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LAST BUT NOT LEAST

Barack Obama or Barry Dunham?[1] The appearance of multiracial faces is affected by the names assigned to them

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Abstract. Does semantic information in the form of stereotypical names influence participants' perceptions of the appearance of multiracial faces? Asian-Australian and European-Australian participants were asked to rate the appearance of Asian-Australian faces given typically Asian names, European-Australian faces given typically European names, multiracial faces given Asian names, and multiracial faces given European names. Participants rated the multiracial faces given European names as looking significantly 'more European' than the same multiracial faces given Asian names. This study demonstrates how socially derived expectations and stereotypes can influence face perception.

In general, people have better recognition for own-race[2] faces compared to other-race faces (Meissner and Brigham 2001). This own-race bias (ORB) is often explained in terms of reduced expertise at encoding the facial characteristics of an unfamiliar racial group (eg Hills and Lewis 2006; Valentine 1991). However, an alternative explanation suggests that other-race faces are less well recognised because the realisation that they are 'other-race' influences the extent or manner of our processing of those faces. According to Levin's (2000) 'feature-selection' hypothesis of the ORB, once people categorise a face as 'other-race', they look for facial features that are consistent with that categorisation, but consequently will not help individuate the faces. In contrast, if people categorise a face as 'own-race', their attention is focused towards individuating features of that face. Thus, information about racial categorisation is used in a top–down manner to influence face-encoding strategies. In support of this view, MacLin and Malpass (2001) found that multiracial (half Hispanic, half African-American) composite faces given stereotypically African-American hairstyles were perceived by both African-American and Hispanic participants as having darker skin, wider mouths, and less protruding eyes compared to the same faces given Hispanic hairstyles. Subsequently both groups of participants showed better recognition for the faces given hairstyles typical of their own racial group, apparently because participants used the hairstyle to racially categorise the faces. Other studies have shown that it is not even necessary to modify the physical features of faces for racial categorisation (and subsequent perception effects) to occur. For example, Levin and Banaji (2006) found that multiracial (half African-American, half European-American) morphed faces that were simply labelled 'White' were judged to have a lighter skin tone than multiracial faces labelled 'Black'.

In this experiment we investigated the effect of a more realistic, non-physical cue to race—personal names. The aim was to test the hypothesis that the presence of racially suggestive names would influence participants' perception of identical multiracial faces, resulting in multiracial faces being judged to look more like the racial group suggested by their name.

[1] Throughout his youth Barack Obama was known as 'Barry'. Had he adopted the surname of his Kansas mother (Stanley Ann Dunham), people might now know him as 'Barry Dunham'.

[2] Here we used the term 'race' only to refer to the social categories people use to differentiate people of different physical appearance.

Participating for course credit, 64 undergraduate students who identified themselves as exclusively East or South-East Asian (henceforth 'Asian'; $N = 32$, 25 female, mean age = 19.2 years) or European-Australian (or 'European'; $N = 32$, 22 female, mean age = 26.6 years) rated the appearance of a series of Asian, European, and multiracial (half Asian, half European) faces that were each labelled with either a typical East or South-East Asian or European-Australian name. The study employed a 2×4 mixed factorial design, with race of participant (Asian and European) the between-subjects factor, and face type (Asian with Asian name; European with European name; multiracial with Asian name; and multiracial with European name) the within-subjects factor.

