


Prevalence, Severity and Burden of Post-Traumatic Stress Disorder in Black Men and Women Across the Adult Life span

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Abstract

Objectives: To examine post-traumatic stress disorder (PTSD) among Black adults in younger, middle, and older ages. **Methods:** Using nationally representative data from the National Survey of American Life, we estimated lifetime and 12-month prevalence of PTSD in Black men and women ages 18–34, 35–49, and 50+. We determined PTSD persistence and severity by age group, then associations of PTSD with socio-economic status, chronic stress, and racial discrimination in middle age. **Results:** The lifetime prevalence of PTSD was higher in Black women/men ages 18–34 (prevalence=14.0%/6.3%) and 35–49 (12.8%/4.6%) versus 50 and older (8.7%/5.1%). Those ages 35–49 were more likely than younger/older Black adults to have severe interference in work, relationships, and activities domains. In middle age, PTSD was associated with unemployment, lower education, poverty, and stress in Black men, and unemployment, divorce, poverty, stress, and discrimination in Black women. **Discussion:** Black women experience a disproportionate burden of PTSD in middle age.

Keywords

post-traumatic stress disorder, disability, work, poverty, discrimination

Introduction

Post-traumatic stress disorder (PTSD) is a common and disabling mental health disorder, with about one in 15 U.S. adults meeting criteria for PTSD during the lifetime (Alegria et al., 2013; Goldstein et al., 2016). In contrast to typical patterns of racial disparities where Black Americans (including African Americans and/or Caribbeans of African descent) have equivalent or lower lifetime prevalence compared to Whites (Thomas Tobin et al., 2020), the prevalence of PTSD is higher among Black Americans, especially Black women, with nearly one in eight African American women experiencing PTSD at some point during their lifetime (Valentine et al., 2019). When present, PTSD among Black Americans is often chronic, severe and goes untreated (Hale et al., 2018; Himle et al., 2009; Jones et al., 2020; Mays et al., 2018; Nobles et al., 2016b). Among Black Americans especially, PTSD is associated with increased risks for diabetes and hypertension (Nobles et al., 2016a), as well as heart disease and stroke (Vidal et al., 2018). PTSD often co-occurs with other psychiatric disorders, such as Major Depressive Disorder and substance use disorders, and contributes to chronic illness and poor health outcomes (Carter et al., 2020; Nichter et al., 2019; Sommer et al., 2019). Some have even

speculated that PTSD may play a role in Black women's disparities in maternal mortality and birth outcomes (Seng et al., 2011; Villarosa, 2018). Moreover, the risk of developing PTSD extends into middle and older age in

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Black populations (Himle et al., 2009), potentially contributing to disability and impairment in later life (Jones et al., 2022).

There are a number of factors known to contribute to the excess burden of PTSD among Black adults in the U.S. including elevated exposure to types of potentially traumatic events that confer risk for PTSD, such as childhood maltreatment, physical and sexual assault, and military combat (McLaughlin et al., 2019; Roberts et al., 2011). In addition to specific types of trauma, cumulative trauma exposure and limited psychosocial resources contribute to elevated PTSD risk in Black women (Gaffey et al., 2019; Gluck et al., 2021). Faced with the cumulative stressors associated with race, class, and gender oppression, Black women tend to be especially vulnerable to persistent poverty and interpersonal violence that contribute to increased risk of meeting criteria for PTSD (Lacey et al., 2021; Mekawi et al., 2021). Additionally, there is growing evidence of the association of racial discrimination on the course of PTSD and negative health outcomes (Bird et al., 2021; Brooks Holliday et al., 2020; Mekawi et al., 2020; Sibrava et al., 2019; Vines et al., 2017). Pre-trauma exposure to racial discrimination is associated with increased risk for PTSD in Black adults following a traumatic event (Bird et al., 2021). Experiences of discrimination contribute to neurobiologic changes in emotion regulation (Fani et al., 2021), adding to the severity of PTSD (Mekawi et al., 2020, 2021). There is also evidence that PTSD is a mediating pathway through which racial discrimination contributes to Black–White disparities in cardiovascular-related conditions (Gavin et al., 2021).

