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## Introduction

Infants experience difficulty when recognizing male, but not female, faces presumably due to lack of experience with male faces (Quinn, Yahr, Kuhn, Slater, & Pascalis, 2002). We examined if increasing infants' experience with faces improved their recognition of faces.

## Method

- Two to three month-olds were assigned to one of three conditions:
- Male video
- Female video
- No video

Male and female video groups viewed the video each day for a month:

- Video consisted of six different faces.
  - Faces were matched to ethnicity of primary care giver.
- Purpose of video was to provide experience and familiarize infants to male or female faces.

## Experiment 1

- Infants were familiarized to 4 pairs of novel male faces (faces not included in the video) shown twice for 15 s each.
- At test, infants saw a familiar face paired with a novel face shown twice for 10 s.
- If infants recognized the familiar male face, they should look longer at the novel face.

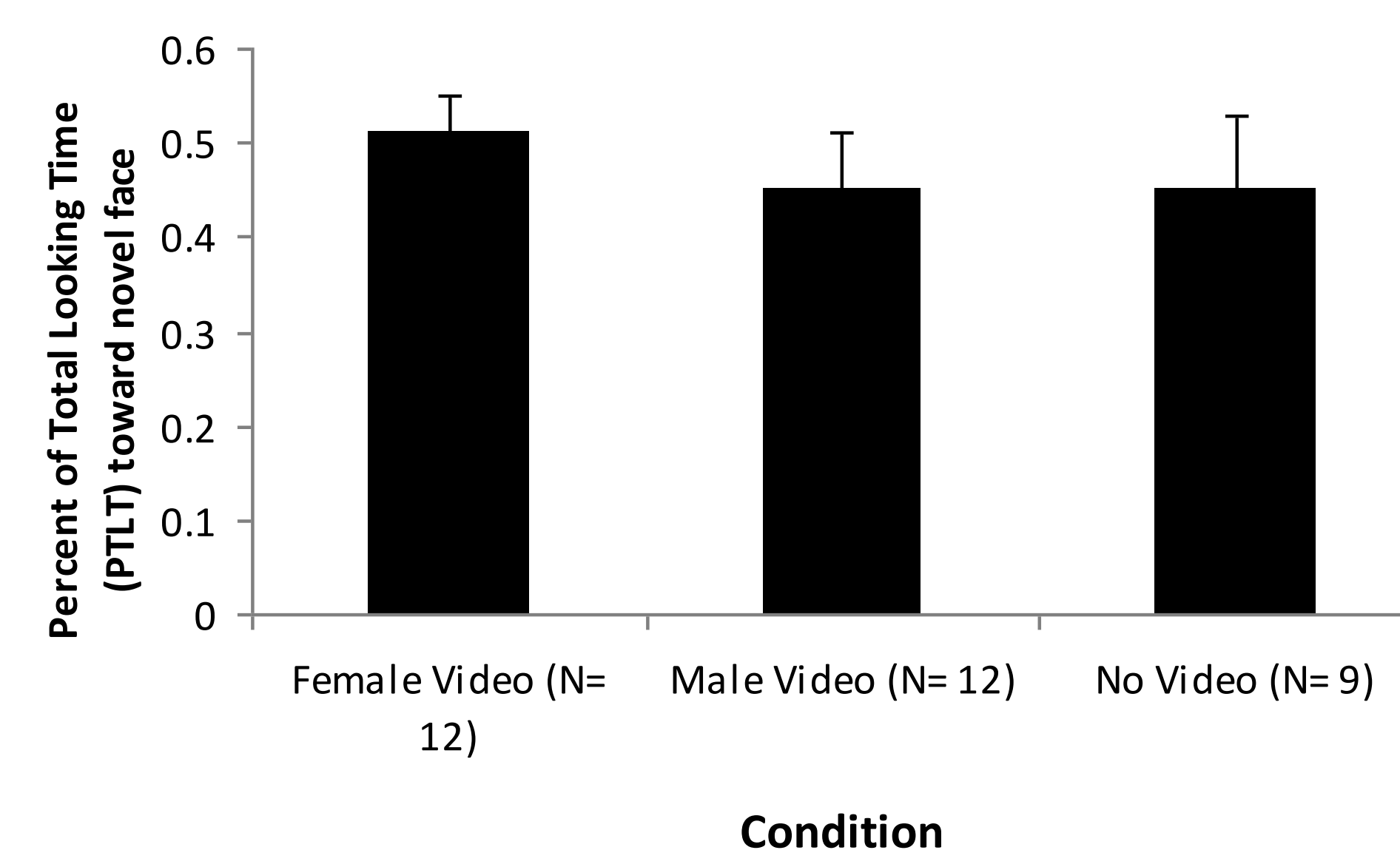
## Experiment 2

- Experiment two was identical to experiment one except the faces were female instead of male.
- If infants recognized the familiar female face, they should look longer at the novel face.

