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Reports

Power, individuation, and the cross-race recognition deficit

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ABSTRACT

The well-known cross-race effect (CRE) in facial recognition is observed as better recognition for faces of one's own race than faces of another race. Across two experiments, this very robust phenomenon was attenuated via an increase in cross-race (CR) recognition when CR targets were perceived as wielding power either because of their occupational roles (Experiment 1) or the behaviors in which they engaged (Experiment 2). Furthermore, evidence in Experiment 2 indicates that neither target stereotypicality nor target valence can easily explain the observed increase in CR recognition. These results conform closely to predictions derived from a social-cognitive model of the cross-race effect.

Introduction

Scores of experiments have established that perceivers more easily recognize faces of their own race than faces of other races. This cross-race effect (CRE) is a robust phenomenon replicating across experimental paradigms and across cultures (Meissner & Brigham, 2001). Although interesting in its own right, the significance of the CRE stems from its troubling social implications; most seriously, inaccurate eyewitness identification can compromise the fairness of the criminal justice system. By understanding the circumstances under which same-race (SR) and cross-race (CR) recognition can be improved, we can gain insight into how to counteract this troubling social problem.

Social-cognitive (Fiske, 1993), realistic conflict (Campbell, 1965), and ideological approaches to inter-group relations (Jost & Banaji, 1994) have all identified group differences in the distribution of power as a core construct for understanding inter-group phenomena. Given this focus on power in inter-group relations, we hypothesized that power may also play a role in the CRE. To make the case for our power hypothesis, we first summarize the categorization-individuation model of the CRE (Hugenberg & Sacco, 2008; Hugenberg, Young, Bernstein, & Sacco, 2010), and then discuss predictions this model makes for how power will influence face recognition.

The categorization-individuation model

Recently, Hugenberg and colleagues (Hugenberg & Sacco, 2008; see also Hugenberg et al., 2010) have attempted to explain the CRE by using social-cognitive theory (Brewer, 1988; Fiske & Neuberg, 1990). The categorization-individuation model (CIM) begins with the tendency to think categorically about out-group members, focusing not on unique characteristics, but rather on shared categorical features (Fiske & Neuberg, 1990). This tendency to think categorically about out-group members, but to individuate in-group members also plays out in face perception, driving preferential attention to category-specifying information in out-group faces, but to the individuating characteristics of in-group faces (Levin, 1996, 2000).

Thus, whereas in-group members tend to be individuated resulting in relatively strong face recognition, out-group members tend to be reduced to their category memberships, thereby reducing memory (Malpass, 1990; Rodin, 1987). However, this tendency to think categorically about out-group members is not inevitable. When motivated, perceivers can shift to more individuated styles of processing (Fiske & Neuberg, 1990). For example, Hugenberg, Miller, and Claypool (2007) induced participants to individuate CR faces via instructions, warning participants about the CRE and inducing them to attend to individuating characteristics in CR faces. Such individuation of CR targets was sufficient to eliminate the CRE by increasing CR recognition.

More generally, Fiske and Neuberg's (1990) continuum model predicts that motivation to individuate others should follow from

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outcome dependency. When perceivers perceive out-group members as powerful, important or otherwise self-relevant, they become motivated to move to more individuated styles of processing. Consistent with this central premise of the continuum model, Neuberg and Fiske (1987) found that participants formed less stereotypical impressions of a schizophrenic mental patient (an out-group member) when they believed that their outcomes in the experiment were dependent on the target. Because power ultimately is defined as the control one person exerts over another (Fiske, 1993), power is intimately bound up with outcome dependency. We are outcome dependent on those who wield power. Thus, we hypothesize that the power wielded by others may influence face memory. Whereas SR (in-group) targets are commonly well recognized (Meissner & Brigham, 2001), we predict that the perceived power wielded by CR targets will modulate CR recognition and thereby the CRE. Whereas perceivers may typically infer that CR targets are irrelevant to the self and recognize these targets poorly (Malpass, 1990), the identities of powerful CR targets may seem more important to encode, thus demanding more attention and processing and ultimately improving CR recognition. Thus, we hypothesized that high-power CR targets would be more memorable than low-power CR targets. Moreover, powerful CR targets may even be as memorable as SR targets, reducing or even eliminating the CRE via an increase in CR recognition.