While prior research has examined the prevalence and risk factors of PTSD in Black Americans overall, our understanding of PTSD across the life course and its burden remains limited. Studies that have examined PTSD at different stages of adulthood have focused on prevalence, finding that lifetime prevalence is often greatest among Black Americans in young adulthood (Himle et al., 2009). Other studies focused on PTSD persistence and severity have tended to control for age, rather than examining the burden of PTSD among Black adults of varying ages (Jones et al., 2020; Mays et al., 2018; Sibrava et al., 2019). Because discrimination occurs among Black Americans of all ages, there may be an increased burden of PTSD among Black adults in middle and older ages in terms of severity of PTSD interference and downstream consequences for health and social outcomes. Identifying the characteristics of PTSD at different ages across the life span may thus be an important component in identifying interventions to reduce health disparities.

This study uses a life course approach to document the prevalence, persistence, and severity of PTSD among Black adults varying in age. We focus specifically on the lifetime and 12-month prevalence of PTSD among Black men and women; their disorder persistence and severity of interference in work, home, relationship, and social domains; and

associations of lifetime PTSD with social disadvantage, chronic stress, and experiences of racial discrimination. Examining these features of PTSD across multiple periods of adulthood may offer a more comprehensive view of PTSD among Black populations and inform the development of age- and race-specific mental health treatments.

Methods

Study Design and Procedures

We conducted a cross-sectional analysis of data from the National Survey of American Life (NSAL), a nationally representative, population-based survey of mental health and mental health services use among Black Americans (Jackson et al., 2004a). Drawing on Diagnostic and Statistical Manual of Mental Disorders 4th Edition (DSM-IV) criteria, the NSAL is the largest survey of psychiatric disorders among Black Americans to date. As described elsewhere, the overall response rate was 72.3% (Jackson et al., 2004a). Respondents included 5191 Black adults, of whom $n = 1856$ were younger (ages 18–34), $n = 1774$ were in the middle-age group (ages 35–49), and $n = 1561$ were ages 50 or older. All NSAL study procedures were approved by the University of Michigan's Institutional Review Board.

Measures

Lifetime and 12-Month Prevalence. The NSAL assessed probable lifetime and 12-month DSM-IV psychiatric disorders using a fully structured interview: the World Health Organization's Composite International Diagnostic Interview (WHO-CIDI) (Jackson et al., 2004b; World Health Organization, 2017–2018). The WHO-CIDI section assessed exposure to 22 potentially traumatic events, including accidents, natural disasters, interpersonal violence from a parent, romantic partner or stranger, kidnapping, sexual assault, military combat, refugee, civilian in a war zone, and witnessing violence to others. Respondents who affirmed exposure to a potentially traumatic event were asked about PTSD symptoms specific to the traumatic event, age of trauma and first age of PTSD symptoms, and the most recent time at which they experienced PTSD symptoms. Our analysis focused on respondents who met PTSD criteria at any time during the lifetime, and those who met criteria within the 12 months prior to the interview.

Persistence. We identified respondents who experienced PTSD in two time periods spanning more than 12 months apart. Specifically, persistence was estimated for the subsample of respondents who met criteria for PTSD during the lifetime and who also reported an age of onset at least two years prior to the interview. We calculated the proportion of this subsample who also met criteria for PTSD in the 12 months prior to the interview (Jones et al., 2020; Mays

et al., 2018). This measure captures chronic and/or recurring PTSD.

Severity of Impairment. We used the Sheehan Disability Scale to characterize PTSD severity in the 12 months prior to the interview (Leon et al., 1997). The Sheehan Disability Scale assesses the extent to which a disorder interferes with roles in four domains: (1) ability to clean, shop and take care of the home; (2) work; (3) ability to form and maintain close relationships; and (4) social life (Leon et al., 1997). Respondents were asked to think about a month in the prior year when their symptoms were most severe, and then rate the extent to which symptoms interfered with each role domain on a 0–10 scale. Severity, calculated separately for each domain, was classified as “mild” if respondents rated their interference as 0–3, “moderate” if they rated interference as 4–6, and “severe” if they rated interference as 7–10 (Levine et al., 2013).

Demographic and Socio-economic Variables. The NSAL measured demographic and socio-economic characteristics, including gender, ethnicity (African American or Caribbean Black), employment status (employed, unemployed, and out of the workforce), education (high school or less vs. more), marital status (married or cohabitating, widowed, separated, or divorced, and single), geographic region of the U.S. (northeast, south, Midwest, and west), health insurance status (yes or no), and having a usual source of care. Low income was defined as living in a household with an annual income less than 138% of the Federal Poverty Level. We combined responses from two items assessing marital status and number of children in the household to determine if respondents were single parents (yes or no).

Chronic Stress Events. The survey asked respondents whether they had experienced any of 10 chronic stressors during the previous month such as problems related to health, money, employment, law enforcement, or family. We counted the number of stressors endorsed, then categorized the total as 0, 1, 2, or 3 or more.