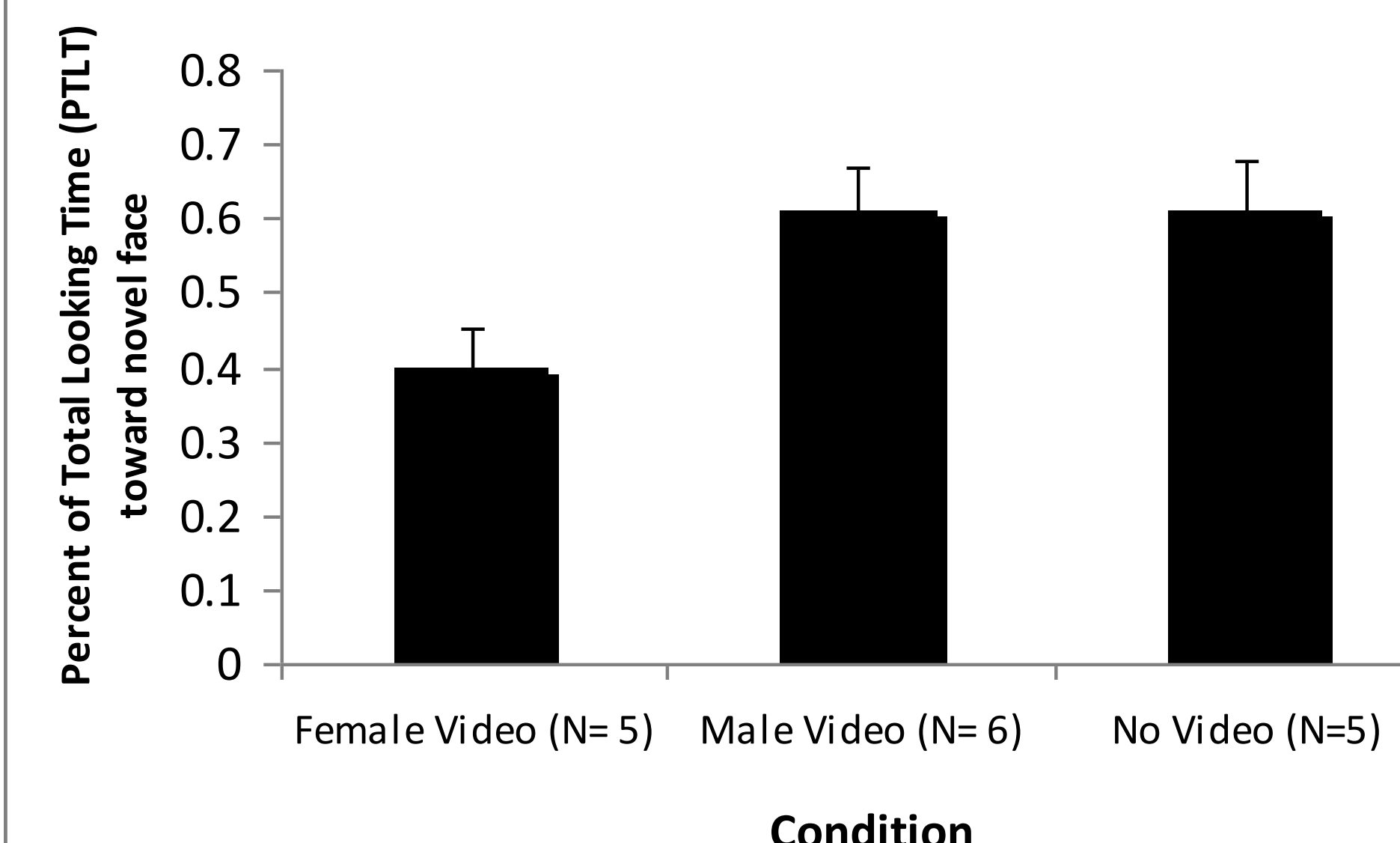
## Experiment 3

- Follow up infant-controlled habituation study, tested if infants' processed faces featurally or holistically (Cashon & Cohen, 2004).
- When tested infants saw:
  - One familiar face
  - One composite face
  - One novel face
- If infants processed the faces holistically, they should look at the composite face longer than the familiar face.
- If infants are processing male faces, they should look longer at the novel face than the familiar face.

