

Tracking Face learning: Understanding face familiarity in natural and laboratory settings.

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Abstract

Familiar faces are processed differently than unfamiliar faces and the time-course of the shift from unfamiliar to familiar face representation is poorly understood. In two studies we looked at face learning in the wild and in the laboratory. In Study 1, participants met one of two tutors (target identities) during a semester. To test participants' face learning, we administered a novel person-specific matching task (deciding whether two images, presented simultaneously, show the same person or two different people) at five time points. The results showed an improvement in accuracy following 10 minutes of interaction with a target identity, relative to the control identity. This effect was larger for matched than mismatched trials and further increased a week later (at time point three), despite no additional contact with the target, suggesting memory consolidation. In Study 2, we examined whether laboratory learning would improve performance on the same matching task used to test participants in Study 1. To compare different types of learning we substituted the live learning for pairs of matched images, a movie clip, or a matching task with feedback for

targets. The results showed no effect of the experimental familiarization, i.e., merely performing the matching task was sufficient for face learning, even in the absence of feedback. Our results suggest that an initial hallmark of face learning is the ability to identify a face as a target identity, but the ability to differentiate it from other, similar faces, develops later in time. Finally, as participants were able to learn from our matching task even without feedback, a new, highly sensitive and identity-specific testing paradigm is needed to fully understand the time-course of face learning in the wild.

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