Racial Discrimination. The NSAL included a 10-item version of the Everyday Discrimination Scale to measure the frequency of routine experiences of unfair treatment (Carden et al., 2022; Williams et al., 1997). Responses ranged from never (1) to nearly every day (6). We summed responses to the 10 items to create a total discrimination score, then created a 2-level measure splitting the index at the median for low (0) versus high (1) racial discrimination.

Statistical Analysis

All statistical analyses were conducted in SAS (SAS Institute Inc., 2005), using design variables to adjust for the complex sampling design of the NSAL and a post-stratification weight. We first examined the distribution of sociodemographics, chronic stress, and perceived discrimination for respondents

in younger, middle, and older age groups. We then used cross-tabulations to estimate lifetime and 12 month prevalence of PTSD for Black men and women in each age group. We report weighted study proportions and their standard errors. Similar procedures were used to determine disorder persistence and severity across the lifespan in the subsamples meeting lifetime and 12-month disorder criteria, respectively.

To better understand PTSD-related morbidity, we used cross-tabulations to examine the distribution of sociodemographic characteristics, chronic stress, and perceived discrimination of those with a lifetime history of PTSD, compared to those with no lifetime PTSD. Analyses, conducted separately for men and women, were limited to those in age groups with elevated PTSD prevalence and severity.

Results

Sociodemographic Characteristics and Prevalence of DSM-IV Post-Traumatic Stress Disorder

Socioeconomic Status, Chronic Stress, and Discrimination. There were some notable differences in the sociodemographic characteristics of Black adults across age groups (Table 1). Those age 18–34, compared to those in middle and older age groups, were more likely to be unemployed, never married, and single parents (p -values $< .001$). Those age 50 and older, compared to Black adults in younger and middle-age groups, were more likely to be out of the work force, widowed, and to have health insurance and a usual source of care (p -values $< .001$). Black adults age 35–49, compared to those who were younger or older, had the greatest chronic stress ($p < .001$). They were also more likely than the other groups to experience higher levels of racial discrimination (56.8% vs. 52.1% and 42.3%; $p < .001$).

Lifetime Prevalence. About one in 10 Black adults ages 18–34 met criteria for PTSD during the lifetime, compared to one in 11 Black adults age 35–49 and one in 14 of those ages 50 and older ($p < 0.001$). The age patterning of PTSD was also observed in women, with about one in seven Black women age 18–34 meeting PTSD criteria during the lifetime compared to one in eight Black women age 35–49 and just one in 12 of Black women ages 50 and older ($p < .001$). In Black men, there were no statistical differences in the prevalence of PTSD across the three age groups. Among those in the younger, middle, and older age groups, about one in 20 Black men (5–6%) met PTSD criteria.

12-Month Prevalence. The age patterning of disorder prevalence was less pronounced when examining PTSD criteria in the 12 months prior to the interview. About one in 20 Black adults met 12-month PTSD criteria, compared to about one in 30 Black adults age 35–49, and one in 35 of those ages 50 and older ($p = .08$). There were no statistical differences in the 12-month prevalence of PTSD across the age groups of Black

Table 1. Demographic Characteristics, Chronic Stress, Discrimination and PTSD Prevalence among Black Adults in Younger, Middle, and Older Age Groups in the National Survey of American Life.