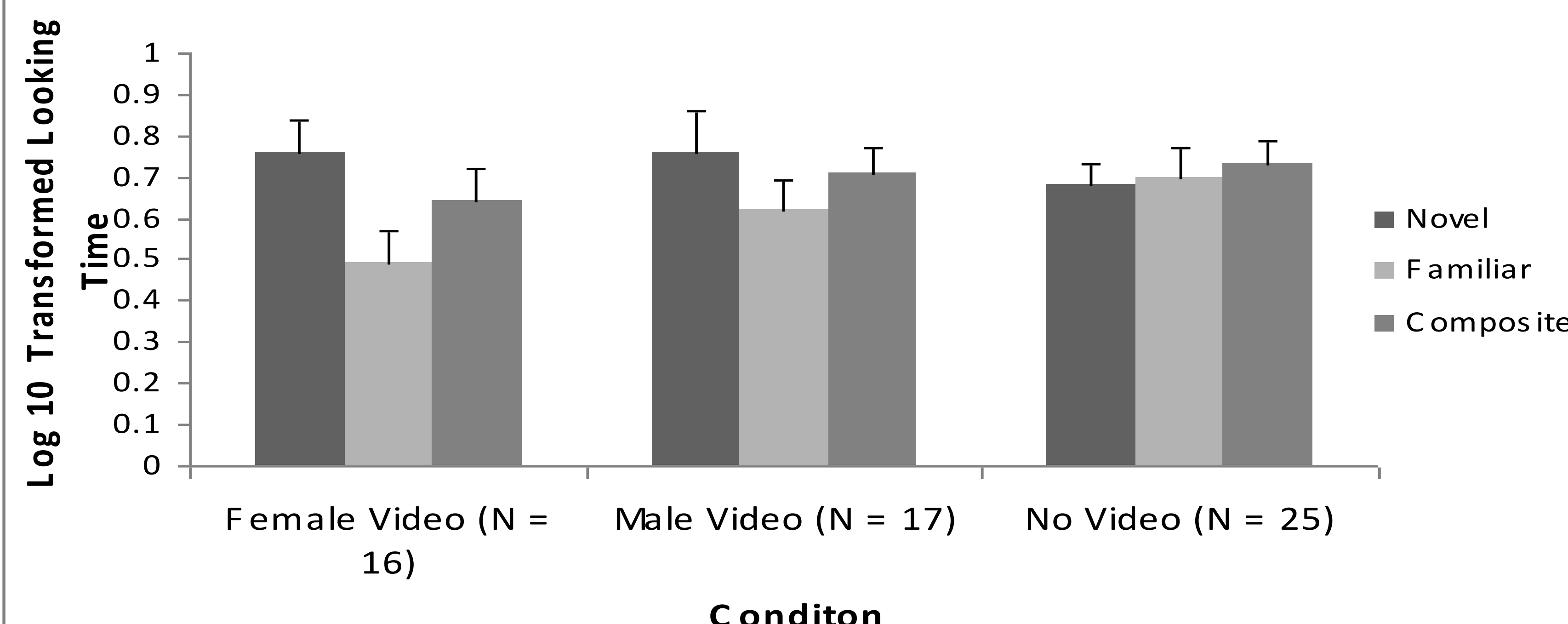
## Experiment 1



## Experiment 2



## Experiment 3



## Results

### Experiment 1

For the male faces, infants in the male video condition showed a familiarity preference, infants in the female condition showed a novelty preference, and infants in the no video condition showed no preference.

### Experiment 2

For the female faces, infants in the female video condition showed a familiarity preference, and infants in the male video and no video showed no preference.

### Experiment 3

None of the infants in any condition were able to distinguish the familiar face from the composite face. Only infants in the female video condition showed an increase in looking time from the familiar face to the novel face.

## Discussion

### Experiment 1

Infants in the male video condition showed a familiarity preference, instead of a novelty preference as expected. Infants may have developed a preference for the faces shown on the entertaining video, which may have generalized to the male faces shown during testing. They may have expected the familiar face to become dynamic, similar to the faces in the video leading them to prefer the familiar rather than novel male face.

Infants in the female video condition showed a novelty preference for the male faces. Because infants are adept at processing female faces in every day life, video exposure may have aided the infants processing of faces in this format. Therefore, infants were able to process the male faces more efficiently simply because of video exposure.

### Experiment 2

Infants in the male video and no video conditions did not show a familiarity or novelty preference for female faces. A trend towards a novelty preference is forming and with added participants significance may be likely.

Infants in the female video condition showed a familiarity preference. Similar to infants in the male video condition from Experiment 1, infants might have developed an expectation for familiar female faces to be entertaining. This anticipation may produce the belief that the face will talk or music will play resulting in longer looking towards the familiar face during test trials.

### Experiment 3

Distinguishing the composite male face from the familiar male face may still be a difficult task for infants at this age regardless of video experience.

Infants in the male video condition spent more time looking at the composite and novel faces as compared to female video condition infants. Perhaps, again, with the expectation that the faces would become active. Subsequently, infants in the female video condition showed a significant increase in looking from the familiar to the novel face providing further evidence that these infants were better processors due to added experience with faces.

## References

- Cashon, C.H., & Cohen, L.B. (2004). Beyond U-shaped development in infants' processing of faces: An information-processing account. *Journal of Cognition and Development*, 5(1), 59-80.
- Quinn, P. C., Yahr, J., Kuhn, A., Slater, A. M., & Pascalis, O. (2002). Representation of the gender of human faces by infants: A preference for female. *Perception*, 31,1109-1121.