

# **The Long-Term Effects of Racial Microaggressions on People of Color in STEM**

Presentation to the 49th Meeting of the American Astronomical  
Society

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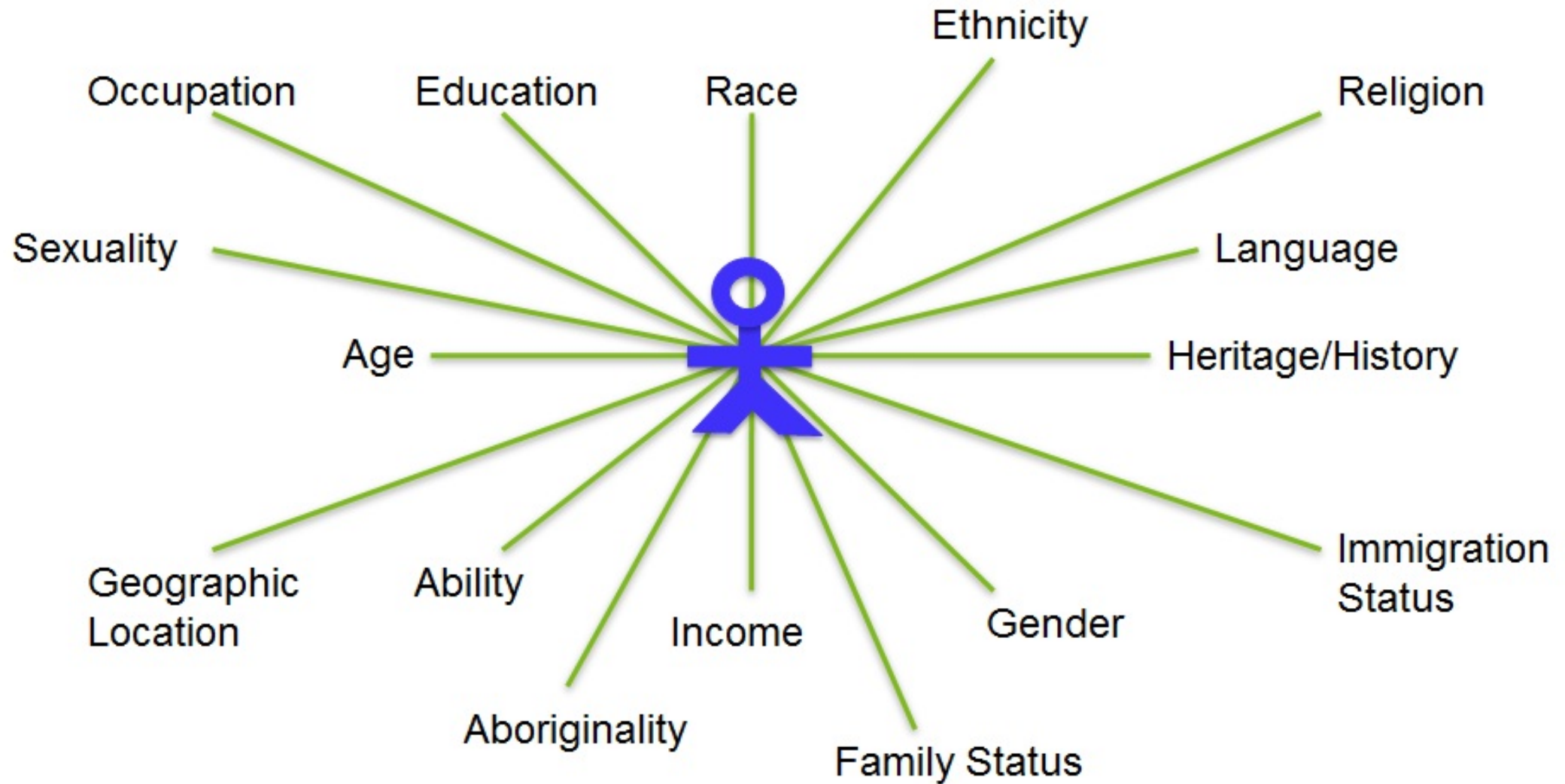
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# Exploration of Personal Intersections



