

Race and gender are automatically encoded in visual working memory

Xin Yang

Yale University, New Haven, Connecticut, United States

Joshua Langfus

John Hopkins University, Baltimore, Maryland, United States

Justiin Halberda

John Hopkins University, Baltimore, Maryland, United States

Yarrow Dunham

Yale University, New Haven, Connecticut, United States

Abstract

Research has suggested that perceivers automatically categorize faces based on gender and race but gaps remain regarding whether effects emerge at encoding or recall and the extent to which they are reducible to perceptual similarities (since faces from the same category are generally more similar to each other). We address these limitations using change detection paradigms adapted from visual working memory literature where one face from an array of faces changes to a face from the same or a different gender or racial category. We show that individuals are considerably faster and more accurate to identify changes that cross a category boundary, even when controlling for a range of perceptual differences and subjective features of faces. Our results suggest that social category information is automatically encoded in visual working memory in a format that is not reducible to lower-level perceptual features.