	Age 18–34 (n = 1856)		Age 35–49 (n = 1774)		Age 50 and older (n = 1561)		p-value
	% ^a	SE	%	SE	%	SE	
Gender							0.53
Men	44.1	1.6	48.8	1.3	43.5	1.5	
Women	55.9	1.6	54.2	1.3	56.5	1.5	
Ethnicity							0.04
African American	91.9	0.8	93.5	0.6	93.8	0.7	
Caribbean Black	8.1	0.8	6.5	0.6	6.2	0.7	
Employment							<0.001
Employed	74.8	1.4	78.4	1.7	45.9	2.1	
Unemployed	59.1	14.5	39.5	9.6	18.7	5	
Out of workforce	10.7	1	12.0	1.2	49.1	2.2	
Education							<0.001
Some college or greater	38.8	2.1	43.5	1.9	33.2	1.8	
No college	61.2	2.1	56.5	1.9	66.8	1.8	
Marital status							<0.001
Married/cohabitating	32.9	1.6	50.6	1.8	44.2	1.7	
Widowed	0.3	0.1	1.3	0.3	23.9	1.2	
Separated/divorced	6.4	1.0	26.8	1.4	24.1	1.5	
Never married	60.4	1.9	21.4	1.6	7.8	0.9	
Single parent	25.1	1.2	13.8	1.3	6.0	0.8	<0.001
Region							0.70
Northeast	20.4	1.4	17.2	1.4	17.6	1.9	
Midwest	17.3	2.4	17.8	1.7	18.3	2.5	
South	54.2	2.9	54.2	2.6	54.7	3.0	
West	8.1	1.1	10.7	1.4	9.4	2.1	
Insured	76.9	1.4	81.6	1.3	87.7	1.3	<0.001
Has usual source of care	79.2	1.4	86.6	1.2	93.2	0.9	<0.001
Income below 138% FPL	36.8	2.3	28.8	1.9	33.4	1.9	0.003
Chronic stress events							<0.001
0	23.6	1.7	21.6	1.7	31.9	1.7	
1	26.7	1.5	24.2	1.2	30.8	1.6	
2	22.0	1.4	24.0	1.5	30.0	23.3	
3 or more	27.7	1.8	30.2	1.7	14.0	1.0	
High racial discrimination	52.1	1.7	56.8	2.1	42.3	2.0	<0.001
Lifetime PTSD							<0.001
Overall	10.6	1.0	9.1	0.9	7.1	0.8	
Men	6.3	1.5	4.6	1.1	5.1	1.4	0.67
Women	14.0	1.3	12.8	1.4	8.7	1.1	0.007
12-Month PTSD							
Overall	5.1	0.9	3.6	0.6	2.8	0.6	0.08
Men	3.4	1.0	2.2	0.8	2.6	1.1	0.70
Women	6.4	1.1	4.7	0.8	2.9	0.6	0.02

FPL = federal poverty level; PTSD = post-traumatic stress disorder; SE = standard error.

^aSurvey-weighted percent.

^bp-values from Rao–Scott test, a version of χ^2 that accounts for the complex sampling design and survey weights.

men ($p = .70$). In Black women, however, the 12-month prevalence of PTSD was greater for those age 18–34 (6.4%) compared to those age 35–49 (4.7%) and those age 50 and older (2.9%; $p = .02$).

Persistence of Post-Traumatic Stress Disorder

Nearly half of Black adults age 18–34 who met criteria for PTSD during the lifetime also met criteria in the 12 months

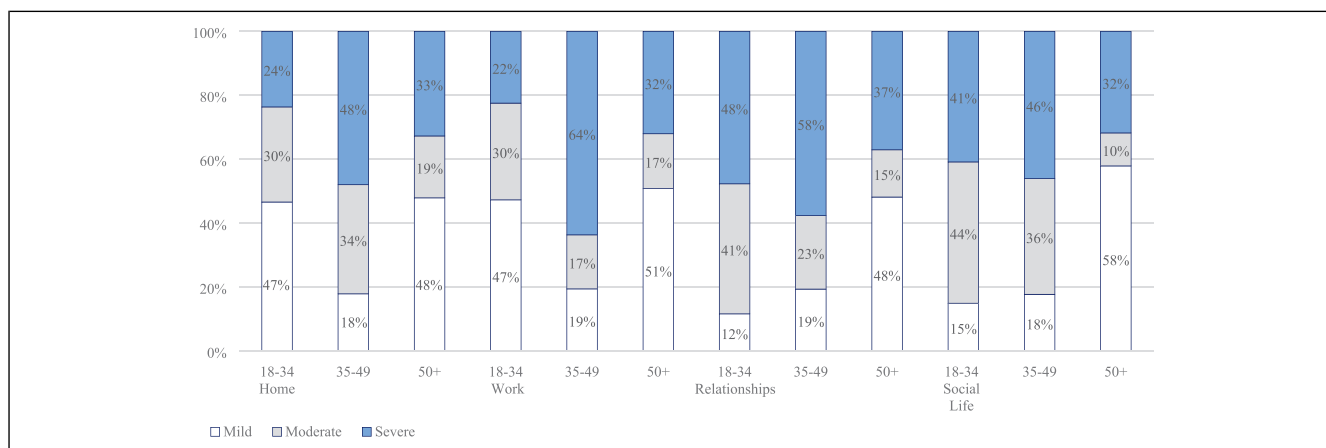


Figure 1. Severity of interference among Black adults who met DSM-IV criteria for PTSD in the prior 12 months, by age and interference domain in the National Survey of American Life.

prior to the interview (47.4%; results not tabled). Among middle age and older Black adults, just two in five of those PTSD experienced a persistent disorder (39.6% and 40.3% among those ages 35–49 and 50 or older, respectively). There was no statistical difference in the percentage of adults who met persistence criteria across age groups ($p = .56$).

