The Intrinsic Memorability of Face Identities

Wilma A. Bainbridge (1)

1 – Department of Brain and Cognitive Sciences, MIT

Some people in our lives stick in our memories while others are instantly forgotten. Memorability — whether a stimulus is likely to be later remembered—is found to be highly consistent for face images; people tend to remember and forget the same images. However, is memorability also intrinsic to a facial identity, generalizable across different images of a single person? 5,210 participants completed an online memory experiment testing face identity recognition over five different emotional and viewpoint transformations (neutral, happy, angry, 3/4 view, and pro-file view). Participants saw a stream of novel face images and indicated when they saw a repeated person, regardless of if the image was different or not . Memorability was found to be highly consistent within each image, as well as when training and testing on different images of the same person . Memorability ranking was also consistent across transformations—if a face was remembered in one image, it was also likely to be remembered in another. These results held true over both emotion expression transformations as well as viewpoint transformations. In addition, an asymmetry was found where encoding neutral (forward-facing, neutral emotion) images did not diminish memory performance, while encoding transformations did, hinting towards a prototype-based face memory representation. In whole, these results provide first evidence for an intrinsic, core memorability to a person or entity, beyond specific images.