

Science & Society

Threat alters race perception to facilitate discrimination

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Based on recent research, I propose that threat stemming from the environment, perceivers, and targets distorts the visual perception of racial minorities in ways that facilitate discrimination. This model synthesizes the growing motivated race perception literature, generates new hypotheses about threat-induced discrimination, and reveals barriers to discrimination intervention.

Threat tends to exacerbate racial discrimination [1]. Here, I propose motivated race perception – the process by which motivation shapes one's perceptual experience of race – as one potential route through which this occurs. Specifically, I propose that threat can induce individuals to see minorities in ways that facilitate discriminatory behavior.

Threat alters race perception

Race perception in social psychology typically refers to a suite of processes, including early face encoding, racial categorization, and mental representation, and it encompasses the perception of direct physical stimuli as well as perceptual representations without direct visual input (i.e., in the 'mind's eye'). According to many traditional models in vision science and person perception, face and race perception are driven by bottom-up processing and are impenetrable to top-down social information. By these accounts, social group membership and motivation should not influence race perception. However, recent work integrating methods from social psychology,

cognitive neuroscience, and psychophysics demonstrates that goals and motivations can alter our perception of race at multiple levels of analysis [2].

Recently, threat has been identified as a key moderator of race perception [3]. Threats stemming from features of the environment (e.g., economic scarcity, demographic change), the perceiver (e.g., stereotypes, sociopolitical beliefs), and the target of perception (e.g., emotional expressions, racial prototypicality) have all been shown to alter race perception [3–9]. But to what end?

The proposed model

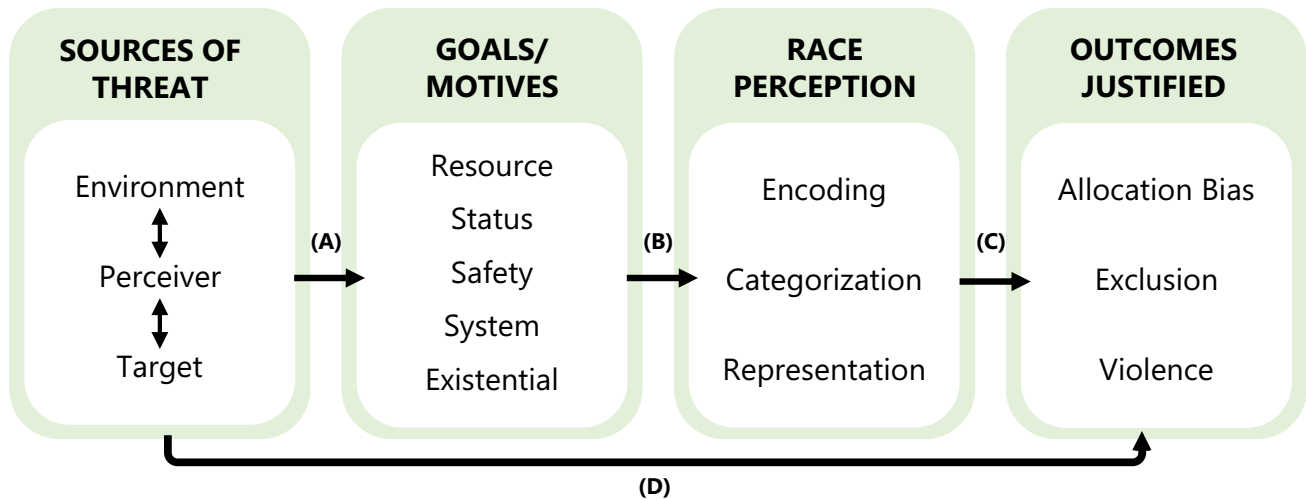
Ecological approaches suggest perception serves an adaptive function and can guide socially functional behavior and goal attainment. In the context of race, threat often induces goals that can be met through discriminatory behavior. For example, resource scarcity can give rise to a goal to protect ingroup resources from a competitive outgroup; favoring the ingroup over the outgroup in allocation decisions can meet this aim. Threatening stereotypes can give rise to self-protection goals that can be met through punishment and violence. Could such goals lead perceivers to see others in ways that promote or implicitly justify that discrimination?