Severity of Interference from Post-Traumatic Stress Disorder

Of the three age groups, Black adults in middle-age reported the greatest severity of interference from their disorder, with unique patterns by domain of interference (Figure 1).

Home. Black adults age 35–49 experienced the greatest interference from PTSD in their home responsibilities ($p = .07$). One half of Black adults in the middle age group reported severe interference in their ability to clean, shop, and take care of the home (47.9%). Among those ages 18–34, about one in four reported severe home interference (23.6%); while among those ages 50 and older, just one in three reported moderate or severe home interference (32.7%).

Work. Black adults age 35–49 also experienced the greatest interference from PTSD in their ability to work ($p = .004$). Two in three middle-age Black adults reported severe work interference (63.6%), compared to about one in four of those age 18–34 (22.4%) and one in three of those ages 50 and older (32.0%).

Relationships. Black adults with PTSD in younger and middle age experienced severe interference in their ability to form and maintain close social relationships ($p < .001$). Among those age 18–34, more than four in five reported moderate or severe interference with social relationships (40.7% and 47.7% had moderate and severe interference, respectively). A

similar pattern was observed among those age 35–49, with four in five experiencing moderate or severe interference with relationships (23.1% and 57.5%); while about one-half of those age 50 and older experience moderate or severe relationship interference (14.8% and 37.0%).

Social Life. A similar pattern was observed for social activities, with younger and middle-age Black adults experience greater PTSD interference with social activities when compared to older Black adults ($p < .001$). Among those age 18–34, more than four in five reported moderate or severe interference with social activities (46.1% and 40.8% had moderate and severe interference, respectively). Among those age 35–49, four in five also experienced moderate or severe interference with their social life (36.2% and 46.1%), compared to about two in five in those age 50 and older (10.3% and 31.8% had moderate and severe social interference, respectively).

Associations of Socioeconomic Characteristics, Chronic Stress, and Discrimination with Post-Traumatic Stress Disorder in Middle Age

Among Black adults age 35–49, having a lifetime history of PTSD was associated with disadvantage in several areas (Table 2). Those with a history of PTSD were more likely to be unemployed or out of the workforce, compared to those who did not meet PTSD criteria during the lifetime ($p < .001$). They were more likely to be separated or divorced ($p < .001$), to be single parents ($p = .02$), and to live in households with very low income (p 's $< .001$). In addition, those with a lifetime history of PTSD experienced more chronic stress compared to those without PTSD ($p < .001$).

Factors associated with PTSD differed among Black men and women in middle age. For instance, Black men who met

Table 2. Demographic and Socioeconomic Characteristics, Chronic Stress, and Discrimination among Black Men and Women in Middle Age, by Lifetime PTSD from the National Survey of American Life.

