

University of Nevada, Reno

**Pursuing a Deeper Understanding of the Black-White Mental Health Paradox: A
Sequential, Mixed Methods, Three-Article Dissertation**

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in
Social Psychology.

By

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THE GRADUATE SCHOOL

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Abstract

Black Americans incur disproportionate stress because of the systemic racial oppression in the United States and their socioeconomic disadvantages. Such stress exposure has significant negative impacts on Black peoples' physical health. One would assume Black Americans' mental health would equally suffer in the face of stress exposure, yet they have lower rates of depression and anxiety than Whites, a phenomenon referred to as the Black-White mental health paradox. This dissertation presents three empirical studies of Black-White differences in mental health and their determinants. Based on the known gender differences in mental health and the unique ways in which Black and White men and women are socialized to express distress, we also took an intersectional approach in each article and dissected patterns by race, by gender, and of specific subgroups. The first article (Chapter 2) uses secondary data representative of the U.S. Black and White populations to examine how the race and mental health relationship is potentially mediated by counterbalancing mechanisms of stressors and psychosocial resources, and how this whole process is moderated by gender. We found that racial identity and religious service attendance slightly benefit the mental health of Black women, but Black men's apparent mental resiliency remained mostly unexplained. Additionally, the greater importance placed on religion among Black Americans relative to White Americans appeared to be a detriment to their mental health. The second article (Chapter 3) describes a study in which we interviewed 51 Black and White men and women to collect their theories as to why the Black-White mental health paradox exists. Participants' explanations mainly suggested that the paradox is a methodological artifact owing to mental illness stigma that biases Black Americans' reports of symptoms. Black women

highlighted the role that religious organizations play in perpetuating this stigma towards mental illness and Black peoples' tendency to suffer in silence, and Black men highlighted the similar stigmatizing role played by the medical community. Finally, the third article (Chapter 4) reports on the findings from an online survey-embedded experiment in which Black and White men and women (N=880) were randomized to read one of four vignettes describing a vignette character (Black or White, man, or woman) who was experiencing symptoms characteristic of depression. Results revealed that the intersection of race and gender rendered Black men in a unique position in which the stigma towards mental illness among Black people and among men compound. Black men often were more likely to think depression symptoms were normal, expected more stigmatization, and recommended seeking mental health care less often than other groups. Counterintuitively though, Black men and women were more likely than Whites to consider mental health care for themselves and were more optimistic in its effectiveness. Overall, this dissertation finds mechanisms of the paradox that are shaped by both race and gender; some that are artifactual (i.e., methodological biases) and some that are substantive (e.g., coping mechanisms). More research is needed on these artifactual explanations, and any future research on race differences in mental health should not overlook within-race differences in outcomes or etiology.

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Chapter 1: Introduction

The negative impact of health disparities on the Black population in the United States is indisputable. Death rates, incidence and survival rates of cancers, stroke and cardiovascular disease are all disproportionately worse for Black Americans relative to White Americans (Baquet et al., 2008; Curtain & Arias, 2019; Du et al., 2007; Graham, 2015; Leigh et al., 2016), as well as risk factors for disease (Kurian & Cardarelli, 2007). Health disparities are of great concern to medical professionals, public health officials and the public, and are especially concerning to social scientists because of the roles played by racism and social stress.

Systemic racism in the U.S. affects the health of Black people in several ways, one of which is through their disproportionate exposure to stress (Williams & Mohammed, 2013). Black Americans tend to face greater stressors than Whites, particularly financial stressors owing to their economic disenfranchisement throughout history and pervasive racial discrimination (Turner, 2013; Williams, 2000). Theoretical and empirical research documents the adverse physical and psychological consequences of stressors (Clark et al., 1999; Pearlin et al., 1981; Turner, 2013; Turner et al., 1995; Wheaton, 1994; Williams, 2000). Given exposure to stressors is a risk factor for both physical and mental health outcomes, and Black Americans are exposed to more stress than Whites, one would expect there to be similar disparities in mental health to those of physical health. However, there is little evidence of such mental health disparities between Black and White Americans. Rather the evidence suggests Black Americans have equal or better mental health than White Americans across diverse measures of mental health outcomes (Blazer et al. 1994, Bratter & Eschbach, 2005; Breslau et al.