# Stereotypes are dangerous: What has society trained us to see?



Harvard Graduate  
*Jefferson Moon*



CEO of a Fortune 500 Company  
*Edgar Gonzalez*

Thug or Harvard Graduate?  
Jefferson Moon, Harvard Graduate

Low income handyman or Fortune 500 CEO?  
Edgar Gonzalez, Fortune 500 CEO

# Microaggressions

- Sue (2010) elaborated that microaggressions are “everyday verbal, nonverbal, and environmental slights, snubs, or insults, whether intentional or unintentional, that communicate hostile, derogatory, or negative messages to target persons based solely upon their marginalized group membership”



# Gender Microaggressions: The Story of Dr. Yarrow Axford



- Associate Professor at Northwestern
  - Studies lake sediments and past lake environments
- Director of Undergraduate Studies
- In High School (1992) her geometry teacher repeatedly told her class that girls were doomed to struggle with math because their brains are washed with corrosive chemicals in the womb.
- Many first time meetings are met with, “I thought you were a man.”
- In conducting fieldwork, her much younger male student is mistaken as the professor.
  - Maybe she is his mom or graying apprentice.

Double Jeopardy in Astronomy and Planetary Science: Women of Color Face Greater Risk of Gendered and Racial Harassment by Clancy, Lee, Rodgers, & Richey (2017), *Journal of Geophysical Research: Planets*, p. 1615.

**Table 3.** Comparison of Remarks Observed by Women and Men

Category	Group	Never	Rarely	Sometimes	Often	p Value
<i>Remarks From Peers</i>						
Sexist remarks	Women (n = 285)	21% (60)	39% (111)	33% (95)	7% (19)	<0.001*
	Men (n = 137)	37% (51)	40% (55)	22% (30)	1% (1)	
Comments not masculine/feminine enough	Women (n = 282)	50% (140)	29% (83)	17% (49)	4% (10)	<0.001*
	Men (n = 137)	72% (98)	25% (34)	4% (5)	0% (0)	
Remarks about physical ability/disability	Women (n = 284)	45% (127)	33% (94)	19% (53)	4% (10)	0.023*
	Men (n = 137)	58% (79)	31% (42)	11% (15)	1% (1)	
<i>Remarks From Supervisors</i>						
Sexist remarks	Women (n = 284)	56% (159)	23% (65)	16% (46)	5% (14)	< 0.001*
	Men (n = 135)	75% (101)	20% (27)	5% (7)	0% (0)	
Comments not masculine/feminine enough	Women (n = 283)	77% (218)	13% (38)	7% (19)	3% (8)	< 0.001*
	Men (n = 135)	93% (125)	6% (8)	2% (2)	0% (0)	
<i>Remarks From Others</i>						
Sexist remarks	Women (n = 281)	15% (43)	31% (87)	42% (118)	12% (33)	< 0.001*
	Men (n = 136)	27% (37)	46% (63)	24% (33)	2% (3)	
Comments not masculine/feminine enough	Women (n = 281)	40% (113)	36% (101)	19% (53)	5% (14)	< 0.001*
	Men (n = 135)	67% (91)	26% (35)	6% (8)	1% (1)	
Remarks about physical ability/disability	Women (n = 281)	40% (112)	36% (101)	22% (61)	3% (7)	0.018*
	Men (n = 137)	50% (69)	38% (52)	11% (15)	1% (1)	
Remarks about mental ability/disability	Women (n = 281)	35% (97)	41% (115)	22% (61)	3% (8)	0.003*
	Men (n = 136)	52% (71)	35% (47)	12% (16)	2% (2)	

\*Significance set at 0.025 for two-tailed analyses.



