

Adaptation to facial trustworthiness is different in male and female observers¹

E·S·R·C
ECONOMIC
& SOCIAL
RESEARCH
COUNCIL



J Wincenciak

M Dzhelyova

DI Perrett

NE Barraclough



University
of Glasgow

THE UNIVERSITY of York

Complex trait judgements derived from faces, such as trustworthiness² and competence³, are made rapidly and guide people's decision making during social interactions. However, face perception is dependent upon prior visual context^{4,5}, which may cause biases in perception. To investigate how recent visual experience influences trustworthiness judgements, we examined how adaptation to trustworthy and untrustworthy faces biases subsequent trustworthiness perceptions of faces.

Measuring Adaptation to Trustworthiness

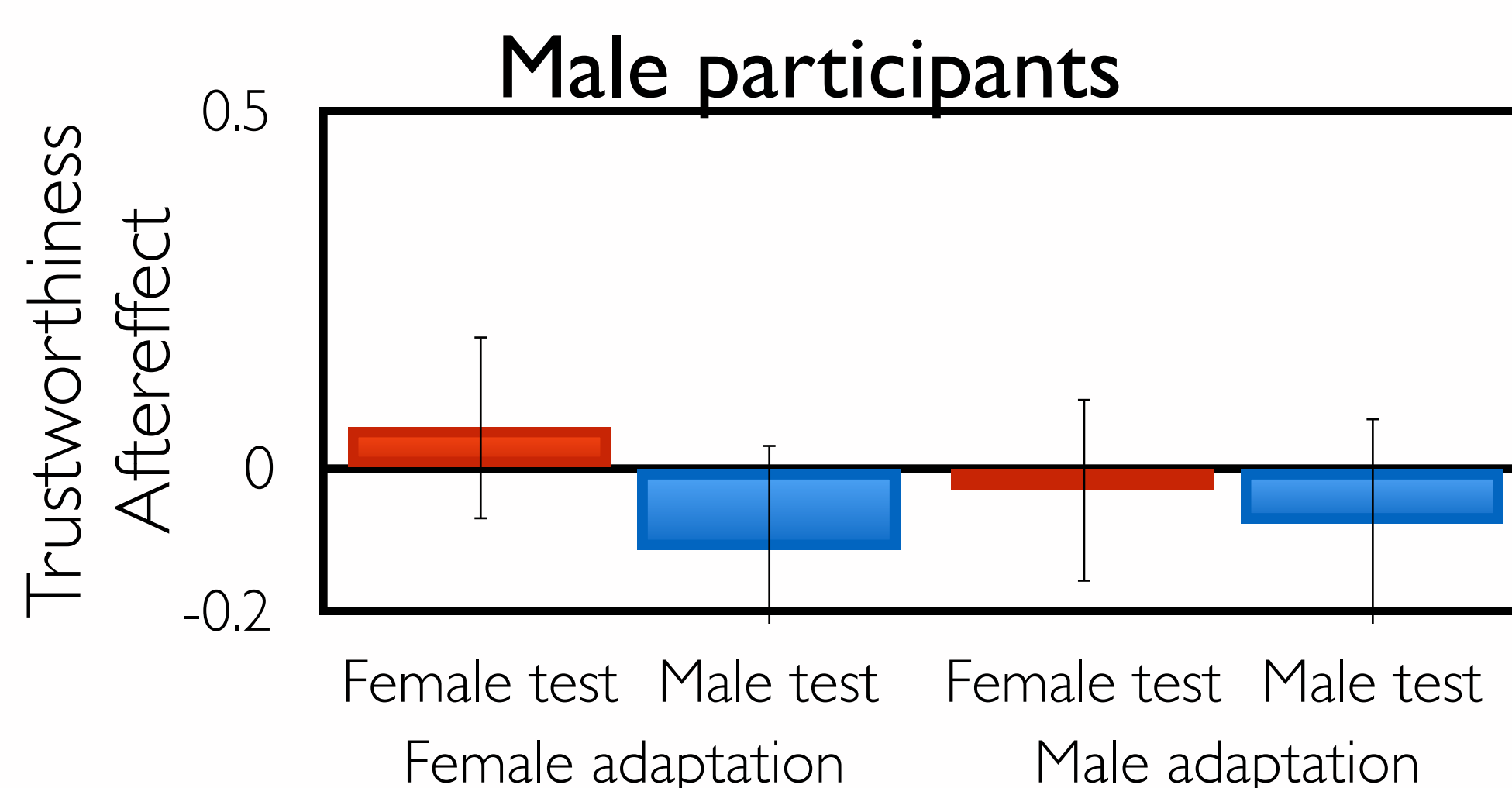
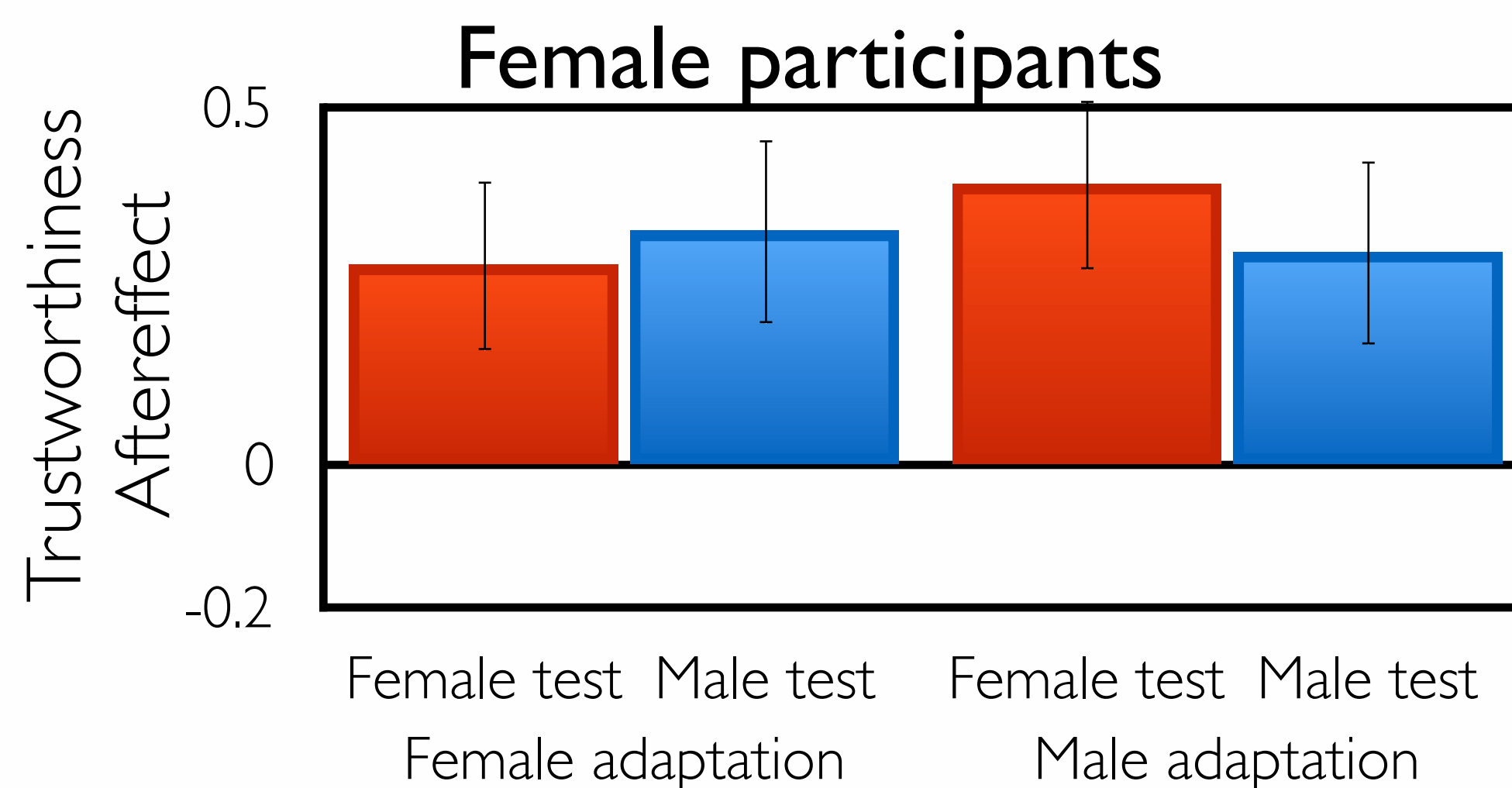
24 men and 24 women (mean age = 23.2, SD = 5.3 years) performed a visual adaptation task, in which, following prolonged (30 sec plus 5 sec 'top-up') viewing of the trustworthy or untrustworthy female or male prototype (*below*), they rated the trustworthiness of 25 female and 25 male faces.



