



UNIVERSITY of York

Incidental learning of trust does not result in distorted memory for the physical features of faces

James W. A. Strachan & Steven P. Tipper
Psychology Department, University of York



Scan QR code to access PDF version of this poster on Google Drive

Introduction

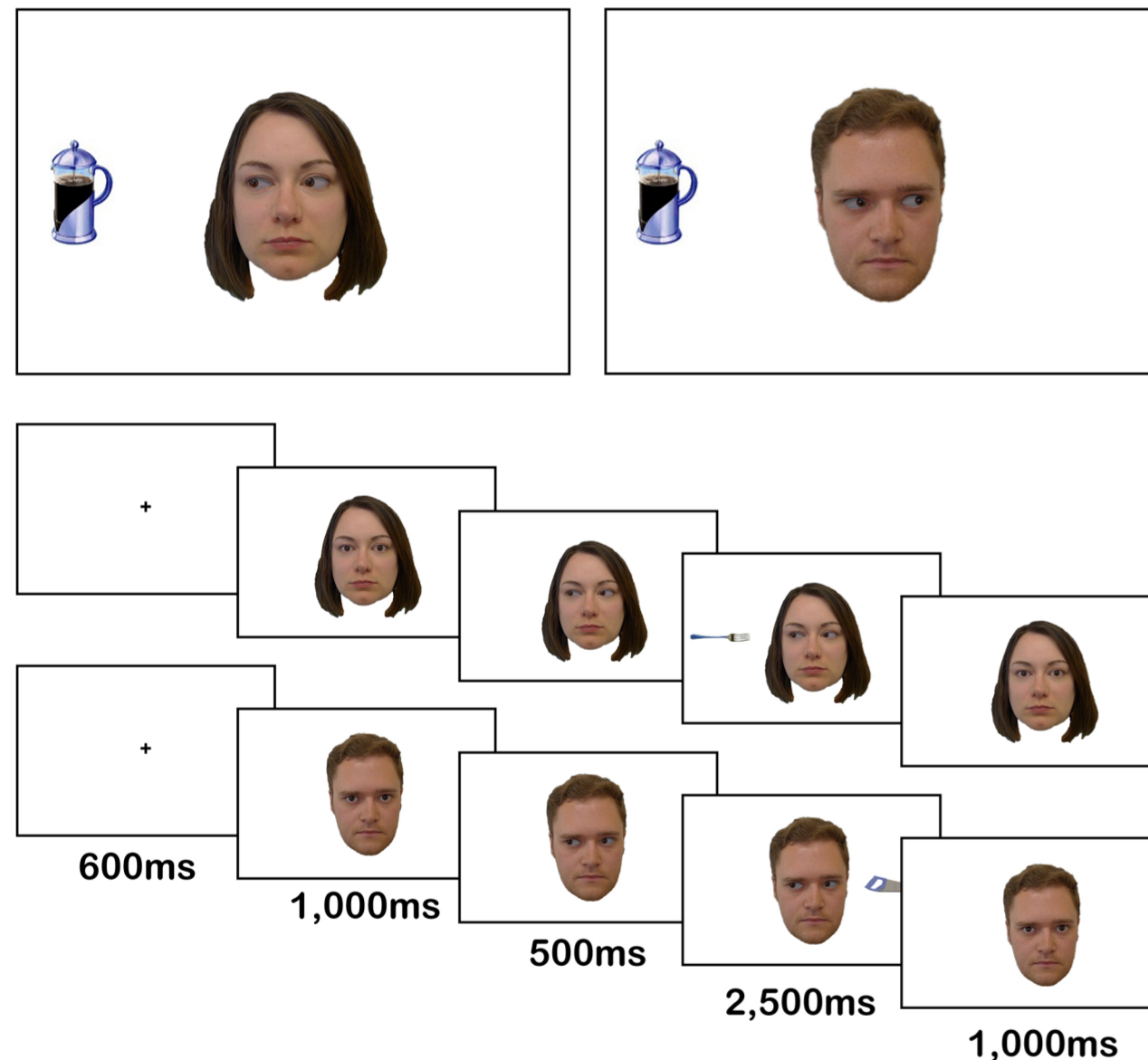
Gaze cues lead to automatic, reflexive reorienting of attention
Consistently invalid gaze cues leads to faces being rated as less trustworthy than other faces that consistently cue correct location [1]

How is this representation stored?

Quick access to stored representation may be facilitated by updating memory of the face to appear more or less trustworthy
Examine this using two converging techniques

VALID TRIAL

INVALID TRIAL



Method

Gaze cueing procedure (pictured above)

Stimuli: KDEF faces [2] selected according to previous ratings [3]

Each face (8 male, 8 female) appears as either valid (look toward target) or invalid (look away from target) during experiment

Images morphed using JPsychomorph [4] to adopt features outlined in [5] associated with un/trustworthiness, each image being a 5% increment