	Overall			Men			Women			p-value			
	No PTSD (n = 1553)		PTSD (n = 152)	No PTSD (n = 592)		PTSD (n = 28)	No PTSD (n = 961)		PTSD (n = 124)				
	% ^a	SE	%	SE	%	SE	%	SE	%				
Ethnicity													
African American	93.4	0.6	92.6	1.8	93.7	0.8	85.4	8.1	93.1	0.6	94.8	1.2	.19
Caribbean Black	6.6	0.6	7.4	1.8	6.3	0.8	14.6	8.1	6.9	0.6	5.2	1.2	.03
Employment													
Employed	81.0	1.8	58.6	5.4	85.9	1.9	45.0	12.0	76.5	2.6	62.7	6.1	.03
Unemployed	8.6	1.4	22.0	3.8	7.2	1.7	33.5	11.3	9.9	1.5	18.5	4.0	.03
Out of workforce	10.4	1.1	19.4	4.1	6.9	1.3	21.5	10.4	13.5	1.9	18.8	4.3	.97
Education													
Some college or greater	44.3	2.2	38.3	6.2	43.3	3.1	14.4	7.6	45.1	2.4	45.4	6.8	.007
No college	55.7	2.2	61.7	6.2	56.7	3.1	85.6	7.6	54.9	2.4	54.6	6.8	.007
Marital status													
Married/cohabitating	52.4	1.9	38.2	4.4	59.8	3.0	36.8	12.4	45.8	2.5	38.6	5.2	.007
Widowed	1.1	0.3	3.7	1.7	0.9	0.4	3.3	3.2	1.2	0.3	3.8	2.0	.15
Separated/divorced	25.2	1.4	40.9	4.0	21.2	2.4	39.5	11.7	28.8	1.4	41.3	4.6	.007
Never married	21.3	1.7	17.2	4.0	18.2	2.1	20.4	10.6	24.2	2.2	16.2	4.0	.19
Single parent	13.3	1.3	22.8	4.8	5.3	1.0	5.4	5.3	20.6	2.2	28.0	5.8	.08
Region													
Northeast	17.3	1.7	22.0	3.7	18.8	2.9	14.5	7.3	15.9	1.6	24.2	4.3	.11
Midwest	15.3	1.1	26.0	5.5	12.9	1.6	32.9	12.2	17.5	1.9	23.9	6.3	.08
South	55.9	2.6	44.8	5.3	56.3	3.4	38.9	10.6	55.5	2.8	46.5	6.4	.08
West	11.6	1.6	7.3	1.8	12.1	1.5	13.7	8.8	11.1	2.1	5.4	2.0	.17
Insured	82.4	1.5	74.0	5.4	81.3	1.8	75.5	10.8	83.3	1.9	74.4	6.6	.17
Has usual source of care	86.4	1.2	87.4	4.4	80.7	2.3	90.5	6.6	91.6	1.1	86.5	5.5	.28
Income below 138% FPL	27.3	1.9	48.3	5.9	20.8	2.6	48.9	11.5	33.2	2.5	48.1	7.1	.02
Chronic stress events													
0	23.1	1.8	5.0	2.3	29.3	3.0	6.1	5.1	17.6	1.6	4.7	2.6	<.001
1	25.8	1.4	8.9	3.0	29.6	2.3	0.2	0.2	22.5	2.0	11.6	3.6	<.001
2	24.0	1.6	22.2	4.0	22.8	2.4	20.6	9.6	25.0	2.0	22.7	4.2	<.001
3 or more	27.0	1.7	63.8	4.7	18.3	2.4	73.1	10.3	34.9	2.3	61.0	5.8	<.001
High racial discrimination	56.7	2.1	64.3	4.4	59.7	3.5	66.2	11.8	54.0	2.2	63.8	5.2	.05

DSM IV = Diagnostic and Statistical Manual of Mental Disorders, 4th edition; FPL = Federal Poverty Level; PTSD = Post-Traumatic Stress Disorder; SE = Standard Error.

^aSurvey-weighted percent.

^bp-values from Rao-Scott test, a version of X² that accounts for the complex sampling design and survey weights.

criteria for PTSD during the lifetime were much less likely than men without any history of PTSD to be employed and have at least some college education (p -values $< .01$). They were more likely to live in households with very low income ($p = .003$), and to experience higher levels of chronic stress ($p < .001$). Black women who met criteria for PTSD during the lifetime were more likely than women without any history of PTSD to be separated or divorced ($p = 0.007$). They were also more likely to be unemployed or out of the workforce ($p = .03$), and to experience poverty ($p = .02$), chronic stress ($p < .001$), and greater race-based discrimination ($p = .05$).

Discussion

Results of our study underscore that looking only at prevalence of PTSD in Black Americans as a group misses some of the important distinctive burdens that occur as a function of the challenges faced across the life course. While prior studies have found that Black Americans experience the greatest *immediate risk* of PTSD in their late teens and early adulthood (Himle et al., 2009), our results suggest an *elevated burden of PTSD* in middle age through lifetime prevalence, severity of interference with home, work, relationships and social activities, and substantial levels of chronic stress. This has important implications for successfully navigating unique cultural and socioeconomic tasks of middle age such as work, gaining economic security, social relationships, childbearing, and caretaking of both children and parents.

We also observed gender patterns in the burden of PTSD, with women having greater lifetime and 12-month PTSD prevalence than men, particularly in younger and middle ages, and unique associations of PTSD with socioeconomic disadvantage in middle age. Of particular concern was our observation of declines in educational attainment in middle-age Black men with PTSD and increases in marriage separation in middle-age Black women with PTSD. These results are consistent with those from earlier studies which found that PTSD onset was associated with elevated rates of divorce (Breslau et al., 2011; Kessler et al., 1998). Because Black women are more likely than Black men to be single parents, and single parenthood was associated with PTSD in the overall sample, these findings have implications for maternal and child health. Without treatment, PTSD has detrimental impacts on maternal-infant bonding, parenting quality, and early child relationships (Erickson et al., 2019).