# Racial Microaggressions



- Pierce (1974) has argued that, in analyzing racial discrimination we “must not look for the gross and obvious. The subtle, cumulative mini-assault is the substance of today’s racism.”

Dr. Chester Pierce, Harvard Professor Emeritus

# Racial Microaggressions

Smith, Yosso, Solórzano (2006) defined racial microaggressions as:

- 1) subtle verbal and nonverbal insults directed at People of Color, often automatically or unconsciously;
- 2) layered insults, based on one's race, gender, class, sexuality, language, immigration status, phenotype, accent, or surname; and
- 3) cumulative insults, which cause unnecessary stress to people of color while privileging whites.



## Categories of Racial Microaggressions

- ***Microinsult*** (Often Unconscious): Behavioral/verbal remarks or comments that convey rudeness, insensitivity, and demeans a person's racial heritage or identity.
- ***Microassault*** (Often Conscious): Explicit racial derogations characterized primarily by a violent verbal or nonverbal attack meant to hurt the intended victim through name-calling, avoidant behavior or purposeful discriminatory actions.
- ***Microinvalidation*** (Often Unconscious): Verbal comments or behaviors that exclude, negate, or nullify the psychological thoughts, feelings of a person of color.
- ***Environmental***: Racial assaults, insults, and invalidations which are manifested on systemic and environmental levels.
  - (Derald Wing Sue, 2010; Sue et al., 2007)

