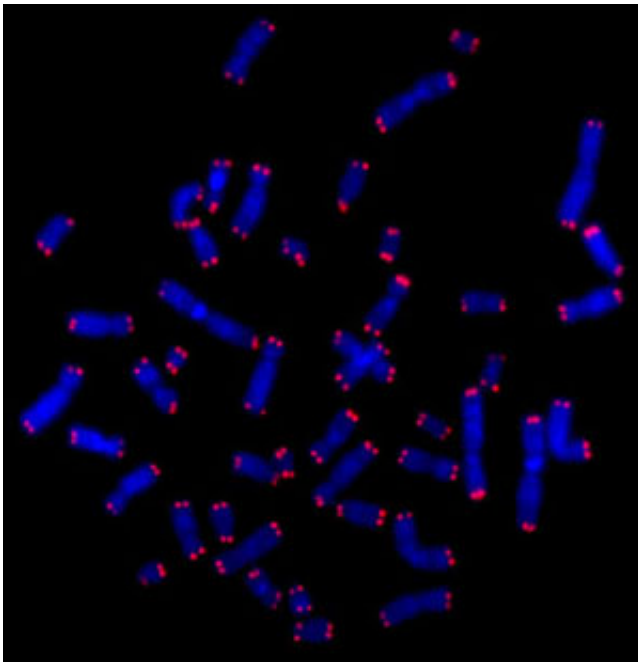


# Racism may accelerate aging in African-American men

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Telomeres are repetitive sequences of DNA capping the ends of chromosomes and protecting them from deterioration or from fusion with neighboring chromosomes. Telomeres shorten progressively over time -- at an average rate of approximately 50-100 base pairs annually. Telomere length is variable, shortening more rapidly under conditions of high psychosocial and physiological stress. Shorter telomere length is associated with increased risk of premature death and chronic diseases such as diabetes, dementia, stroke and heart disease. Among African American men with stronger anti-Black attitudes, investigators found that average telomere length was approximately 140 base pairs shorter in those reporting high vs. low levels of racial discrimination; this difference may equate to 1.4 to 2.8 years chronologically. Credit: Wikipedia/Creative Commons Attribution-Share Alike 3.0 Unported license

A new study reveals that racism may impact aging at the cellular level. Researchers found signs of accelerated aging in African American men, ages reporting high levels of racial discrimination and who had internalized anti-Black attitudes. Findings from the study, which is the first to link racism-related factors and biological aging, are published in the *American Journal of Preventive Medicine*.

Racial disparities in health are well-documented, with African Americans having shorter life expectancy, and a greater likelihood of suffering from aging-related illnesses at younger ages compared to Whites. Accelerated aging at the biological level may be one mechanism linking racism and disease risk.

"We examined a biomarker of systemic aging, known as leukocyte [telomere length](#)," explained Dr. David H. Chae, assistant professor of epidemiology at the University of Maryland School of Public Health and the study's lead investigator. Shorter telomere length is associated with increased risk of premature death and chronic disease such as diabetes, dementia, stroke and heart disease. "We found that the African American men who experienced greater racial discrimination and who displayed a stronger bias against their own [racial group](#) had the shortest telomeres of those studied."

Telomeres are repetitive sequences of DNA capping the ends of chromosomes, which shorten progressively over time – at a rate of approximately 50-100 base pairs annually. Telomere length is variable, shortening more rapidly under conditions of high psychosocial and physiological stress. "Telomere length may be a better indicator of biological age, which can give us insight into variations in the cumulative 'wear and tear' of the organism net of chronological age," said Chae. Among African American men with stronger anti-Black attitudes,

investigators found that average telomere length was 140 base pairs shorter in those reporting high vs. low levels of racial discrimination; this difference may equate to 1.4 to 2.8 years chronologically.

Participants in the study were 92 African American men between 30-50 years of age. Investigators asked them about their experiences of discrimination in different domains, including work and housing, as well as in getting service at stores or restaurants, from the police, and in other public settings. They also measured [racial bias](#) using the Black-White Implicit Association Test. This test gauges unconscious attitudes and beliefs about race groups that people may be unaware of or unwilling to report.

Even after adjusting for participants' chronological age, socioeconomic factors, and health-related characteristics, investigators found that the combination of high racial discrimination and anti-Black bias was associated with the shortest telomeres. On the other hand, the data revealed that racial discrimination had little relationship with telomere length among those holding pro-Black attitudes. "African American men who have more positive views of their racial group may be buffered from the negative impact of racial discrimination," explained Chae. "In contrast, those who have internalized an anti-Black bias may be less able to cope with racist experiences, which may result in greater stress and shorter telomeres."

The findings from this study are timely in light of regular media reports of racism facing African American men. "Stop-and-frisk policies, and other forms of criminal profiling such as 'driving or shopping while Black' are inherently stressful and have a real impact on the health of African Americans," said Chae. Researchers found that [racial discrimination](#) by police was most commonly reported by participants in the study, followed by discrimination in employment. In addition, African American men are more routinely treated with less courtesy or

respect, and experience other daily hassles related to racism.

Chae indicated the need for additional research to replicate findings, including larger studies that follow participants over time. "Despite the limitations of our study, we contribute to a growing body of research showing that social toxins disproportionately impacting African American men are harmful to health," Chae explained. "Our findings suggest that racism literally makes people old."

**More information:** "Discrimination, Racial Bias, and Telomere Length in African-American Men" was written by David H. Chae (University of Maryland, College Park); Amani M. Nuru-Jeter (University of California, Berkeley); Nancy E. Adler, Jue Lin, Elizabeth H. Blackburn, and Elissa S. Epel (University of California, San Francisco); and Gene H. Brody (Emory University) and published in the *American Journal of Preventive Medicine*.

Provided by University of Maryland

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