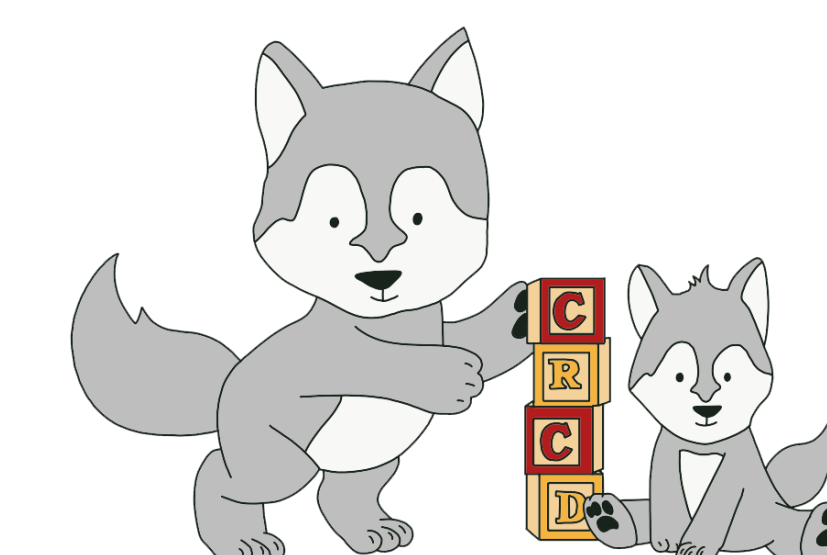


The Effect of Audiovisual Synchrony on Own- and Other-Race Face Processing in 12-Month-Old Infants

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BACKGROUND

- The other-race effect (ORE) is seen when perceptual biases lead to processing advantages for faces of one's own race relative to faces of another race (Meissner & Brigham, 2001).
- The ORE is generally observed in infancy by 9-months of age (Kelly et al., 2007).
- Although exposure to faces occurs mostly in multisensory settings, past research on the ORE has commonly used static, unimodal face stimuli.
- Audiovisual presentation of faces may affect how infants attend to other-race faces.
- In this study, we investigated the influence of audiovisual exposure on own- and other-race face processing in 12-month-old infants.
- Because exposure to racial diversity can diminish the ORE, we also assessed participants' exposure to different races to examine its effects on face processing.

RESEARCH QUESTIONS

- 1) Do infants differentially attend to synchronously and asynchronously presented own- and other-race faces?
- 2) Do infants show evidence of the ORE following audiovisual face exposure? Is the ORE impacted by audiovisual synchrony?
- 3) Is there a relationship between exposure to people from different racial backgrounds and look preferences during the VPC trials?

METHOD

Participants

- 74 12-month-old White infants were recruited to participate online via Lookit (Scott & Schulz, 2017)
 - 39 synchronous condition, 35 asynchronous condition
 - M_{age} for synchronous condition = 363 days
 - M_{age} for asynchronous condition = 367 days
 - Gender: 41 females, 32 males

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References

Kelly, D. J., Quinn, P. C., Slater, A. M., Lee, K., Ge, L., & Pascalis, O. (2007). The other-race effect develops during infancy: Evidence of perceptual narrowing. *Psychological science*, 18(12), 1084-1089.

Meissner, C. A., & Brigham, J. C. (2001). Thirty years of investigating the own-race bias in memory for faces: A meta-analytic review. *Psychology, Public Policy, and Law*, 7(1), 3.

Procedure

- Parents reported infants' frequency of exposure to different races (daily, weekly, monthly, less than monthly). This was used to calculate a **diversity exposure score** for each participant.
- Participants were assigned to the synchronous or asynchronous condition.
- They were familiarized with a video of an own- or other-race face (30 s) and then completed visual paired comparison (VPC) trials including pictures of the familiar face and a novel face of that race to measure recognition (10 s).
- The procedure was repeated with own- or other-race faces.

Screenshot of example familiarization stimuli



VPC stimuli



Data Coding and Analysis

Datavyu (2014) was used to code and process the data. Multiple analytical strategies were used to investigate looking preferences:

1. Paired-sample t-tests tested if participants looked longer to one stimulus over another during familiarization trials.
2. One-sample t-tests tested look preferences to the novel face during VPCs.
3. Linear regression to analyze the effect of exposure to different racial identities on looking times during VPCs.

RESULTS

RQ1 – Familiarization

- Infants did not show differences in looking behavior to own- and other-race faces during familiarization.

