

Short Report

Ethnic Out-Group Faces Are Biased in the Prejudiced Mind

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Prejudice biases cognition, affect, and behavior toward ethnic out-groups (Fiske, 1998). We propose that prejudice also biases the way people conceptualize the facial appearance of out-group members. Popular belief holds that people's personality traits are reflected in their facial features. Hence, people's beliefs about the traits of out-groups may also be reflected in what they think faces typical for particular out-groups look like. Because prejudiced people have more negatively stereotyped beliefs about an out-group's characteristics than less prejudiced people do (Fiske, 1998), we hypothesized that prejudiced people also have more negatively stereotyped mental representations of faces of people in the out-group. To test this hypothesis, we conducted two studies involving the category of Moroccans, a highly stigmatized immigrant group in The Netherlands.

STUDY 1

The first study consisted of two parts: image construction and image rating. In the image-construction phase, we used a forced-choice reverse-correlation image classification technique (Mangini & Biederman, 2004) to capture participants' ($N = 28$) mental representations of Moroccan faces. In 390 trials, participants chose the more Moroccan-looking face from two stimulus faces presented side by side. All stimuli consisted of the same base face with random noise superimposed (Figs. 1a and 1b).¹ Within a single trial, one stimulus consisted of the base face with a random-noise pattern added, and the other consisted of the base face with the same pattern subtracted. By averaging all stimulus faces a participant chose as more Moroccan, we obtained a personal classification image for that participant.

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¹The base face was the neutral male mean of the Averaged Karolinska Directed Emotional Faces database (Lundqvist & Litton, 1998). The noise consisted of 60 superimposed sinusoid images: 6 orientations (0°, 30°, 60°, 90°, 120°, and 150°) × 5 spatial frequencies (1, 2, 4, 8, and 16 cycles per image) × 2 phases (0, $\pi/2$), with random contrasts.

This classification image was a function of the participant's representation of Moroccan faces, the base face, and error.

The relative contribution of the base face to such classification images is unknown, but the technique seems to allow for a great variety of classification images given the same base face. For example, Figure 1c shows the average Moroccan classification image from this study and the average classification image of 30 independent participants who were instructed to select the more Chinese-looking stimulus using the same procedure.

The prejudice level of each participant in the image-construction phase was assessed using a single target Implicit Association Test (see Bluemke & Frieze, in press; Greenwald, McGhee, & Schwartz, 1998). This test measured the relative strength of negative versus positive associations with Moroccan names as indicated by reaction times. An overall positive difference score (subtracting reaction times reflecting negative-Moroccan associations from reaction times reflecting positive-Moroccan associations) indicated stronger negative than positive associations with Moroccans (mean difference score = 34.77 ms, $SD = 74.92$). On the basis of this measure, participants were divided into low-, moderate-, and high-prejudice subgroups with cutoffs on the 33rd (3.97 ms) and 66th (66.66 ms) percentile. For each subgroup, we calculated an average classification image, which represented this subgroup's average representation of a Moroccan face (Fig. 1d).

In the image-rating phase, independent participants ($N = 70$) rated the average classification images of the three subgroups on two traits related to the Moroccan stereotype. We first showed the three subgroups' images to participants to familiarize them with the stimulus set. Subsequently, participants rated each of the images on two traits: criminal (stereotypical trait) and trustworthy (counterstereotypical trait). Image order was counterbalanced, and the order in which the traits were rated was randomized. Analyses of variance showed that the classification images of the subgroups differed significantly in the criminality and trustworthiness ratings they received, $F(2, 68) = 39.00$, $p_{\text{rep}} > .99$, $\eta_p^2 = .53$, and $F(2, 68) = 43.95$, $p_{\text{rep}} > .99$, $\eta_p^2 = .56$, respectively. The classification image of participants in the high-prejudice group was rated as more criminal ($p_{\text{rep}} > .99$).

