



HOT TOPICS



The role of racial discrimination in dissociation and interoceptive dysfunction

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Neuropsychopharmacology; <https://doi.org/10.1038/s41386-022-01402-5>

Racial discrimination (RD) is a type of racism regularly experienced by people of color. RD refers to hostile or inequitable treatment of an individual due to their perceived racial or ethnic background, and an overwhelming majority of racially-marginalized individuals report experiences of racial discrimination throughout their lives. RD contributes to physical and mental health disparities in Black Americans [1]; however, the mechanisms by which RD influences neurophysiological adaptations and consequent behaviors are poorly understood.

Repeated exposure to RD triggers heightened sympathetic arousal and cardiovascular stress responses. Over time, this leads to psychological withdrawal, which may manifest through emotional numbing or disengagement, dissociation, and disruptions in interoceptive awareness (the ability to consciously perceive body sensations). Dissociation is a human coping response to extreme stress characterized by feelings of detachment from the body (depersonalization) and/or surroundings (derealization). It is more likely to occur when physical escape from the trauma/stressor is impossible or risky; for example, many survivors of chronic childhood sexual abuse report feeling separated from their bodies during the event. Dissociation is a homeostatic (reactive regulatory) adaptation that allows individuals to endure/survive these experiences, providing a psychological escape. However, over time dissociation can become a reflexive, involuntary, and allostatic (predictive regulatory) reaction that interferes with functioning, particularly via disrupted attentional control and aberrant interoception. Experiencing detachment from the self and surroundings may thus impair the ability to sustain goal-directed attention and sense fluctuations in internal body signals, which are critical aspects of emotion regulation and day-to-day functioning. Dissociation is characterized by dis-connectivity within and between interoceptive

and emotion regulation networks [2], illustrating that is a complex process spanning multiple cognitive and physiological domains.

RD may lead to dissociation via increased regulation of emotional responses in the ventromedial prefrontal cortex [3], a brain region involved with modulation of interoceptive attention, negatively-valenced emotion, and sympathetic arousal [4] (Fig. 1). This heightened engagement of regulatory brain regions is characteristic of highly dissociative trauma-exposed individuals [5]. Notably, Black individuals have higher prevalence rates of clinically significant dissociation relative to White individuals, and RD frequency has been linked with dissociation severity in large-scale studies [6]. Additionally, certain interoceptive signals—specifically the breath—may be tied to RD for some individuals in the aftermath of George Floyd’s murder. Telling Black or other racially marginalized individuals to “attend to the breath” during mindfulness or other meditation-related interventions, for example, may be emotionally disturbing, and could potentially trigger a cascade of aversive emotional and physiological reactions and counterreactions.

Understanding the complex relationships that exist between racial discrimination, dissociation, and interoception in racially-marginalized individuals is an important area of investigation. Determining the neural underpinnings of these relationships and how to develop, adapt, and implement interventions that are informed by the pathophysiological mechanisms of RD are some initial approaches with merit. However, these reflect reactive attempts to understand the nature of a much larger societal problem. Greater societal attention to the impact of RD and concerted efforts to prevent it are needed before some racially-marginalized individuals may feel comfortable and safe enough to reclaim positive relationships with their physical selves.