The facial images were constructed by morphing pairs of images of young Asian and European men with FantaMorph© software. All images were full-face and showed no facial hair or jewellery. Multiracial stimulus faces were created by morphing the image of an Asian male with the image of a European male, whereas the Asian stimulus faces were created by morphing together two Asian faces, and the European stimulus faces were created by morphing together two European faces. There were nine examples of each type of face, all in colour, and cropped around the edge (see figure 1). In a pilot test we asked Asian ($N = 8$, 6 female) and European ($N = 8$, 4 female) participants to rate the appearance of each face using a 9-point scale (0 = very Asian-looking and 8 = very European-looking). Bonferroni-adjusted pairwise comparisons showed that multiracial faces were judged to look significantly different from Asian and European faces (both ps < 0.001), which were also significantly different from each other ($p < 0.001$). In addition, European morphed faces were rated as looking as 'European' as single unmorphed European faces, while Asian morphed faces were rated as looking even more 'Asian' than single unmorphed Asian faces ($p = 0.001$; see figure 2). A 2×5 mixed ANOVA confirmed this main effect of face type ($F_{4,56} = 622.119$, $p < 0.001$).

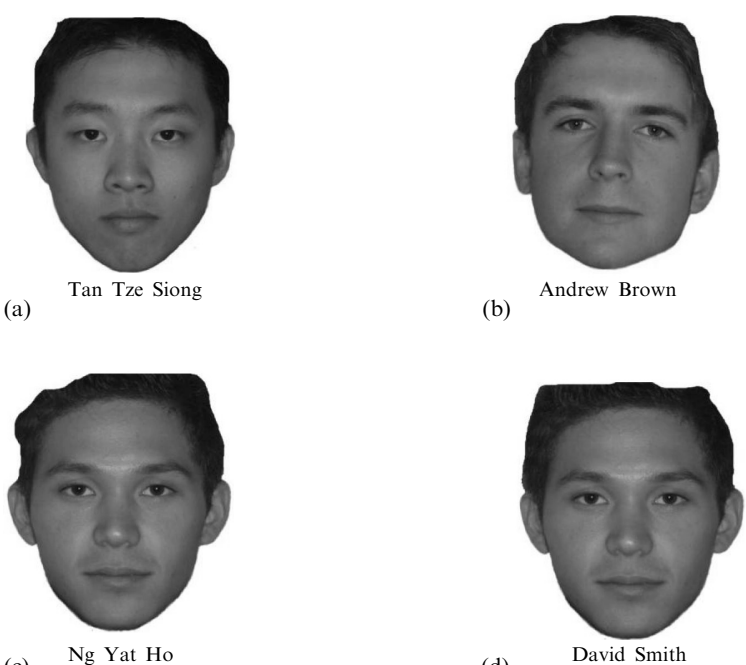

Figure 1. Examples of (a) a morphed Asian face with Asian name (A-A face); (b) a morphed European face with European name (E-E face); (c) a morphed multiracial face with Asian name (M-A face); and (d) a morphed multiracial face with European name (M-E face). Originals were in colour.

There was no main effect of race of participant, and no face-type × race-of-participant interaction, indicating that Asian and European participants showed the same pattern of ratings across the five face types (see figure 2).

For the experiment proper, all nine Asian faces were randomly paired with South-East Asian names (henceforth A-A faces) and all nine European faces with European-Australian names (E-E faces). Nine of the eighteen multiracial faces were randomly paired with Asian names (M-A faces), and the other nine with European names (M-E faces; see figure 1) for each participant.

For each trial the computer presented the name (aurally and visually), followed 1.5 s later by the face image. The face and name remained on-screen for 3 s. Participants then rated the appearance of the face using the scale employed in the pilot experiment. To mask the purpose of the experiment, participants also rated each face on a number of personality variables using 9-point Likert scales. Each participant completed 36 trials in a unique random order.

A 2×4 mixed ANOVA on the mean 'appearance' ratings for each face type revealed the predicted significant main effect of face type ($F_{3,60} = 2157.991$, $p < 0.001$). No other effects were significant. Planned contrasts confirmed that both Asian and European participants rated these four face types as looking significantly different from each other (all ps < 0.001; see figure 3). Moreover, and consistent with our hypothesis, the appearance

