The Effect of Experience on Infants’ Visual Preferences

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ABSTRACT

Research has shown that 3 to 4-month-olds with female primary caregivers show visual preferences for female relative to male faces (Quinn et al., 2002). Facial experience is likely an important influence on these preferences. From birth, infants’ experiences guide face processing skills. This processing ability influences the development of efficient face recognition later in life. The following study investigated (1) How visual preferences are influenced by real-world experience with males and females, and (2) How experience affects older infants’ visual preferences (i.e., 10-month-olds).

INTRODUCTION

Research shows that 3–4-month-olds with female primary caregivers visually prefer female relative to male faces (Quinn et al., 2002; Quinn et al., 2008). Visual preferences may guide infant categorization of faces by sex (Rennels & Davis, 2008). This early pattern of categorization aids in deciphering people and may have long-lasting implications regarding face processing. These categorization skills may be a precursor to stereotyping later in life, so understanding how these skills develop and influence an infant’s understanding of their social world is an important area of research.

The visual preferences Quinn et al. (2002) found are important to investigate further because infants need to become as efficient as possible to decipher the world and people around them. These preferences can lead to expertise in processing the most socially relevant faces. Studying visual preferences can help to define what influence the sex of the primary caregiver versus real-world male and female experience has on infants. The changes that occur between 3–4 months and 10 months can potentially offer insights into these changes. Subsequently, visual preferences may be a precursor to the development of bias and stereotypes as adults.

LITERATURE REVIEW

Most infants have female primary caregivers, and therefore most infants have substantial experiences with females relative to males (i.e., both strangers and familiar individuals) (Rennels & Davis, 2008). This predominantly female facial experience lends credence to the notion that most infants prefer looking at the female face (Quinn et al., 2002). Moreover, infants with female primary caregivers get more face time with their mothers and thus begin the journey of acquiring skills for mastering facial processing. It appears 3-4 month-old infants prefer girl-to-boy representations of faces in lab testing, and that adult female faces are the mediating reason. As infants have more experience with female faces, this raises the possibility that these preferences will extend across age (Quinn et al., 2008). If 3-4-month-olds’ preferences for females are limited to familiar race faces, it suggests that not only is female/male facial experience important for guiding preferences, but so is experience with various racial groups. Moreover, although 3- to 4-month-olds’ preference for the female face is prevalent, newborns show no spontaneous preference for their own or other ethnic groups, although they may be able to discriminate between faces from different ethnic groups (Kelly, Quinn, Slater, Lee, Gibson, Smith, Ge, & Pascalis, 2005). From this, we may conclude that experience is necessary for the visual preference to develop because babies are not born with the preference.

METHODOLOGY

• Participants: Infants aged 10-months-old in Uppsala, Sweden (N = 60); recruited via email from a database of eligible infants at Uppsala Universitet. We tested 10-month-old Swedish infants because Sweden’s public policy ensures equal caregiving, therefore providing an ideal location to examine infants with a wide range of experience with male and female faces.


• Procedure: After having their eye movements calibrated, infants’ completed a visual preference task, consisting of four different male-female pairs in 10-second trials.

RESULTS/CONCLUSIONS

• Percent of total looking time toward the female face (FPTLT).

• Percent of real-world experience with female faces (PFEXP).

• Time of total looking time toward the female face (TFT).

• PFEXP was marginally significant predictor of FPTLT, F(1,18) = 3.02, p < .10.

• When non-caretaker female experience was used as the independent variable, it was significantly predictive of FPTLT, F(1,40) = 4.02, p = .05.

• The examination of PFEXP and FPTLT produced a negative correlation; (r = -.292, p = .058).

• It appears that the more time infants are spending with non-caretaker females, the less time infants spend looking at the female face.

• These findings may indicate that once 10-month-olds master the ability to discriminate female faces from male faces, their attention and curiosity shifts to male faces.

FUTURE RESEARCH

Future researchers may consider using participants with more experience and interaction with males to further investigate if and how these real-world experiences affect visual preferences.

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REFERENCES