2006, Hasin et al. 2005, Weissman et al. 1988, Williams, 2000; Williams et al. 2007). These counter-theoretical findings are referred to in the literature as the “Black-White mental health paradox” (Keyes, 2009).

A robust literature is devoted to studying the Black-White mental health paradox, but the questions of “why” and “how” remain. Researchers have explored several explanations, mainly testing if the apparent resiliency of Black Americans is owing to psychosocial coping resources that buffer the ill-effects of stressors as theory would suggest (Clark et al., 1999; Pearlin et al., 1981). Within-group analyses demonstrate the effective stress-buffering qualities of several coping resources (Ellison et al., 2008; Morin & Midlarsky, 2016; Mouzon & Brock, 2022; Woo et al., 2019), but when tested in race-comparative designs they rarely account for the paradox or produce mixed results across studies. The only exception is self-esteem, which is closely correlated with mental health. Our own research confirms that of other scholars (LaMotte et al., 2023; Louie et al., 2021; Louie & Wheaton, 2019), that Black peoples’ higher self-esteem partially explains the paradoxical differences in mental health between Black and White Americans. Yet, even after accounting for self-esteem, the Black mental health advantage remains.

The Environmental Affordances (EA) model (Jackson et al., 2010) posits that Black Americans cope with stressors by engaging in poor health behaviors (e.g., smoking, alcohol use, poor diet) more than White Americans do, which helps preserve their mental health while worsening their physical health. Initial research was mixed as to Black-White differences in frequency of poor health behaviors (i.e. a mediation effect), but moderating effects were found across studies (Jackson et al., 2010; Mezuk et al., 2010). Specifically, they found that engaging in poor health behaviors increased risk for

depression among White people, but decreased risk of depression among Black people. However, more recent studies find neither mediating nor moderating effects to support the EA model (Keyes et al., 2011; Pamplin et al., 2021). Therefore, it is unclear whether race differences in using poor health behaviors or race differences in poor health behaviors' ability to buffer stressors accounts for the paradox. Research has also explored whether the paradox is due to methodological biases, e.g., measurement biases and reporting biases among mental health outcomes, but those few tests yield null results (Barnes et al., 2013; Breslau et al., 2008; LaMotte et al., 2023).

Overall, there remain major gaps in our understanding of the relationships between race, stress, and mental health. This dissertation seeks to advance our understanding of racial differences in the stress process and advance the application of social stress theory to Black Americans' mental health. Specifically, this dissertation includes three studies that examine racial differences in stress, coping, mental health, and related constructs. A key feature of this dissertation is that each study also employs an intersectional approach, studying how social disadvantage owing to race intersects with gender to jointly influence the stress process. Results of this dissertation will inform social scientists, clinicians, and anyone concerned with population health, but more specifically the health of Black Americans.

Chapter Overviews

This dissertation includes five chapters total. This chapter (1) introduces the purpose and aims of the dissertation. Chapters 2 through 4 are three separate articles of empirical studies that address the overall dissertation aims in unique ways and together compose a sequential mixed methods design. The first two studies were conducted

concurrently, and their results were integrated to gain a better idea of what objectives needed to be reached in the third study. This process mirrored that of analytical induction, customary in qualitative research, which refers to the cyclical process of developing theory and hypotheses to test with new data based on patterns in the data already collected, rather than based on a literature review alone (Hesse-Biber, 2017, p.44). I believed building from the results of one study to the next would make for a more congruent dissertation than conducting each study without considering the implications of the others. Chapter 5 then integrates the findings across the three studies to come to general conclusions and implications. For uniformity, this dissertation is written entirely in APA format although some of the articles were, or will be, submitted to journals with different writing and formatting requirements. Given this document is comprised of stand-alone research articles, each chapter includes its own reference list and appendices. Tables and figures are embedded in the text, but renumbered according to the chapter number and table/figure number. For example, the first table in Chapter 2 will be Table 2.1 and the first table in Chapter 3 will be Table 3.1.