Notably, the work examining threat effects on race perception almost universally shows perceptual effects consistent with greater discrimination: threat increases the likelihood of seeing an individual as a minority, as having more prototypical minority or threatening features, or as less face-like – all of which can negatively affect the targets of perception (e.g., [10]). Just as a dieting goal might induce one to represent a warm chocolate chip cookie as farther away to avoid eating it [11], threat and the goals it induces might lead perceivers to view minorities in ways that enable them to enact harm. [Figure 1](#) illustrates this proposed pathway.

Experimental evidence

Recent research on threats in the environment supports this model. A pair of neuroimaging studies primed White decision-makers with resource scarcity (vs. a control condition) before they allocated resources to Black and White recipients. Under conditions of scarcity (but not control), White decision-makers exhibited impairments in the early visual processing of Black (but not White) faces, and the extent of these deficits predicted downstream anti-Black allocation [4]. In another set of studies, scarcity induced darker and more Afrocentric representations of Black faces, which was related to discriminatory allocation decisions [5]. Supporting the proposed role of motivation in race perception under scarcity, another study found that scarcity induced lazy/poor and aggressive/hostile representations of Black faces, but did not influence the representation of other negative traits [7]. This implies a selective representation that specifically justified withholding resources from Black recipients (low-socioeconomic status stereotypes) and continued subordination of Black Americans (hostile stereotypes).

In other studies, the threat of demographic change lowered White perceivers' threshold for seeing a face as Black, Latino, and 'not White' and increased the categorization of mixed-race faces as minorities. These effects were mediated by self-reported concerns about the threat to White status [6]. Further, both White participants who were led to believe that White status was protected and minority participants (who were presumably not motivated to reduce White status threat) failed to show the effect of demographic change on perception. This bolsters the notion that the threat of shifting demographics motivated White participants to protect their status at the top of the racial hierarchy which was achieved by perceptually excluding marginal members from the category 'White.'



Trends in Cognitive Sciences

Figure 1. Threat alters race perception to facilitate discrimination. (A) Threat gives rise to goals and motives that (B) can alter race perception in ways that (C) justify discriminatory behavior and satisfy the perceivers' goal, helping explain (D) threat effects on discrimination. For example, resource scarcity induces the goal to preserve ingroup resources which can be met through anti-outgroup allocation and justified by outgroup perceptual dehumanization. The model depicts interactions between sources of threat indicating they can moderate each other to influence perception. For example, scarcity effects should be strongest for perceivers with strong zero-sum beliefs ('outgroup gains equal ingroup losses') and for targets seen as threatening to resources.

Threats based on perceiver or target characteristics can also guide race perception to meet perceiver goals. In one set of studies, White perceivers' stereotypes of Black men as threatening led them to see Black men as taller, heavier, more muscular, and stronger than White men [8]. These perceptions were related to greater judgments of harm capability and were used to justify greater use of force against Black male crime suspects. In other research, Black boys aged 10–17 years who were described as threatening (accused of a felony) were perceived as more than 2 years older than Black boys described as less threatening (accused of a misdemeanor), and this age misperception was related to greater judgments of responsibility and justification of police violence [9].

These studies suggest that the perceived threat based on a perceiver's stereotypes or a target's criminal history can shift how dangerous (i.e., larger or older) a target is perceived to be, which can be used to justify violence against them. These studies also underscore the importance

of threat–target congruence on perception. For example, threatening stereotypes about Black men should not influence the perception of less prototypically Black male, female, or non-Black targets. Similarly, threats of violence via felony accusation should not influence the perceived age of White individuals who are not typically seen as violent. Indeed, perceptions of Black men's formidability were strongest for the most prototypically Black individuals [8], and criminal offense type failed to affect age misperception of White targets [9].