Corresponding author: James W A Strachan, Psychology Dept. University of York, York, YO10 5DD

js756@york.ac.uk

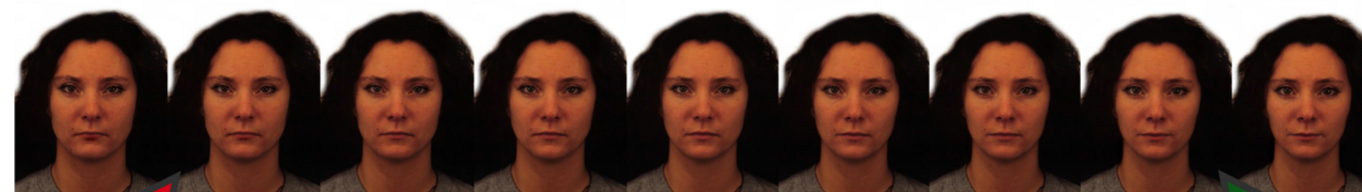
@jamesstrachan

Experiment 1: Morphing

n = 24 (22F, M_{age} 21.43)

After cueing

Participants told face is morphed along a continuum, have to morph it back along 5% intervals to the image they saw during cueing



100% Untrustworthy

Original

100% Trustworthy

Do people remember valid faces as looking more trustworthy than invalid faces?

Results



Invalid

5% Untrustworthy



Valid

0% Trustworthy

Confidence Ratings

Valid: $M = 4.88$, s.d. = 1.99

Invalid: $M = 4.73$, s.d. = 2.07

No evidence of bias in face morphing

No evidence of difference in confidence in decisions

Experiment 2

n = 23 (18F, M_{age} 21.52)

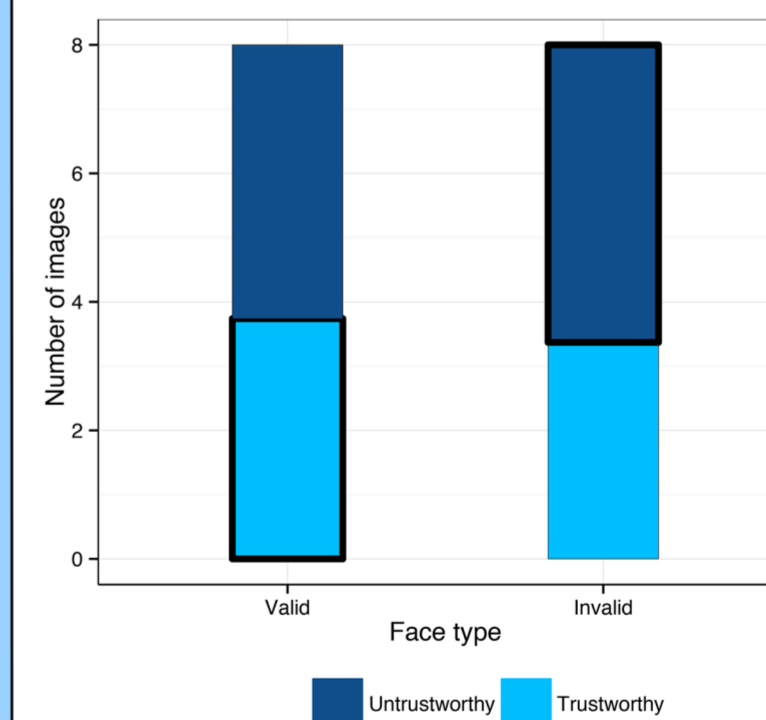
After cueing

Participants shown 50% images (50% trustworthy, 50% un-trustworthy), told stimuli were of identical twins. Asked to select which they had seen during experiment.



Which twin did you see during the experiment?

Results



Participants did not select congruent face (valid-trustworthy, invalid-untrustworthy) significantly more than incongruent face ($p = .224$)

Confidence ratings

Valid: $M = 5.09$, s.d. = 2.02

Invalid: $M = 5.44$, s.d. = 2.10

Significantly more confident in decisions made about invalid than valid faces:

$\beta = -0.35$, $SE = 0.12$, $\chi^2(1) = 8.24$, $p = 0.004$

Conclusions

Previous gaze behaviour of a face does not appear to impact memory for physical facial features

Some evidence that when task is easier (2AFC as opposed to morphing) participants feel more confident about their memory for invalid faces, suggesting better memory for deceivers

Techniques used here may be useful in other areas of research

References

- [1] Bayliss, A. P., & Tipper, S. P. (2006). Predictive gaze cues and personality judgments should eye trust you? *Psychological Science*, 17(6), 514-520.
- [2] Lundqvist, D., Flykt, A., & Öhman, A. (1998). The Karolinska directed emotional faces (KDEF). CD ROM from Department of Clinical Neuroscience, Psychology section, Karolinska Institutet, 91-630.
- [3] Oosterhof, N. N., & Todorov, A. (2008). The functional basis of face evaluation. *Proceedings of the National Academy of Sciences*, 105(32), 11087-11092.
- [4] Tiddeman, B., Burt, M., & Perrett, D. (2001). Prototyping and transforming facial textures for perception research. *IEEE computer graphics and applications*, 21(5), 42-50.
- [5] Todorov, A., Baron, S. G., & Oosterhof, N. N. (2008). Evaluating face trustworthiness: a model based approach. *Social cognitive and affective neuroscience*, 3(2), 119-127.