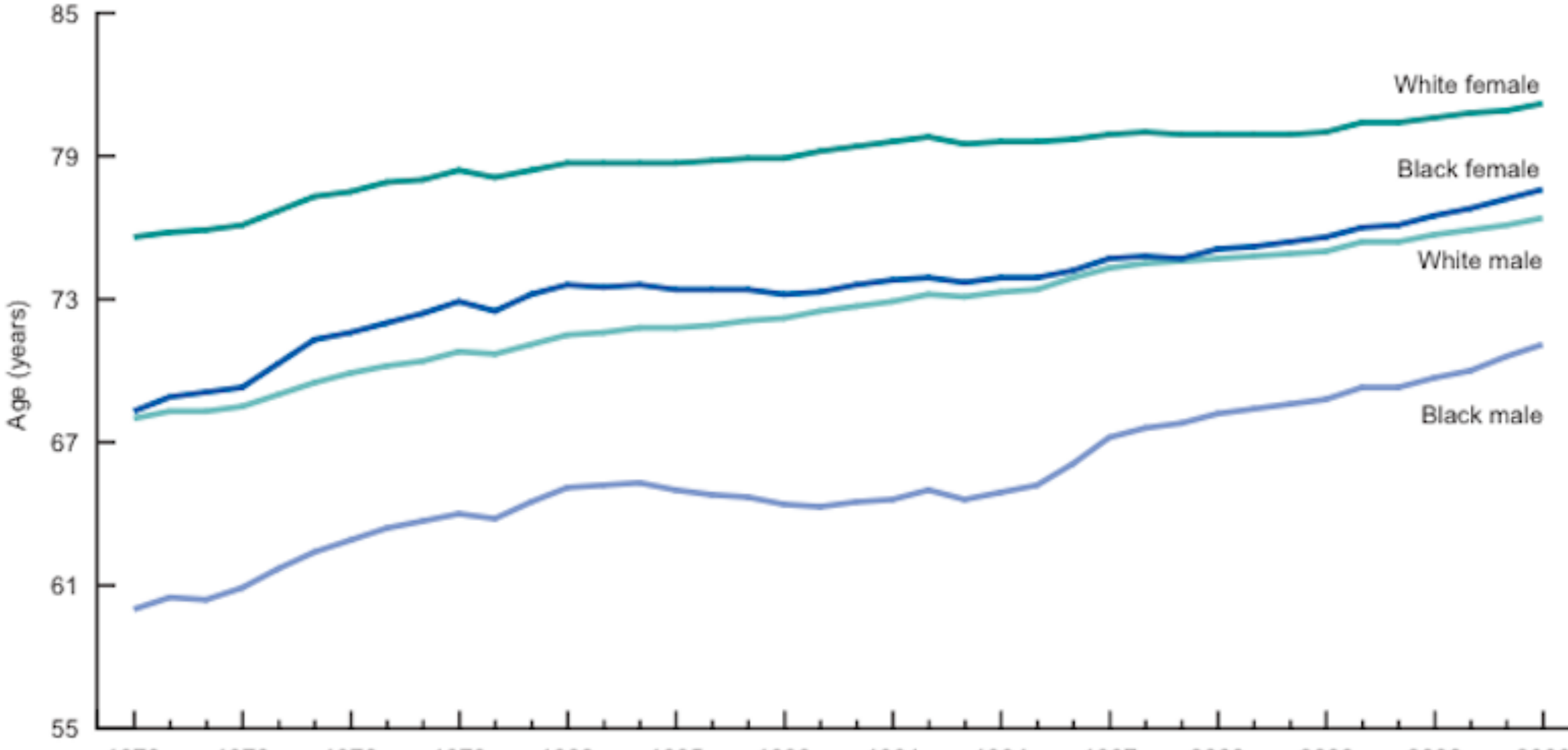
# Examples of Racial Microaggressions

- Racial microaggressions are:
  - racial slights
  - recurrent indignities and irritations
  - unfair treatments
  - stigmatization
  - hyper-surveillance
  - contentious classrooms
  - personal threats
  - attacks on one's well-being

## Defining Racial Battle Fatigue

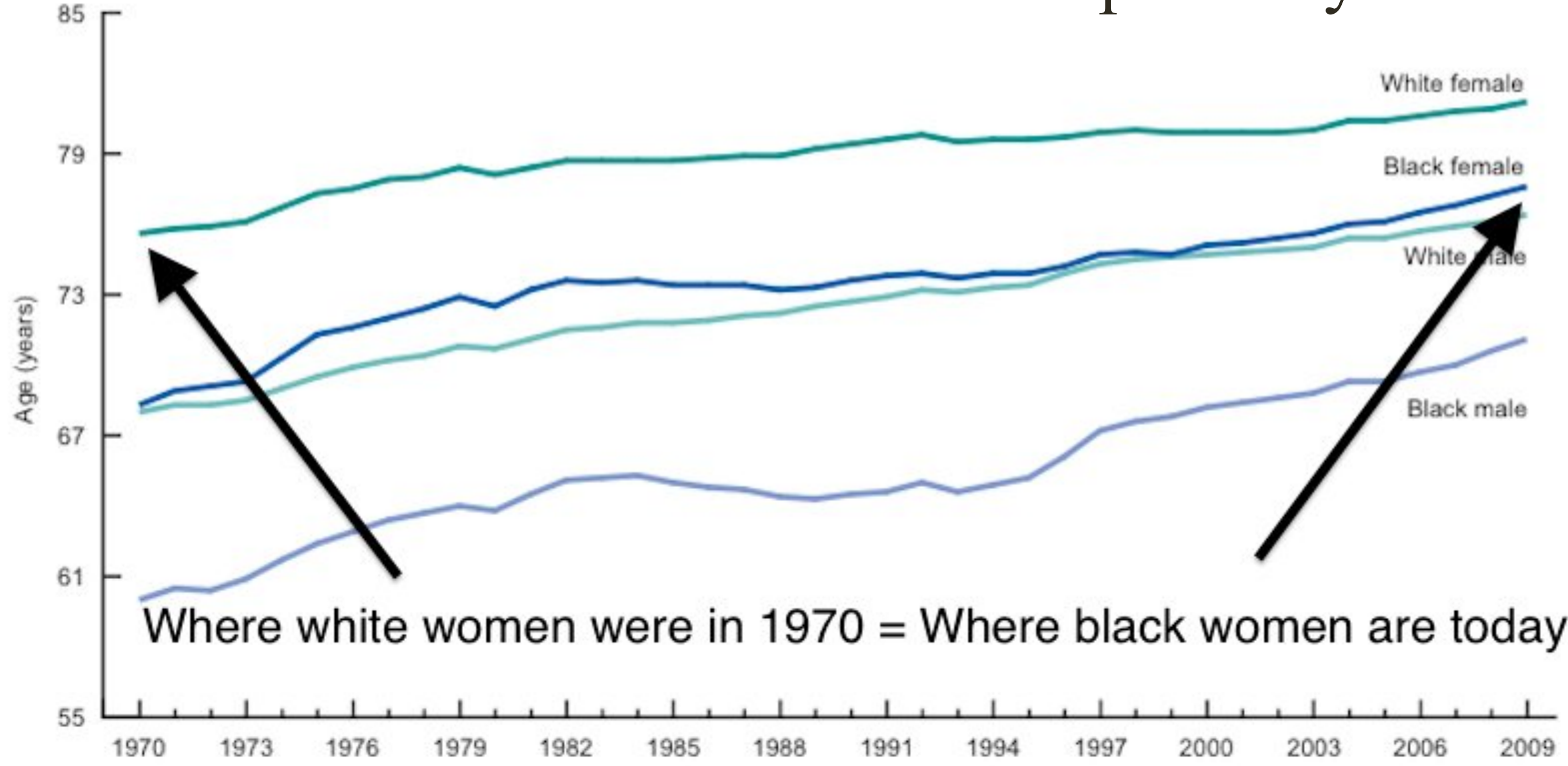
- Racial Battle Fatigue is the result of psychological and physiological stress overload from specific race-related relationships between a racially marginalized/oppressed individual (or group) and his or her environment.
  - This race-related stress is appraised by the individual (or group) as taxing or exceeding his or her available resources and thus endangering his or her well-being (health). Consequentially, this is a disturbed person-environment racial relationship.