In contrast to the patterns observed in studies of physical health, older Black adults in our study experienced the lowest lifetime prevalence of PTSD and the least severe interference from PTSD in home, relationships, and social activities. These findings intuitively do not map onto life course perspectives of health, where the prevalence of chronic disease and health disparities are seen increasingly in both middle and older age (Sommer et al., 2021). There are several thoughts about the lower prevalence and severity of PTSD observed in

older Black adults in the NSAL data. One is there may be survivor effects as Black Americans tend to die prematurely and those who participate in our 50+ sample have survived and may have developed effective coping strategies. PTSD also increases mortality risk (Giesinger et al., 2020; Trivedi et al., 2020), which would also contribute to potential survivor effects. The second may be cohort effects. There is evidence from another study of PTSD and aging in the general U.S. population (Reynolds et al., 2016) that older adults report lower prevalence of types of traumatic events (e.g., interpersonal violence and sexual assault) that confer PTSD risk in Black women (Lacey et al., 2021). In another paper in this issue, post-traumatic events (PTE) in older Black adults were found to be associated with depressive symptoms and psychological distress (Brooks et al., 2022); when screened and found in the 12-months prior to the interview, PTEs were treated with anti-depressants. The most commonly experienced types of PTEs in their study were having someone close die unexpectedly, seeing someone badly injured, being mugged, having a life-threatening illness, and being in a life-threatening car accident (Brooks et al., 2022). The good news is that despite experiencing such PTEs they did not go on in large numbers based on our results to advance to PTSD.

A third possibility, discussed in other papers, involves psychological theories of successful aging (Reynolds et al., 2016) and cognitive theories on stress processing and emotional regulation in older adults (Jones et al., 2022). We do know that PTSD as well as other anxiety disorders are persistent and contribute to increased disability in older age (Jones et al., 2022), even if the disorder is not perceived to offer severe interference. According to the Selective Optimization with Compensation Model (Baltes & Baltes, 1990), successful aging occurs when people selectively attend to activities and thoughts that contribute to well-being and reduced stress, and they have developed compensatory strategies that enable them to continue these pursuits even as their health and other resources decline with age. Building on this premise, Carstensen and colleagues (1999) developed the Socioemotional Selectivity Theory, which contends that as people age emotion regulation goals are more at work by older adults who are invested in enjoying the present. Tull and colleagues (2020) provide examples of several studies using various methodologies indicating that emotional control in adults increases with age and overall self-reported levels of negative emotion decreases with increased ages. (Gross, 2015a, 2015b; Gross & Levenson, 1997; Lawton et al., 1992). Tull et al. (2020) also provide studies with evidence that older adults report less distress than younger adults in particular stressful situations that includes daily hassles, property loss, as well as interpersonal conflict. In preliminary results of an interview study underway by the senior author there was a noticeable difference in reporting about the experiences of racism in Black men ages 18–24, 40–60, and 65+ years of age. While older men recounted horrendous

examples of racism which for some were life-threatening, it was clear they were looking forward rather than backwards about the incidents. Some of the older men in response to the request to talk about their worst experience of racism indicated that they had not talked about or shared the event since its occurrence. In contrast the fervor and upset in which the youngest group relayed their experiences signaled the ways in which those incidents were still being experienced as stressful and unresolved.

In middle age, in contrast to older age, Black men and women experience chronic stress in multiple domains, including those related to health, money, and employment. These stressors were heightened in Black men and women who have experienced PTSD. We also see, particularly for Black women, chronic stressors associated with PTSD and structural racism interfere with achieving the tasks of middle age. There are likely multiple pathways by which discrimination, which is not only race-based at the individual level but also includes structural racism associated with work, poverty, and disintegration of social relationships, is linked with stress and PTSD. In a prior study, work-related stress due to unfair treatment in the workplace, being overqualified for jobs in which they were hired, working more than 40 hours a week, or worry about job loss, was found to mediate the relationship between major experiences of discrimination and PTSD in Black adults (Archibald, 2021). This prior work suggests that discrimination is a source of stress that confers risk for PTSD. In the present study, we found that middle-age Black adults with PTSD often experience severe interferences in their work, relationships, and social activities. Thus, it is likely also the case that PTSD adds to chronic stress in work and other domains through task and relationship interference.