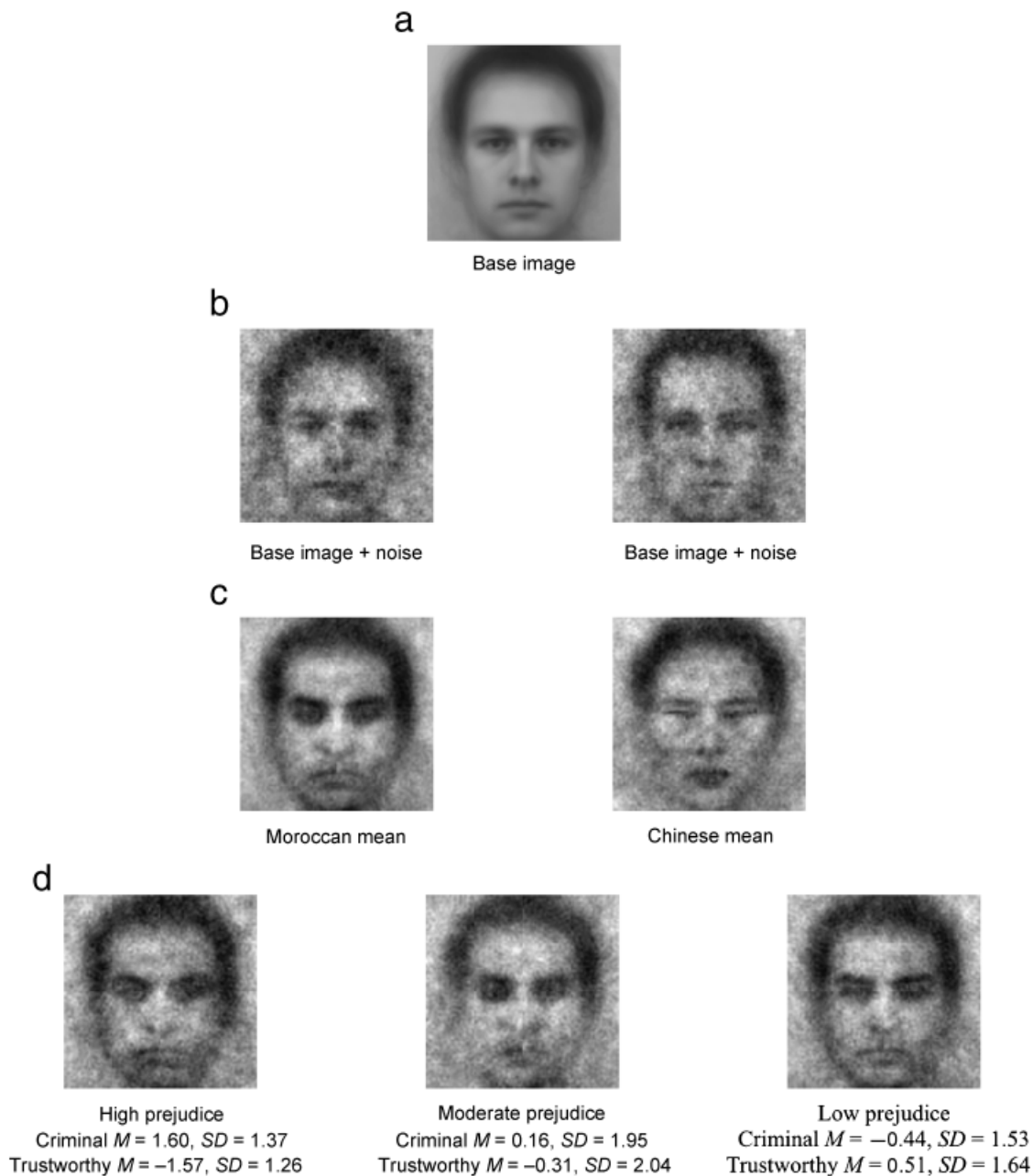


Fig. 1. Base image used in all stimuli across both studies (a), examples of stimuli used in the studies (b), averaged Moroccan classification image in Study 1 and averaged Chinese classification image of 30 independent participants (c), and classification images of the three subgroups (high, medium, and low prejudice) in Study 1 (d). Scores below the images in (d) indicate trait ratings, on scales ranging from -3 (*not criminal or not trustworthy*) to 3 (*very criminal or very trustworthy*).

and less trustworthy ($p_{\text{rep}} > .99$) than the classification image of participants in the moderate-prejudice group, which in turn was rated as marginally more criminal ($p_{\text{rep}} = .85$) and less trustworthy ($p_{\text{rep}} = .95$) than the classification image of participants in the low-prejudice group.

STUDY 2

The results of the first study suggested that highly prejudiced people have biased mental representations of Moroccan faces.

We ran a second study using more trials in the image construction phase (770 trials), but with an otherwise identical design, to enhance the quality of individual participants' classification images ($N = 35$). This allowed us to replicate the findings of the first study on an individual rather than subgroup level. In the image-rating phase, independent participants ($N = 55$) rated all individual classification images produced in the image-construction phase on criminality in one block and trustworthiness in another block. Block order was counterbalanced, and image order within blocks was randomized.

For each rater, we calculated the within-rater standardized regression coefficients, representing the relation between the current participant's ratings of the images and the prejudice level of the participants whose data were used to construct the images. This was done for each trait separately. Subsequent *t* tests revealed that the more prejudiced the participants whose data formed the basis of the images, the more criminal the images were rated, mean $\beta = .12$, $SD = .19$, $t(54) = 4.94$, $p_{\text{rep}} > .99$, and the less trustworthy the images were rated, mean $\beta = -.08$, $SD = .17$, $t(54) = 3.5$, $p_{\text{rep}} > .99$.

DISCUSSION

These results suggest that people's representations of ethnic faces are related to their level of prejudice. Future research should provide more insight into the nature of these representations. Furthermore, factors in addition to prejudice, such as context or specific derogatory group labels, may moderate mental representations of out-group faces. The present results have important implications with regard to whom people identify as members of stigmatized groups. They indicate that the more people are prejudiced, the more criminal-looking their prototype of Moroccan faces is. Because more prototypical exemplars are processed more fluently (Winkielman, Halberstadt, Fazendeiro, & Catty, 2006), prejudiced individuals may find it easier to categorize criminal-looking Moroccan faces as Moroccan than

to categorize innocent-looking Moroccan faces as Moroccan. This may function as a stereotype-maintaining device.

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