Social hierarchy and the CRE

Data from CRE studies involving naturally-occurring power differentials support the notion that power affects face recognition. For example, Wright, Boyd, and Tredoux (2003) found that Black South Africans showed a reversed CRE, or a *same-race recognition deficit*, such that CR White faces were better recognized than SR Black faces. To the authors' knowledge, this is the only demonstration of a SR recognition deficit observed in a naturalistic setting without experimental manipulation. Wright and colleagues (2003) suggested that the historical distribution of power in South Africa may explain this unusual finding. Although Blacks constitute an overwhelming majority of South Africans, until recently South Africa was an apartheid state in which the majority Black population suffered from institutional discrimination perpetrated by the minority White population. Furthermore, the Black South African sample were students at a university where 75% of the professors were White, perhaps making this power differential even more salient. This stark power differential between Blacks and Whites in South Africa offers one potential explanation for this surprising reversal of the CRE. Levin (1996) similarly points to the structure of race relations in the US to explain the consistent finding that Whites tend to show a larger CRE than Blacks in the US. This attenuation of the CRE among African Americans is also consistent with our power hypothesis. To the extent that African Americans disproportionately occupy low-status roles, relative to European Americans, the power hypothesis suggests that perceivers will be sensitive to this racial inequality in power, and thus African Americans will recognize White faces better than will European Americans recognize Black faces.

Although this evidence is consistent with our power hypothesis, drawing this conclusion remains problematic because factors other than power (e.g., reduced CR contact due to segregation) may contribute to the observed group differences in face memory. Thus, while provocative, alternative explanations other than power can be used to explain these results. Fortunately, Ackerman and colleagues (2006) have recently provided some experimental evidence that is consistent with the hypothesis that power differentials play a role in the CRE. In this experiment, White participants viewed Black and White faces displaying either angry or neutral expressions. When the Black faces were angry, CR recognition improved eliminating the CRE. Consistent with the CIM's prediction that there is a default tendency to individuate in-group members, SR recognition was always strong, and was unaffected by facial expression. To the extent that anger signals power (Averill, 1997), the strong recognition for angry Black targets could be attributed to power. Unfortunately, multiple confounds (e.g., power, stereotypicality, and valence) inherent in using angry Black targets means that multiple mechanisms could be mediating these effects. Thus, further research is needed to directly test the role of power in the CRE.

The current research

The current research was designed to test the power hypothesis, predicting that powerful CR faces would be well remembered relative to low-power CR targets. Experiment 1 tested this hypothesis by manipulating the occupational titles paired with SR and CR faces to be either high-power occupations (CEO, doctor) or low-power occupations (mechanic, plumber). In line with predictions, high-power CR targets were as well recognized as were SR targets, whereas low-power CR targets elicited the commonly observed CRE. Experiment 2 extended these results by simultaneously manipulating the power, the stereotypicality and the valence of a series of behaviors paired with SR and CR targets. Experiment 2 found that target power, but not the stereotypicality or the valence of the behaviors, modulates the CRE, such that high-power behaviors (both physical power and economic power) improve CR recognition, attenuating the CRE. Across both experiments, we find novel evidence that experimental manipulations of power increase CR recognition, while holding perceiver expertise constant, thereby reducing the well-replicated CRE.

Experiment 1

The first experiment was designed to directly test the hypothesis that powerful CR targets would be quite memorable, attenuating the CRE. According to the power hypothesis, CR targets in economically powerful social roles should be more memorable than those in low-power roles. Thus, in the first experiment, SR and CR faces were paired with either a high-power (CEO, doctor) or a low-power (mechanic, plumber) occupational title. The power hypothesis predicts that CR targets in powerful occupations should be more memorable than those in low-power occupations, attenuating the CRE. Because SR targets are commonly well recognized (Meissner & Brigham, 2001) and generally seem important to encode (Malpass, 1990), we predicted that enhancing the power of SR faces (i.e., faces that are already typically individuated) will have little effect on SR recognition.

Method

Participants and design

Fifty-two White Miami University undergraduates (26 females, 19.2 years) participated for partial course credit. The experiment employed a 2(Target Race: Black, White) × 2(Target Power: high, low) repeated-measures design.

Stimulus materials

Face photos

Eighty digitized grayscale photos (2.25 × 1.5 in.) of male faces (40 Black, 40 White), approximately 25 years of age, without glasses or jewelry and displaying neutral expressions, were used as stimuli.