The findings illustrate a need for research into the mechanisms that link discrimination, chronic stress, PTSD and health in Black men and women in middle age. Identifying the mechanisms through which discrimination contributes to PTSD morbidity will be essential for designing interventions to reduce health disparities. Indeed, the stress burden associated with PTSD likely contributes to weathering and allostatic load effects increasing contributions to physical health disparities and shorten life expectancies (Giesinger et al., 2020; Nobles et al., 2016a). Examination of data from the Nurses' Health study as well as a meta-analysis review suggests that PTSD may be associated with premature senescence-early or accelerated aging (Lohr et al., 2015; Roberts et al., 2015, 2017). Another area in need of critical examination is if and how PTSD as a consequence of discrimination may be a contributing factor in maternal and infant morbidity and mortality for Black women.

We note study limitations. First, the sample is limited to non-institutionalized adults living in U.S. households. Given that histories of incarceration, homelessness, and active-duty military service confer risk for PTSD, our estimates of PTSD prevalence in Black men and women across the life course are likely conservative. Second, assessment of traumatic events

and PTSD symptoms were collected retrospectively and may be subject to recall bias. This could have bearing on our lifetime estimates particularly among older Black adults. We cannot in the present study determine if our finding of lower prevalence and severity of PTSD in Black adults age 50 and older are due to declines in recall with aging, cohort effects, cognitive strategies for dealing with stressful events or survivor effects. Third, the data was cross-sectional in nature, raising concerns of potential reverse causality. The present study was not able to determine if socioeconomic factors like unemployment and poverty were the probable drivers of the development of PTSD risk in Black men and women (McLaughlin et al., 2013; Steenkamp et al., 2017) or, conversely, if severity of PTSD interference contributed to a reduction in Black adults' educational, employment, and economic opportunities—relationships that are sometimes observed in longitudinal studies of psychiatric disorders in the general U.S. population (Burnett-Zeigler et al., 2013; Mojtabai et al., 2015a; Mojtabai et al., 2015b). Longitudinal studies of Black adults' mental health would help to clarify the temporal nature of discrimination, PTSD, employment, stress, and poverty across the life span. Finally, it is important to acknowledge heterogeneity within the Black population in the U.S. (Tamier, 2021). Prior studies have found elevated risk for late life PTSD onset in Black adults of Caribbean origin (Himle, 2009). The present study was underpowered to examine cultural and immigration factors that may contribute to PTSD prevalence and severity in older Caribbean groups. This is an important area of inquiry for future studies.

This is the first large population-based, nationally represented study of Black adults to our awareness that has had a sufficient sample to apply a developmental perspective in the investigation of PTSD. The study despite its limitations adds several contributions to our knowledge of PTSD in Black adults including that burden as measured by prevalence, severity, and persistence varies in its impact by developmental stages and gender. The findings underscore the need for mental healthcare for PTSD in Black Americans, using a developmental lens to increase successful accomplishment of developmental milestones. Successfully meeting these milestones in middle-age benefits not just the individual but they have implications for the parenting of Black children, family, and social relations which are sources of support both emotionally and economically and in the caretaking of parents. Innovative solutions will be needed to expand treatment access during early adult years when being uninsured is often highest. Even with increases in insurance coverage for young adults that occurred through the Affordable Care Act, Black adults are more likely than Whites to be uninsured (Kaiser Family Foundation, 2019), and they experience other barriers to mental health treatment (e.g., stigma, mistrust of the healthcare system, healthcare discrimination, and costs) that are not addressed through insurance expansions alone (Alang, 2019; Hudson et al., 2018; Mays et al., 2017). Addressing these barriers is critical and, in

designing PTSD interventions for young Black mothers, it may be important to combine evidence-based treatments with therapies that target parenting and attachment relationships to advance maternal-child health (Erickson et al., 2019).

In middle age, treatment access remains important for preventing and managing chronic health conditions, as does aiding coping strategies to combat chronic stress and promote emotional well-being. Given the link between PTSD and employment outcomes (Stevenson et al., 2021), it may be important to develop PTSD treatment that can be delivered within the context of vocational training programs to mitigate poor economic outcomes in middle age and beyond as has been shown with anxiety disorders (Himle et al., 2019). In addition, as discussed in another paper in this issue, for older Black men and women, there is a need to implement age and culturally targeted screening measures within the primary care setting to help identify, diagnose and treat PTSD (Jones et al., 2022). Finally, our results further demonstrate the undercurrent of racial discrimination that persists throughout the life course and its relationship to PTSD prevalence and severity in Black women in particular (Sibrava et al., 2019). Public health and health system strategies that confront structural racism will be needed to reduce the elevated burden of PTSD in Black Americans overall, and to advance the economic, health, and social outcomes for Black men and women with PTSD across the life course.

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