Alternating trial



## Non-alternating trial

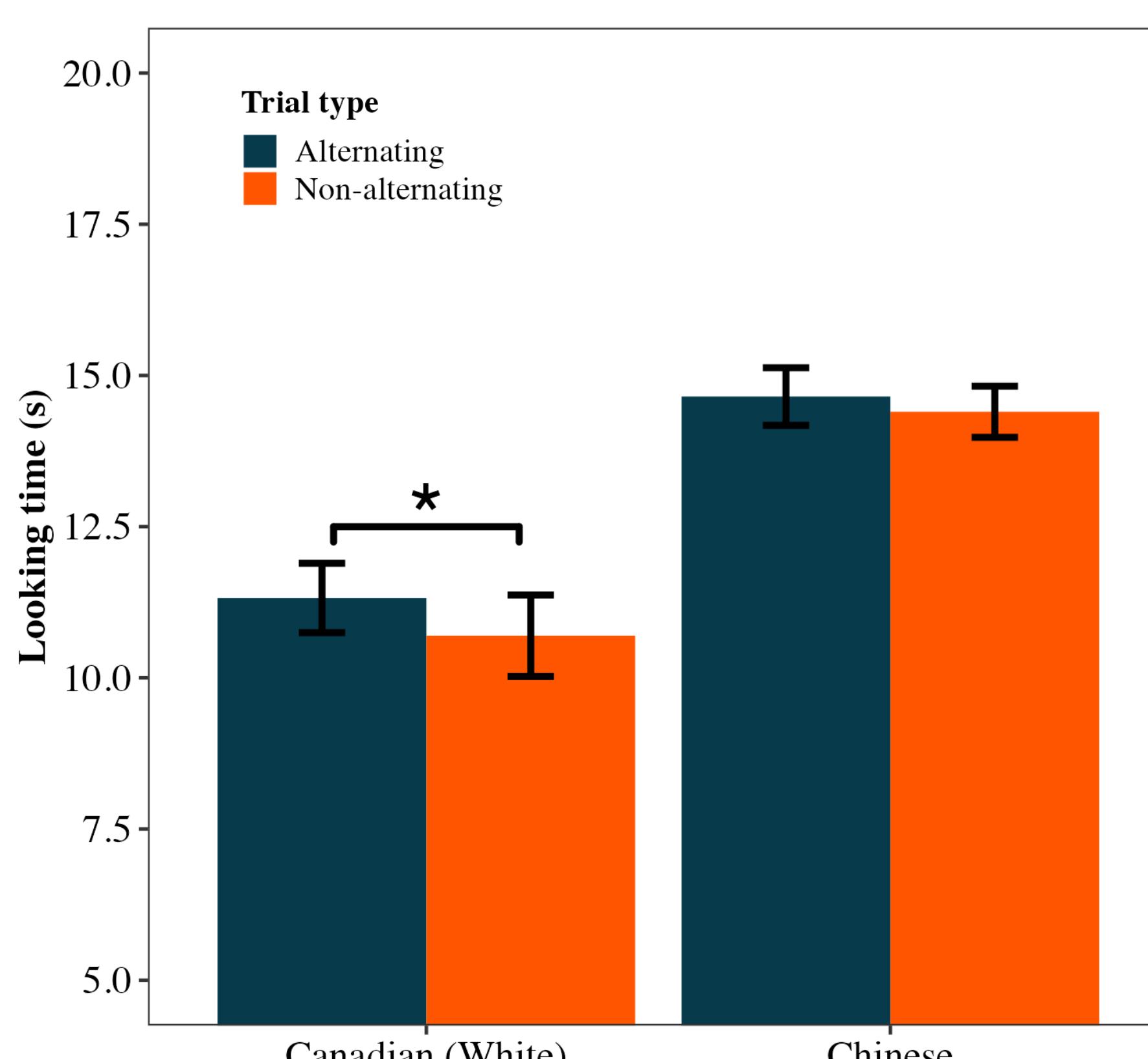


## INTERPRETATIONS

1 auditory perceptual outcome in Non-alternating trials:3 possible auditory perceptual outcomes in Alternating trials:"The Goldilocks effect":

