Is Self-Face Recognition Special? Evidence from Lateralized Upside Down Faces
Yuan Hang Li and Eran Zaidel
Department of Psychology, University of California at Los Angeles

Introduction
• Hemispheric Specialization: The Right Hemisphere (RH) is specialized for face recognition (Bradshaw & Nettleton, 1983).
• The Face Inversion Effect (FIE): Upright Faces are recognized better than Inverted Faces. This is attributed to holistic processing of Upright Faces and feature-dependent processing of Inverted Faces (Farah et al., 1995).
• The Hemispheric FIE (HFIE): The FIE is greater in the normal RH than in the normal LH (Leehey et al., 1978).
• We examined 1) whether RH specialization for recognizing faces in general, and 2) whether greater FIE in the RH, are true for recognizing one’s own face.

Method
• Participant: 34 UCLA undergraduate students (15 female) completed this experiment for course credit.
• Stimuli and Procedure: the subject’s own face or a familiar friend’s face were presented tachistoscopically (150ms) to the left or right visual hemifield, in an upright or inverted position, using the program E-Prime.
• Task: subjects judged whether the stimulus was ‘self’ or ‘not self’ and responded with both index fingers for ‘self’ and both middle fingers for ‘not self.’

Results
• A 2 x 2 x 2 (Face Type: Self, Familiar) x (VF: LVF, RVF) x (Inversion: Inverted, Upright) ANOVA was carried out. Dependent variables were latency and sensitivity (signal detection) of responses.
• Faces shown to the RH were recognized faster (p=0.002) and with greater sensitivity (p<0.001) than faces shown to the LH.

Discussion
• Our data showed RH specialization for recognizing familiar faces but equal ability of both hemispheres to recognize self-faces. Others also have found equal self-face recognition capacity in the two hemispheres (Uddin et al., 2005).
• We found that the FIE was larger in the RVF than the LVF, contrary to previous reports (e.g., Leehey et al., 1978).

Conclusion
• Self-face recognition does not show the standard RH advantage for general face recognition. We conclude that self-face recognition is special.
• This extends previous studies that showed that self-face recognition is special by showing self-faces are recognized selectively better in the Upper Visual Fields (Li & Zaidel, 2006, 2007).

References