Racial Discrimination Affects Brain Structure, Health Outcomes

Black women were particularly vulnerable to these brain changes.

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A new study suggests that racial discrimination increases the risk for physical and mental illnesses and may even affect the microstructure of the brain in Black women.

The study, published in Biological Psychiatry: Cognitive Neuroscience and Neuroimaging and led by Negar Fani, PhD of Emory University's Department of Psychiatry and Behavioral Sciences, recruited 79 Black women for a trauma study. The women were assessed for medical disorders as well as trauma and were asked about their experiences of racial discrimination. The women then underwent a brain scan to measure connectivity in the brain. Researchers looked specifically at the long, fatty tracts that connect distant areas of the brain.

"Here we see a pathway through which racist experiences may increase risk for health problems via effects on select stress-sensitive brain pathways. Earlier, we found that racial discrimination has a negative impact on brain white matter; now we can see that these changes may enhance risk for negative health outcomes, possibly by influencing regulatory behaviors," Fani said in a news release.

Results showed that women who experienced higher rates of racial discrimination had lower FA in certain brain tracts, including two parts that connect the two hemispheres of the brain. The affected tracts are involved in emotional regulation and cognitive processes, which may influence behavior, such as drug consumption or food choices, that could result in adverse health outcomes.

"These findings provide important new evidence that changes in the brain measured using MRI may occur, in association with a range of ongoing chronic health problems, in the wake of ongoing experiences of racial discrimination in African-American women," said Cameron Carter, MD, the editor of Biological Psychiatry: Cognitive Neuroscience and Neuroimaging, in the news release. "Such insights may contribute to our understanding of the origins of health disparities in minoritized communities and the negative impact that racial discrimination may have on human health."

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