Chapter 2

Chapter 2 (Article 1), *An Intersectional Approach to Testing Explanations of the Black-White Mental Health Paradox*, is a secondary data analysis of the 2012-2013 National Epidemiologic Survey on Alcohol and Related Conditions (NESARC-III). The study had three primary focuses that addressed the overall aim of the dissertation in uncovering mechanisms of the Black-White mental health paradox. First, the study assessed Black-White differences across several mental health outcomes: depression disorder, anxiety disorder, substance use disorder, and poor mental health aggregated

from the SF-12 subscale. This addresses the measurement bias hypothesis, i.e., that the paradox is perpetuated by research on depression and anxiety and fails to consider other outcomes that might be more prevalent among Black Americans. For example, women tend to have higher rates of depression and anxiety than men (Salk et al., 2017), but there is not a “gender paradox” in mental health because it is understood that men tend to externalize their distress rather than internalize it. Black Americans may have similar tendencies rendering the paradox a misleading interpretation of mental health between racial groups.

Second, the study assessed whether Black-White differences in mental health are somewhat owing to counterbalancing mechanisms between stress exposure and access to coping resources such as racial identity and religiosity. Studies on racial identity and religiosity as explanatory variables of the paradox yield mixed results (Hughes et al., 2022; LaMotte et al., 2023; Louie et al., 2021) but they are psychosocial resources that appear to be especially salient to Black Americans’ lives so more research is warranted. Additionally, race-comparative studies of stressors and coping resources usually examine their mediating effects separately (i.e., test models with only one stressor or resource mediating the race-mental health relationship). Testing them together can reveal the ways in which a stressor’s negative effect on mental health might be outweighed by a resource’s positive effect. For example, perhaps Black Americans’ greater racial identity benefits their mental health more than their greater exposure to racial discrimination harms their mental health. This study was the first to test the simultaneous mediation of resources and stressors in the paradox literature, which may better depict how stressors are processed in real time.

Third, we explored how the direct and indirect relationships between race and mental health differed by gender. Research on the paradox tends to compare Black people to White people without respect for within-race differences because both Black men and women have lower rates of most mental illnesses than their White counterparts (Erving et al., 2019). However, just because the paradox is consistent across genders, that does not mean the process that substantiates the paradoxical outcomes is the same between genders. In other words, the mechanisms underlying mental health might differ between Black men and women and White men and women, and exploring those differences was a primary aim of this study.

Using NESARC-III data benefitted this study by allowing us access to a large, nationally representative sample of Black and White men and women (N=25,454) with diagnostic interview data. Stepwise regressions assessed race and gender differences in the various mental health outcomes and then we used structural equation modeling (SEM) techniques to test multiple mediator models that estimated how stressors, racial identity and religiosity explain the relationship between race and mental health. Using SEM multi-group analyses, we further tested whether the full mediation models differed between men and women and, if so, which specific paths varied. In all, our strategy revealed which parts of this simplified stress process are raced, gendered, or both raced and gendered.

This article was authored by Megan E. LaMotte, Dr. Marta Elliott and Dr. Dawne M. Mouzon, in that order. I contributed 75% of the effort necessary including the conceptualization of the project, the data analysis, drafting the manuscript, and managing the journal submission. Dr. Elliott and Dr. Mouzon contributed 15% and 10% of the

effort necessary, respectively. They shared responsibilities such as providing feedback on the analyses and editing the manuscript. Dr. Elliott's contribution of effort was a bit more than Dr. Mouzon as Dr. Elliott is my advisor and first point of contact for all issues relating to the project. The article is currently being revised to resubmit to the journal *Sociology of Race and Ethnicity*.