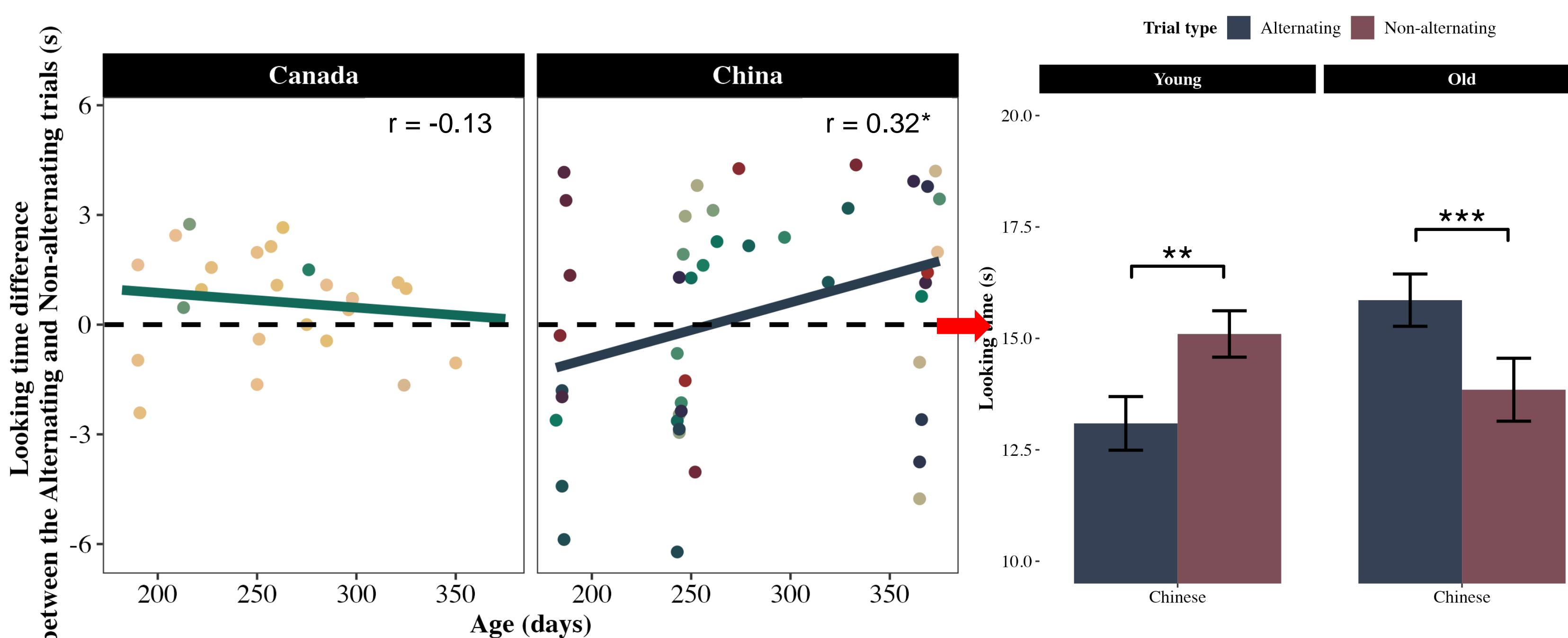
- Infants have statistical expectations about sensory input.
- Infants prefer intermediately complex inputs over simple and complicated ones. (Kidd, Piantadosi, & Aslin, 2012, 2014).

## RESULTS

Country comparison in trial looking time:

Canadian infants demonstrated the McGurk effect by looking significantly longer in the Alternating trials.

In contrast, Chinese infants did not show any looking preference.

Trial looking time difference by Age:

Canadian infants' looking preference was consistent throughout infancy.