Together, this recent work suggests that threats stemming from features of the environment, perceivers, and targets of perception influence race perception from early visual encoding of faces to higher level featural representation. Further, these visual effects facilitate harmful behaviors, from discriminatory allocation to the use of force. These studies also allude to important factors that could limit the generalizability of this model. As discussed previously, perceptual effects likely depend on a match between the threat

and the target group. They are also likely to depend on perceiver group membership and the type of race perception under consideration (Box 1).

New questions

Considering existing research in the context of this proposed model generates important new hypotheses for explaining discrimination under threat. For example, racial minorities bear the greatest burdens of the coronavirus 2019 (COVID-19) pandemic in the USA. As reviewed previously, resource scarcity can impair the encoding of Black faces [4]. Other research suggests that impaired encoding of Black faces reduces the perception of Black pain, which predicts the denial of medical resources [12]. This leads to the novel hypothesis that the motivation to preserve resources for majority group members might induce denial of Black pain to justify withholding medical resources from Black patients. If so, the threat of medical resource scarcity should reduce perceptions of Black pain even further – which could help explain racial inequities in COVID-19 outcomes.

Box 1. Factors influencing model generalizability

Target characteristics

Threat effects on race perception likely depend on a match between threat cues and target group (e.g., COVID-19 threats might affect perceptions of Asian but not Black Americans) or target prototypicality (e.g., negative stereotypes most strongly influence perception of Black individuals with more Afrocentric features [8]).

Perceiver group

Given real-world patterns of discrimination, motivated race perception research typically focuses on White perceivers. However, the model should apply more broadly to non-White perceivers with the caveat that effects may be moderated by factors like a perceiver's status, resources, environment, etc. (e.g., see [15] for representations of the police as moderated by perceiver race).

Type of race perception

Face encoding can be employed regardless of group membership, while race categorization and featural representation may be more tightly tied to specific groups with clearly defined prototypical features linked to discrimination – though some work has shown representation effects even with poorly defined perceptual features (e.g., minimal groups, immigrants).

Future research should probe these speculations and identify boundary conditions of the model through examination of minimal groups and racial minority targets and perceivers, taking care to capitalize on intersecting identities and core differences between groups to test key moderators identified earlier.

Likewise, considering other types of threat and related goals using this framework could lead to novel hypotheses about discrimination and the perceptual tendencies that support it. For example, perceived existential threats to Whiteness (e.g., fueled by extreme white nationalist ideas about White 'replacement' by minorities) likely induce dehumanizing perceptions of minorities, justifying violent hate crimes in the minds of perceivers.

Implications for intervention

In the context of self-regulation, visual perception is said to uniquely aid goal pursuit because it serves as a primary source of information and is generally believed, flexible, and effortless [11]. However, these same properties could make threat-motivated race perception especially resistant to intervention. Further, motivated race perception is likely to operate implicitly – we cannot consciously decide to impair face encoding at 170 ms, for example. Thus, successful interventions will likely need to directly influence perception through individuation or 'rehumanization' efforts [13] or engage proactive control which bypasses the need

to detect biased perception and limits its influence on downstream behavior [14].

The resistant nature of visual perception to control also suggests a need for stronger institutional protections. Recent social media campaigns (e.g., #IfTheyGunnedMeDown) highlight how racial minority victims of crime are often depicted using threatening imagery (e.g., mug shots) instead of nonthreatening imagery (e.g., graduation photos). The research reviewed previously suggests that such imagery could alter even low-level perception of individuals in ways that justify victimization (e.g., seeing the victims as less human) and should be restricted.

Concluding remarks

Growing evidence suggests that threat can induce individuals to see minorities in ways that facilitate or implicitly justify discriminatory behavior. The recent uptick in anti-minority discrimination and the ever-present perceived threats in our society – stemming from economic recession, shifting demographics, beliefs about minority group members, and so forth – make it more important than ever to understand how threat gives

rise to racial discrimination. By putting forth this functional motivated race perception account, I hope to introduce a novel way of thinking about these pressing issues and provide a theoretical framework for studying how threat can lead us to see others in ways that implicitly justify their harm.

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Declaration of interests

No interests are declared.

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