

# **Becoming a native face expert: Development of the other-race effect in infancy**

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## *Abstract*

Recent studies have shown an early inception of the other-race effect that infants could discriminate own- and other-race faces at 3 months but then lose sensitivity for other-race faces from 6 to 9 months (Kelly et al ,2007b; 2009). Such finding has been explained by the perceptual narrowing hypothesis. The present study investigated young infant's ability to process own- and other-race faces with a novel approach. We designed three levels of face discrimination tasks (Easy = change identity, Medium difficult = change one feature (replace eyes), and Hard = change only one spacing (widen eyes)) and with three ethnic groups (Asian, Caucasian, and Philippine). A total of sixty 4-, 6-, and 9-mo-old infants were tested with the familiarization/visual-paired-comparison (VPC) procedure. Adults were also tested with the same stimuli to validate task difficulty. In contrary to Kelly et al (2007b; 2009), we found that 4-mo-old infants can only discriminate Taiwanese "easy" faces. 6-mo-old infants can further discriminate Taiwanese "medium" face and Caucasian "easy" faces. 9-mo-old infants can still discriminate Taiwanese "medium" faces and Caucasian "easy" faces, and they can further discriminate Philippine "easy" faces. In other words, the youngest infants show an own-race advantage for Taiwanese faces and such ability continues to improve; while the ability to process other-race faces emerges later and maintains at the basic level. Taken together, our findings suggest a mixture of general improvement in face processing combined with a specific tuning effect of early exposure to own-race faces. Moreover, the discriminability for other-race faces did not disappear but simply maintained at the basic level. This is strong evidence against the perceptual narrowing hypothesis.

**Keywords:** Other-race effect; infants; face processing; novelty preference; perceptual narrowing

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