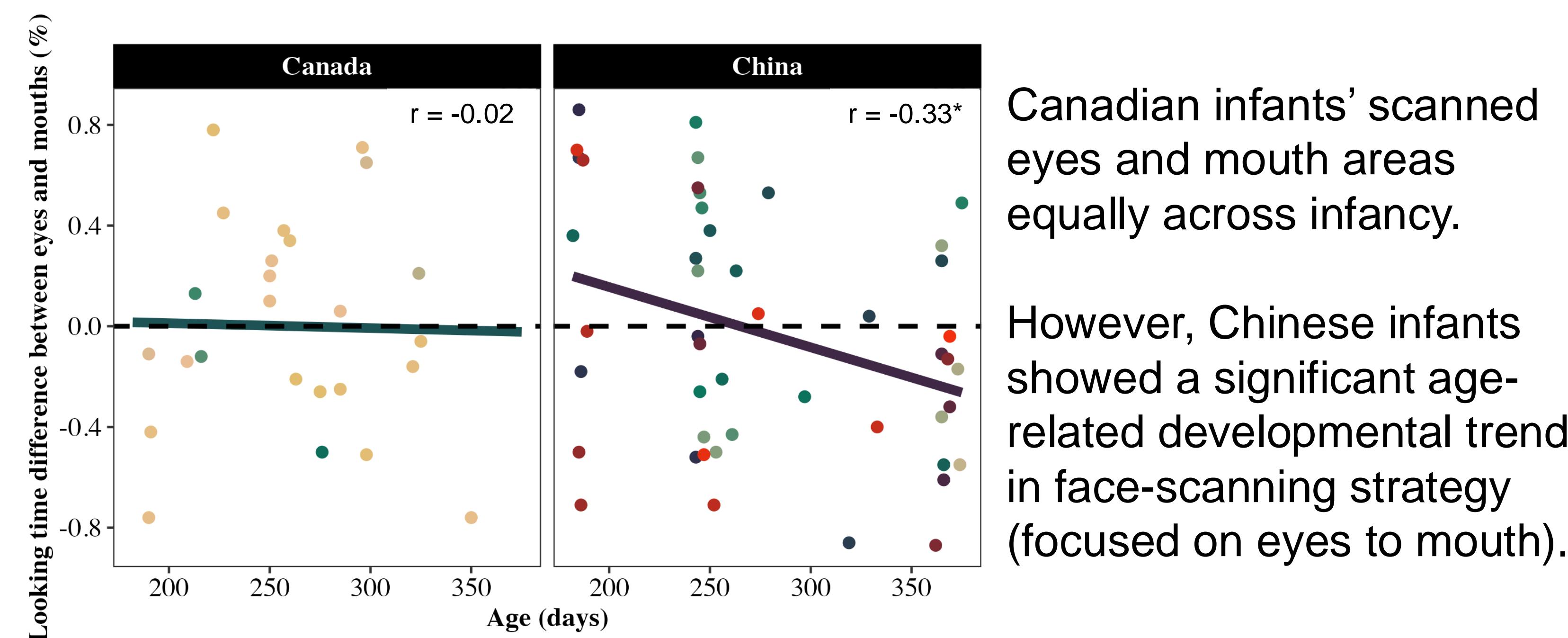
In comparison, Chinese infants showed a significant age-related developmental trend in trial looking preferences.

Young Chinese infants (6-8 mos) looked longer in Non-alternating trials.

In contrast, old Chinese infants (9-12 mos) exhibited the opposite pattern.

Cultural difference in caregiving practices:

	Canada	China
Parents	29.6 hrs/day	9.5 hrs/day
Grandparents	2.0 hrs/day	4.8 hrs/day
Primary caregivers	Mothers (100%)	Mothers (43.7%) Grandmothers (39.1%)

Area of Interest (AOI) looking difference by Age:

Canadian infants' scanned eyes and mouth areas equally across infancy.

However, Chinese infants showed a significant age-related developmental trend in face-scanning strategy (focused on eyes to mouth).

## CONCLUSIONS

- Canadian infants exhibited a robust audiovisual integration that emerges early and remains stable across infancy.
- Chinese infants' integration capacity ultimately matures into the same level at around eight months old (approx. 2 months' delay).
- Caregiving structures could induce such cultural difference: Canadian but not Chinese infants have sufficient and high-quality audiovisual input.