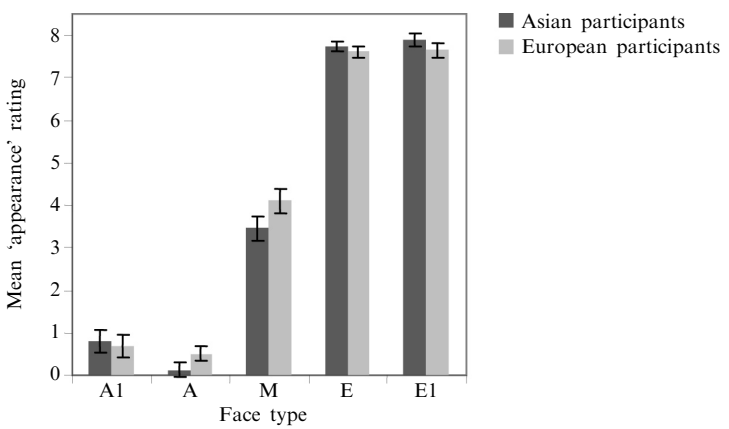

Figure 2. Mean 'appearance' rating (where 0 = very Asian-looking and 8 = very European-looking) for unmorphed Asian (A1) faces, morphed Asian (A) faces, morphed multiracial (M) faces, morphed European (E) faces, and unmorphed European (E1) faces. Error bars indicate ±1 SE.

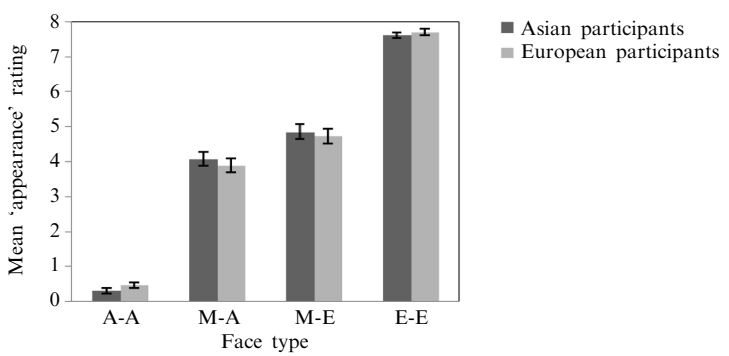

Figure 3. Mean 'appearance' rating (where 0 = very Asian-looking and 8 = very European-looking) for morphed Asian faces given Asian names (A-A faces); morphed multiracial faces given Asian names (M-A faces); morphed multiracial faces given European names (M-E faces); and morphed European faces given European names (E-E faces). Error bars indicate ±1 SE.

of the multiracial faces was affected by the racially suggestive names. M-E faces were rated to look significantly 'more European' than M-A faces both by Asian participants ($F_{1,31} = 17.152$, $p < 0.001$) and by European participants ($F_{1,31} = 15.249$, $p < 0.001$).

These results suggest that our perception of the appearance of a face can be influenced by the non-physical racial cue of a person's name. Multiracial faces that were rated as looking equally 'racially ambiguous' in the pilot experiment were judged to look different when they were given Asian or European names (see figures 1c and 1d for an illustration of this effect). This is consistent with Levin's (2000) 'feature-selection' hypothesis of the ORB, which suggests that the presence of a race feature, in this case the person's name, prompts participants to racially categorise faces. We are currently investigating whether the presence of these racially suggestive names also results in an ORB in participants' recognition performance for the multiracial faces (ie better recognition for multiracial faces randomly given own-race names compared to multiracial faces given other-race names). Such an effect would be consistent with Bernstein et al (2007), who found that White participants showed higher recognition accuracy for White faces they had categorised as 'in-group' members [either on the basis of university affiliation (their study 1) or personality type (their study 2)] compared to White faces they had categorised as 'out-group' members, even though these faces shared the same physical characteristics. A better understanding of the role of in-group/out-group categorisations on subsequent face recognition performance, and the general tendency to use racial background as a marker on which to define in-group/out-group status, will hopefully provide us with a more complete conceptual framework in which to understand the mechanisms driving the ORB.

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