Trustworthy Untrustworthy



Trustworthy Untrustworthy



Ratings of adapting and test stimuli*

1 = very trustworthy, 8 = very untrustworthy

| | Trustworthy prototype | | Untrustworthy prototype | | Average of 50 test faces | | Average of 14** test faces | |
|---------------|-----------------------|------|-------------------------|------|--------------------------|------|----------------------------|------|
| | female | male | female | male | female | male | female | male |
| Female raters | 2.3 | 3.5 | 4.6 | 5.2 | 4.6 | 5.2 | 3.9 | 4.3 |
| Male raters | 2.4 | 3.9 | 4.7 | 5.2 | 4.5 | 5.1 | 3.7 | 4.5 |

* Faces rated by independent observers (14 female, 14 males, mean age = 22.2 years, SD = 4.4)

** 7 female and 7 male faces used in the main analysis

Calculating Trustworthiness Aftereffects Scores

Ratings of faces following trustworthy adaptation were subtracted from ratings following untrustworthy adaptation. Positive values indicate typical aftereffect, where perception of test stimuli is biased away from the adapted trait.

Analysis

Ratings of test faces were analysed using a 4-way mixed ANOVA with within-subject factors of adaptation trustworthiness, sex of adapting stimulus, and sex of test stimulus, and participant sex as between-subject factor. The significant main effect of adaptation trustworthiness ($F_{1,46} = 6.87, p < .005$) was qualified by an interaction between adaptation trustworthiness and participant sex ($F_{1,46} = 8.88, p < .005$). The main effect of test stimulus sex was also significant ($F_{1,46} = 31.45, p < .001$).

Repeating the ANOVA split by participant sex revealed the main effect of adaptation trustworthiness for women ($F_{1,23} = 13.33, p < .001$), but not for men ($F_{1,23} = 0.07, p = .79$).

Women's but not men's judgement of facial trustworthiness is influenced by recent visual experience. This sex difference suggests that different mechanisms may underpin men's and women's perception of facial trustworthiness^{6,7} and suggests that, when assessing trustworthiness of other individuals, men may be less influenced by prior visual context.