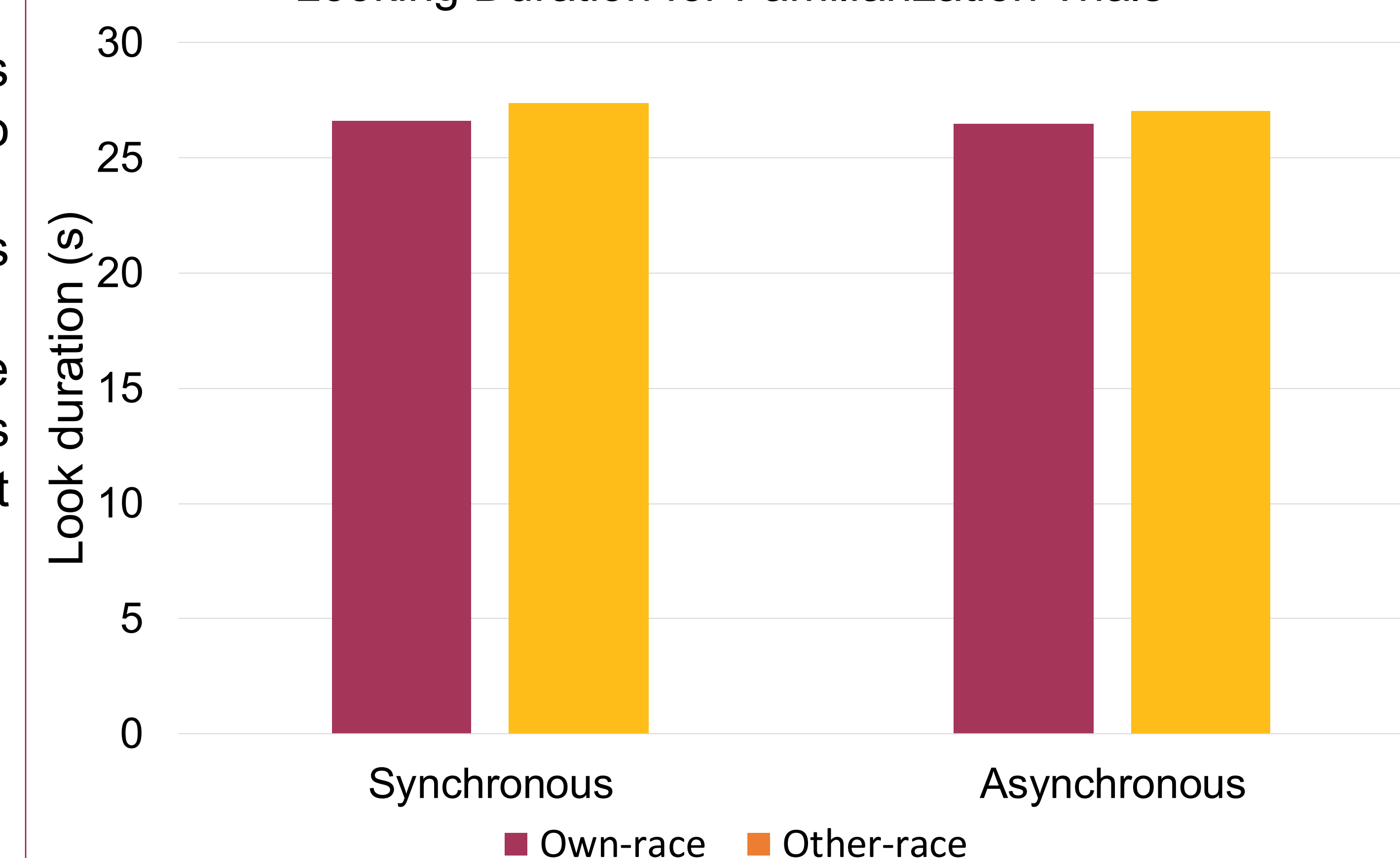
RQ 2 – VPC Trials

- Synchronous condition: significant preference for the **novel own-race** face when it was paired with the familiar own-race, $p < .05$.
- Asynchronous: no preference for any of the faces.

