Implicit rather than Explicit Threat predicts attentional bias towards Black but not Asian faces in White Undergraduate Population

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Introduction

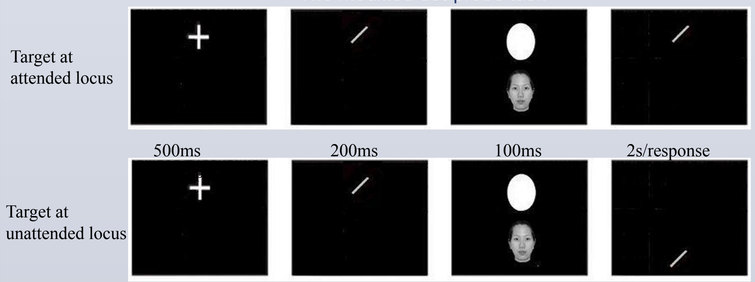
Attentional biases are driven by type of stimulus in our environment (faces capture our attention in preference to non face items, e.g. Ro, Russel & Lavie, 2001), and motivation to seek out specific stimuli (e.g. spider images will capture attention more readily in those with arachnophobia, e.g. Ohman, Flykt & Esteves, 2001). Hence, attentional biases have been used as a behavioural measure of positive or negative attitudes to stimuli in the environment. The finding that the faces of Black people capture attention in a sample of White U.S. participants (Trawalter, Todd, Baird & Richeson, 2008) has been interpreted as Black faces being a threat stimulus, which is an interpretation in accord with other experimental evidence on the stigmatized representation of Black people as threatening (e.g. in a simulated first person shooter task, White participants shoot both armed and unarmed Black targets more frequently and more quickly than White targets, e.g. Correll, Urland and Ito, 2006).

Al-Janabi, MacLeod and Rhodes (2012) suggest that attentional bias to Black faces may not represent threat but rather novelty of the stimulus, supported by the finding that an attentional bias was found towards faces of Asian females, where these faces had not been rated as more threatening than White faces. However, as noted as a possibility by these authors and as demonstrated by Donders, Correll and Wittenbrink (2008), implicit measures of danger can predict attentional bias towards Black faces. Implicit attitudes are often poorly correlated with conscious attitudes and are thought to stem from simple exposure to stereotyped information in the environment without being necessarily consciously endorsed. Hence, there is still uncertainty as to whether implicit bias as opposed to explicit bias better underpins attentional bias to other race faces.

The current study examines attentional bias for Black and Asian faces in the dot-probe task used by Al-Janabi et al. In addition, a measure of close contact with each racial type will be given as Dickter, Gagnon, Gyurowski and Brewington (2015) found that close contact moderated attentional bias at long SOA and contact with other races is thought to reduce implicit bias. This study will examine whether this is the case at short SOA as Al-Janabi et al only found attentional capture rather than attentional holding.

It is predicted that Black faces will be rated as more threatening than Asian faces for implicit and explicit measures, and differential reaction times to Black and Asian faces will be found in the dot-probe task such that Black faces will capture attention. It is hypothesized that implicit measures of threat will better predict response times to the Black face stimuli than explicit measures, but close contact will be negatively associated with such biases in attention.

The modified dot-probe task



Participants should be slower to make the same/different orientation decision when the target is at the unattended rather than the attended locus as a shift in attention is required. However, this shift will be facilitated if the face captures attention. The face could also appear at the top position during the task but the above conditions relate to attentional capture.

Participants

41 participants (26 female, 15 male), mean age = 22.4 years (sd = 3.4) were recruited via poster advertisement on the University campus and received course credit for participation. All were of self-described White ethnic origin and reported normal or corrected to normal vision. Informed consent was obtained from all participants before beginning the experiment and the study approved by the School of Psychological Sciences and Health Research Ethics Committee.

Materials and Procedure

85 greyscale faces (40 Black, 40 Asian, with equal male and female faces in each were obtained from Shahd Al-Janabi and originally taken form the UWA Facelab Person Perception Database and Penton Voak's database at the University of Bristol. Additionally, 5 White faces were taken from the Glasgow Face Database. All faces were front-facing with direct eye-gaze and with neutral expression.

Two **Implicit Association Tests** were developed with identical structure, with one incorporating five Asian faces and the other, five Black faces (three males and two females in each). The IATs used a standard 7 block structure totaling 180 trials with the categories 'White', 'Black/Asian', 'threatening' and non-threatening'. Participants were asked to categorise the faces and the words 'dangerous, sinister, frighten, intimidate, distress, harmless, safe, innocent, reliable, trustworthy' during the task. IATs with Black or with Asian faces were counterbalanced for order in addition to standard IAT block counterbalancing.

A modified **dot-probe task,** as used by Al-Janabi et al**,** requires a reaction-timed response to determine whether the orientation of a target probe is the same or different to that of a preceding fixation cue (white cross) followed by a (1cm red line oriented 45° to the left or to the right). The target probe appears immediately after presentation of a face (Black or Asian) either above or below a neutral white oval.

The 80 Black and Asian Faces were rated by participants on **a 7-point Likert scale for threat.**

Participants also completed a **measure enquiring about contact with other races** which involved writing the initials of up to 20 close friends and then afterwards, being given an instruction to note the race of each friend, which were converted to a proportion of the total number of friends given.

Results

Table 1: Mean explicit and implicit threat scores for Black and Asian Faces

	Black		Asian	
Threat assessment	*Mean*	*SD*	*Mean*	*SD*
Explicit	1.71	.72	1.63	.60
IAT (*D*)	.53*	.31	.35*	.37

*p < .05

No correlation between explicit and implicit threat scores for Black faces (r = .091, p = .572)

Significant correlation between explicit and implicit threat scores for Asian faces (r = .357, p = .022)

Results

A 2 (target locus: attended vs unattended) x 2 (face race: Black vs Asian) repeated measures ANOVA did not show the expected interaction ($F(1,40) = 1.79$, $p = .19$). The target locus main effect was significant ($F1,40) = 12.2$, $p<.001$) with the target at unattended location showing slower RTs that target at attended location, as expected.

Two linear multiple regressions were calculated predicting RT at the unattended location from explicit threat, implicit threat and close-contact. The model for the Asian faces ($R^2 = .11$, Adj $R^2 = .034$) did not reach significance (p-values for each step were <.20).

Table 2 :Regression for the Black face stimuli,(Mod 3 R^2= .55, Adj R^2 = ..30)

	b	SE b	Beta
Model 1: explicit threat	44.6	25.2	.27
Model 2: explicit threat	49.9	24.2	.30*
implicit threat	-123.7	57.0	-.32*
Model 3: explicit threat	43.0	22.7	.26
implicit threat	-125.1	53.1	-.33*
close contact	-10.6	4.1	-.36*

Discussion

White undergraduate participants only found Black faces more threatening than Asian on implicit measures rather than explicit. However, while explicit and implicit measures were correlated for Asian faces, lack of a correlation for Black faces suggest that explicit bias may have been self-censored. Lack of an interaction effect for the dot probe task may support Al-Janabi et al in that no difference was found between attentional capture for Black and Asian faces, though as noted above, the status of explicit threat for Black face is questionable. The regression analyses do suggest a difference in that RT responses to Black face trials are predicted by implicit threat and by close contact whereas these elements are not predictive of RTs in Asian face trials. Close contact seems to have little effect on implicit attitudes in the regression model but does render explicit attitudes non-significant in terms of prediction. This suggests that greater emphasis should be placed on interventions for negative implicit attitudes to race as they may contribute to threat evaluation.

References

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*We are grateful to Shahd Al-Janabi for making the original face stimuli available for use in this study.