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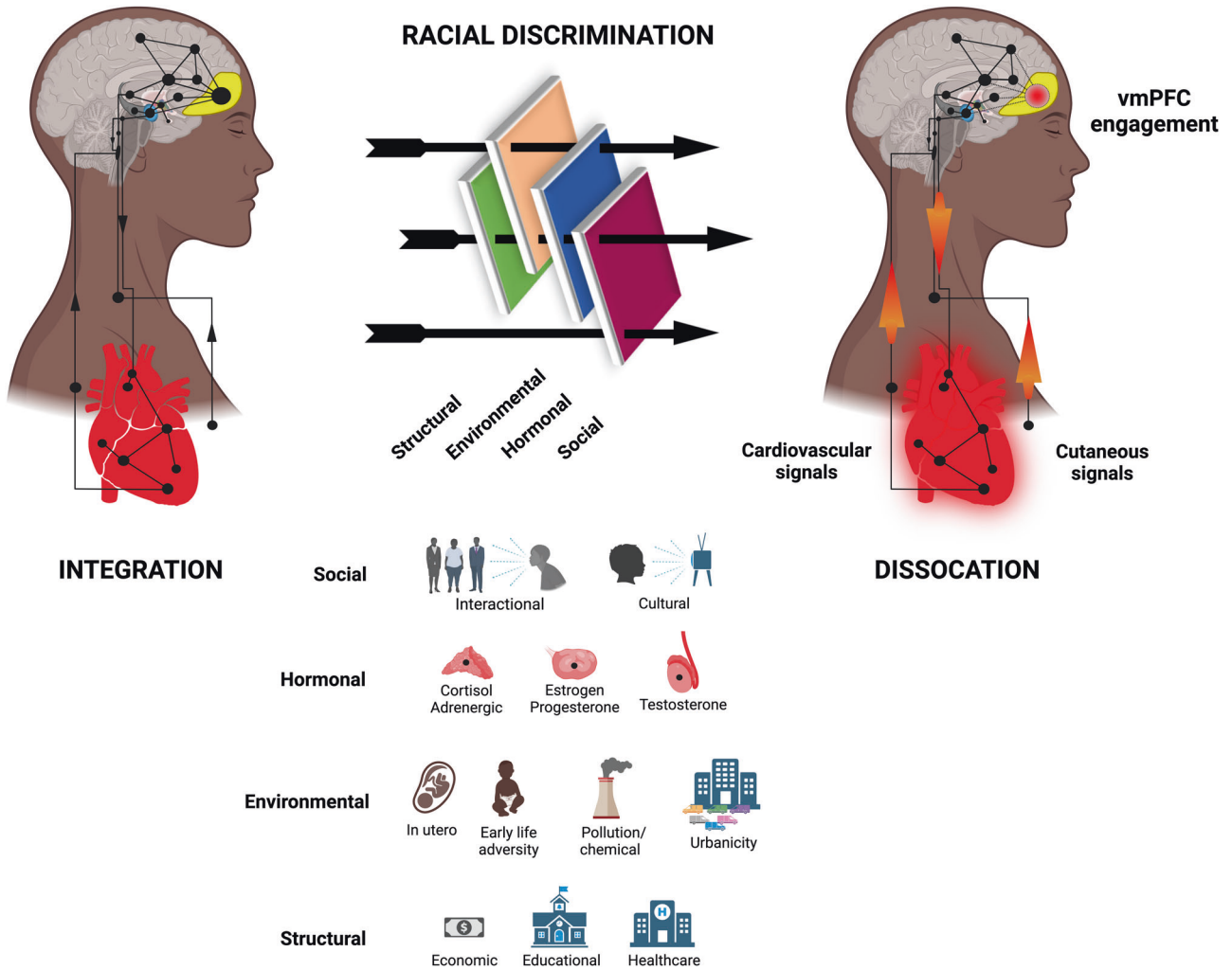


Fig. 1 The role of racial discrimination (RD) in interoceptive dysfunction and dissociation. Exposure to RD triggers heightened levels of sympathetic arousal, cardiovascular stress responses in the body, negative emotional states, and the encoding of threat memory via threat neurocircuitry. Repeated exposure to RD elicits this same neurophysiological cascade, which over time may lead to a shift from reactive homeostatic to predictive allostatic responses in the brain and body. Allostatic dysfunction may influence emotional numbing, disrupt interoceptive awareness, and promote dissociation, which is characterized by feelings of detachment from the body and/or surroundings. However, dissociation may also occur after any RD event, for it is a human coping response to extreme stress. While it may serve a protective psychological role in certain circumstances, repeated dissociation may disrupt interoceptive processes, potentially via chronically heightened ventromedial prefrontal cortex (vmPFC) engagement. RD may be experienced during interpersonal or non-interpersonal interactions; the key is that the person perceives that their racial or ethnic group is the focus of discrimination. RD influences on vmPFC function are reinforced by social, environmental, hormonal, and structural factors. A portion of the figure was created with BioRender.

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AUTHOR CONTRIBUTIONS

NF and SSK wrote the manuscript.

FUNDING

We are supported by the National Institute of Mental Health (R01MH111671 to NF; R01MH127225, K23MH112949 to SSK), the National Center for Complementary and Integrative Health (R01AT011267 to NF; R34AT009889 to SSK), and The William K. Warren Foundation (SSK). The funding organizations had no role in the preparation, review, or approval of the paper; and decision to submit the paper for publication.

COMPETING INTERESTS

The authors declare no competing interests.

ADDITIONAL INFORMATION

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