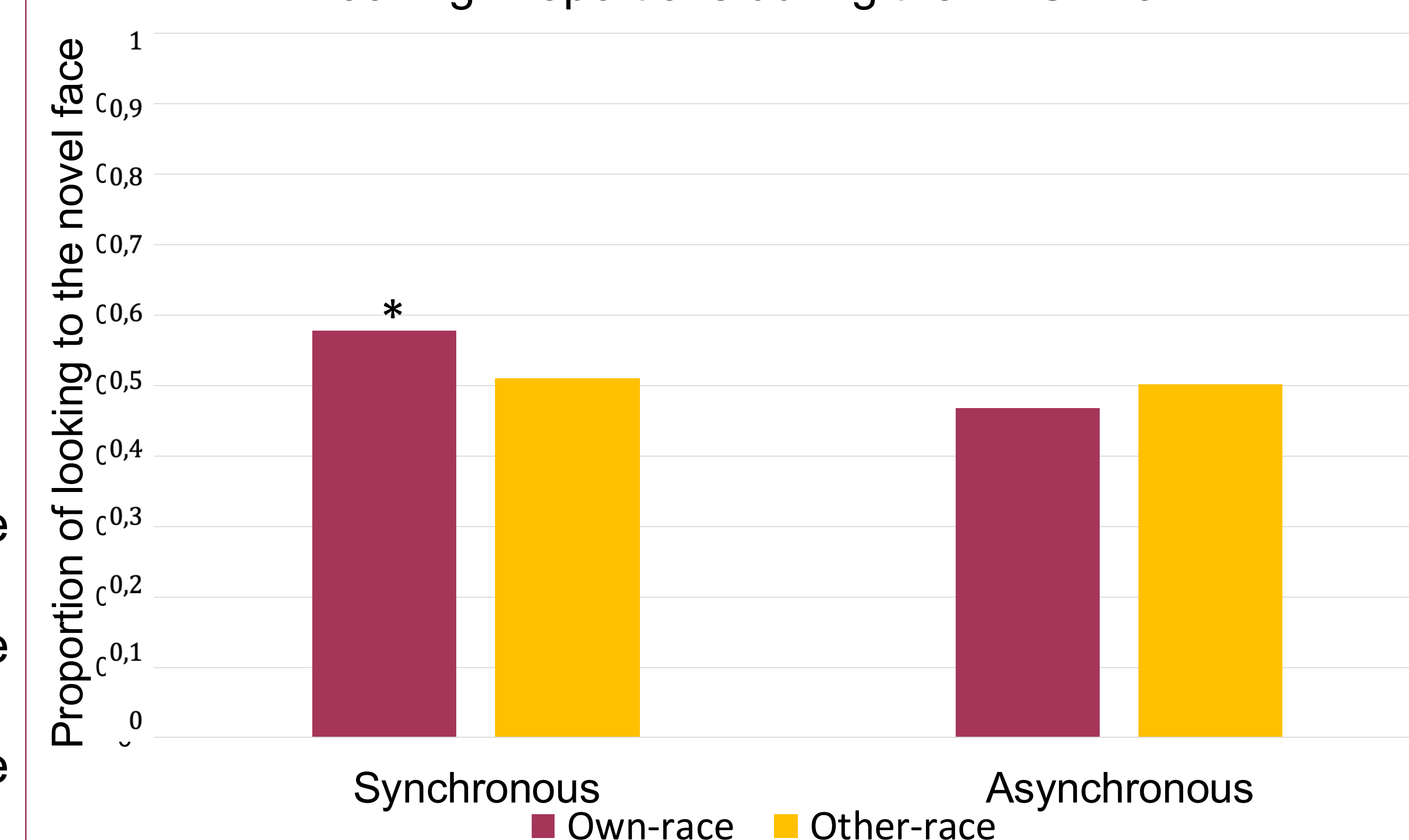
RQ 3 – Relationship between exposure and looking preferences

- Sync condition - as exposure to different races increased:
 - Looking time to own-race familiarization,
 - Looking time to novel own-race during the VPC,
 - Total looking time during own-race VPC increased.

Looking Duration for Familiarization Trials



Looking Proportions during the VPC Trial



DISCUSSION

- Participants in neither condition showed a preference for the sync or the async face during familiarization for own- or other-race faces, but were near ceiling for look duration across all stimuli, indicating that **regardless of synchrony, stimuli were attractive to 12-month-old infants.**
- Participants in the synchronous condition displayed a **novelty preference for the novel own-race** face, indicating that this face was recognized. This could mean that synchrony might aid in processing own-race faces.
- This also shows that the ORE was seen in the synchronous condition, suggesting that it extends to multimodal audiovisual contexts.
- Infants with more diverse racial exposure were more engaged with own-race faces during familiarization and VPC trials in the synchronous condition.