# Black-White Life Expectancy



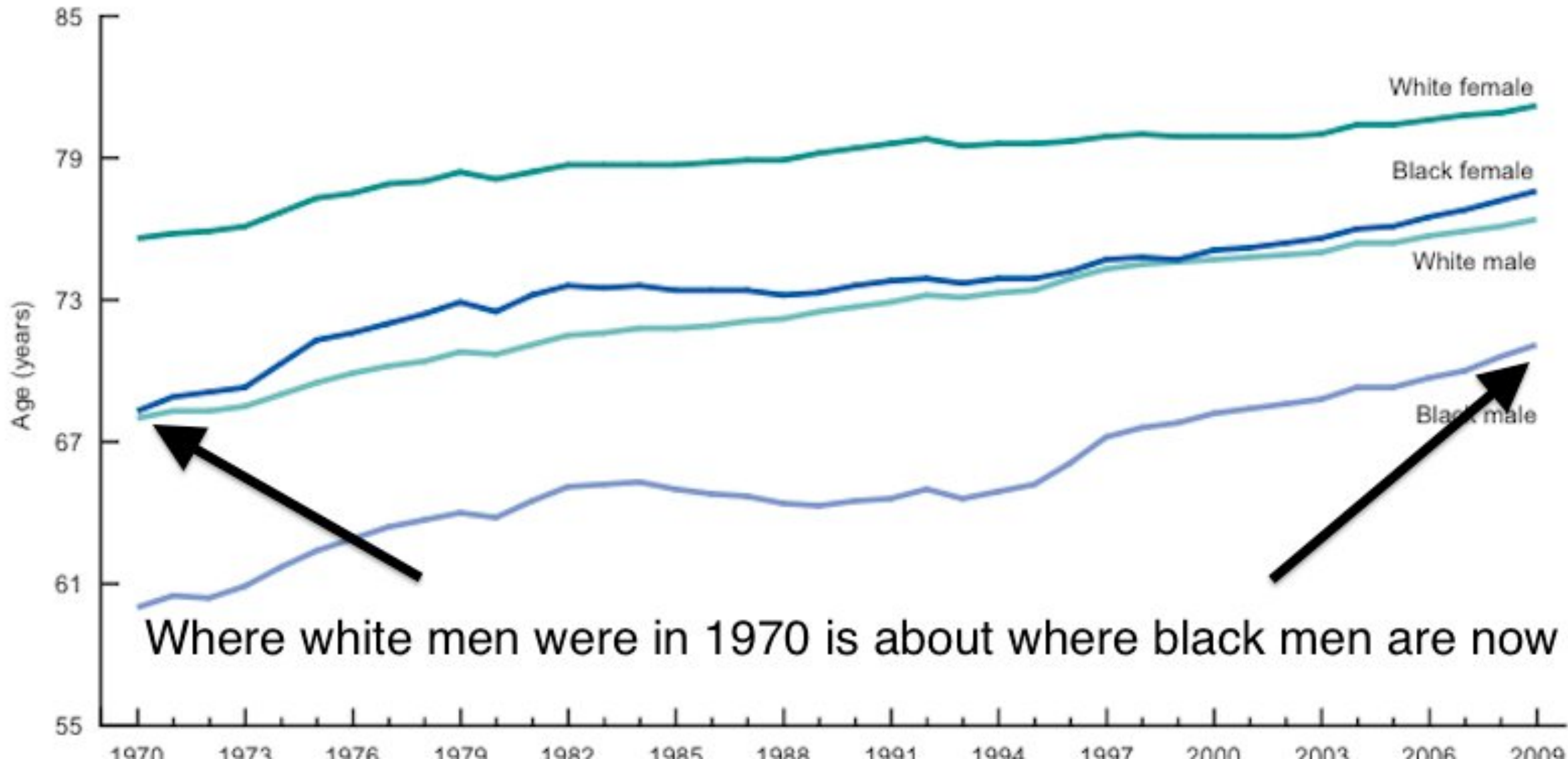


# Black-White Women's Life Expectancy



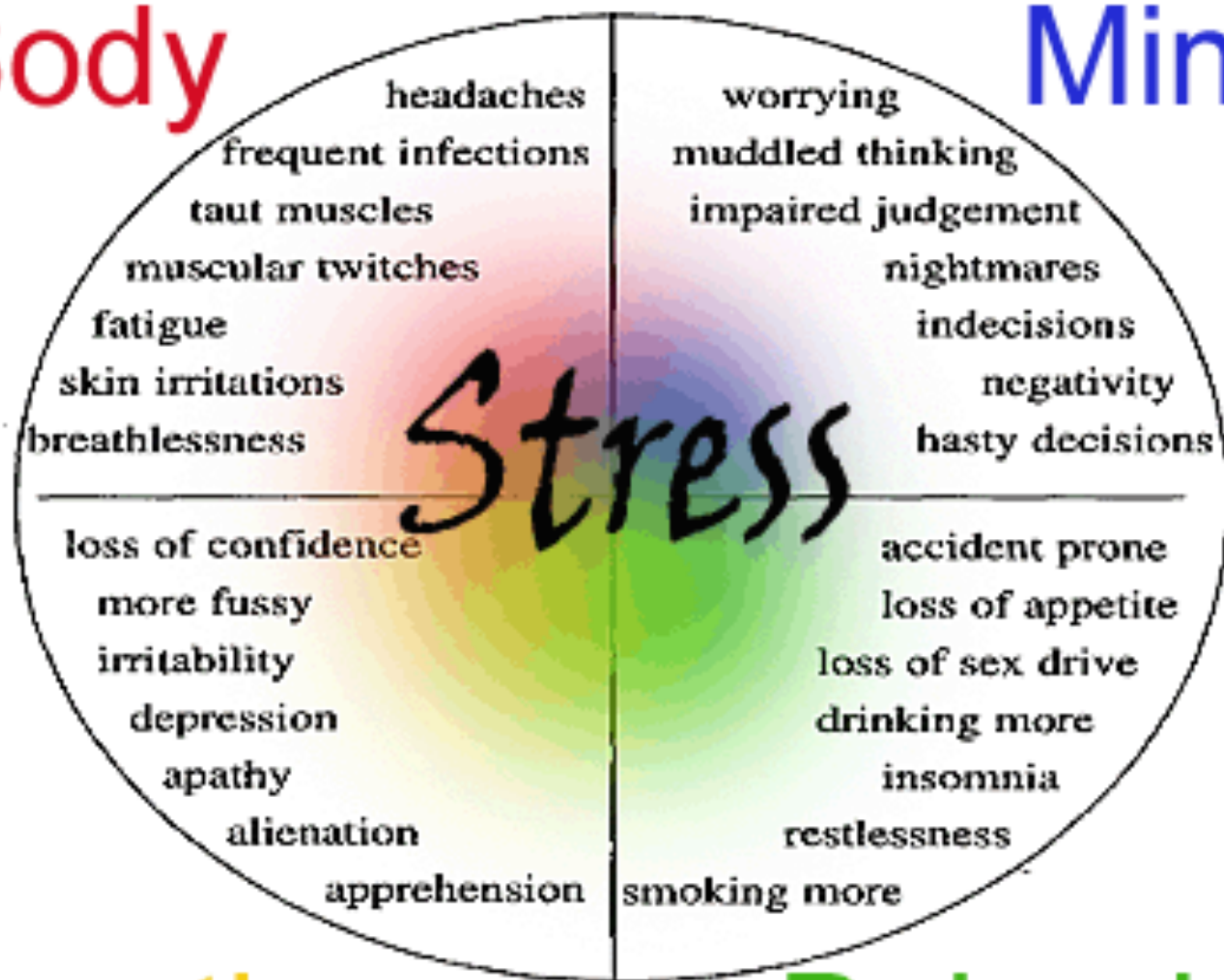
Where white women were in 1970 = Where black women are today

# Black-White Men's Life Expectancy



Body

Mind



Emotions

Behavior

# Discrimination Persists

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- Pairs of young, well-groomed, well-spoken college men with identical resumes apply for 350 advertised entry-level jobs in Milwaukee, Wisconsin. Two teams were Black and two were White. In each team, one said that he had served an 18-month prison sentence for cocaine possession.
- The study found that it was easier for a White male with a felony conviction to get a job than a Black male whose record was clean.



# Percent of Job Applicants Receiving a Callback

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<b>Criminal Record</b>	<b>White</b>	<b>Black</b>
<b>No</b>	<b>34%</b>	<b>14%</b>
<b>Yes</b>	<b>17%</b>	<b>5%</b>

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Source: Devan Pager; NYT March 20, 2004

# Racism and Health: Mechanisms

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- Institutional discrimination can restrict socioeconomic attainment and group differences in SES and health.
  - Segregation can create pathogenic residential conditions.
  - Discrimination can lead to reduced access to desirable goods and services.
  - Internalized racism (acceptance of society's negative characterization) can adversely affect health.
  - Racism can create conditions that increase exposure to traditional stressors (e.g. unemployment).
  - Experiences of discrimination may be a neglected psychosocial stressor.
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# Racial Disparities in Health

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- African Americans have higher death rates than Whites for 12 of the 15 leading causes of death.
  - Blacks and American Indians have higher age-specific death rates than Whites from birth through the retirement years.
  - People of Color get sick sooner, have more severe illness, and die sooner than Whites
  - Latinx have higher death rates than whites for diabetes, hypertension, liver cirrhosis & homicide
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Thank you!

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