Chapter 3

Chapter 3 (Article 2), "*This is just Depressed-ville*": *Lay Explanations of the Black-White Mental Health Paradox*, includes a portion of the findings from a larger race and gender comparative, semi-structured interview study funded by the Society for the Psychological Study of Social Issues (SPSSI). Fifty one Black and White men and women from around the United States were recruited via the research recruitment website Prolific to share their experiences of stress and coping, social and cultural influences on their behavior, and their conceptualizations of mental health and illness. Part of these interviews were reserved for uncovering their explanations of the Black-White mental health paradox. I explained to participants that Black Americans tend to report better mental health than White Americans in surveys and asked whether that made sense based on their experience and what they see in their community. I probed into their rationalizations and got their opinions on some pre-existing theories and explanations that emerged in earlier interviews.

Studies on the Black-White mental health paradox have only used quantitative methods so this qualitative approach was innovative and designed to foster deeper engagement with Black and White people, resulting in a deeper understanding than what can be gained from quantitative approaches alone. Quantitative methods are also

generally confirmatory, meaning they test a priori theory and hypotheses, whereas qualitative methods are exploratory and generate theoretical explanations beyond those found in existing theory (Hesse-Biber, 2017). Considering the limitations of the empirical evidence for social stress theory as it applies to racial differences in mental health, I determined an inductive qualitative approach was best to advance theory and research on the paradox.

I used the flexible coding approach developed by Deterding and Waters (2021) to identify themes and patterns among Black men, Black women, White men and White women. I analyzed whether certain themes were raced or gendered overall, or highly prevalent among a specific group. With my coauthors, we integrated this information to develop a few succinct lay theories as to why the paradox exists. These theories can serve as a jumping off point for future research on the paradox, but are also very informative for researchers of mental health in general and clinicians who may have Black patients or want to increase outreach to Black communities.

This article was authored by Megan E. LaMotte, Dr. Marta Elliott and Dr. Vadricka Etienne, in that order. I contributed 75% of the effort including the conceptualization of the project, development of study materials, data collection and analysis, drafting the manuscript, and managing the submission plan. Drs. Elliott and Etienne contributed 15% and 10% of the effort necessary, respectively. They shared responsibilities such as providing feedback on the study materials (e.g., interview guide), assisting with data analysis to achieve investigator triangulation, and editing the manuscript. Like the former article, Dr. Elliott's contribution of effort was a bit more than Dr. Etienne because Dr. Elliott is my advisor and first point of contact for all issues

relating to the project. The article is currently under review at the journal *Society and Mental Health*.

Chapter 4

Chapter 4 (Article 3), *How the Intersection of Race and Gender Shapes Reactions to Depression in Others and Oneself: A Vignette-based Experiment*, is an analysis of experimental survey data collected in early 2024. Based on the results of the first two studies of this dissertation (Articles 1 and 2), it was evident that more research was needed to investigate how racial differences in mental illness stigma might lead to reporting biases in survey and clinical data. The reporting bias hypothesis contends that Black Americans underreport their symptoms of depression and anxiety more than Whites do, which makes their mental health appear better than it is (Keyes, 2009). Their tendency to underreport symptoms might be owing to their greater stigma towards mental illness and mental health care relative to Whites, which was an emergent theme of this dissertation's interview study (Article 2). Similarly, levels of mental illness stigma and avoidance of mental health care are also patterned by gender (Corrigan & Watson, 2007). Therefore, the aim of this study was to examine race and gender differences in beliefs that may lead to biased reporting of depression symptoms to form a foundation for future research on this theoretical explanation of the paradox. Specifically, we explored differences in treatment decisions, prognostic optimism, appraisals of depression symptoms, and stigma expectations, all of which might influence estimates of depression prevalence derived from survey and clinical data.

For this experiment, equal numbers of Black and White men and women (N=880) were recruited via Prolific and completed a four minute survey. They first read a

description of a vignette character (VC) who was experiencing a depressive episode, and they were randomized to one of four conditions: a vignette with a Black male VC, Black female VC, White male VC or White female VC. Following the vignette, we asked participants if they thought the VC should seek mental health care or wait and see if their symptoms improve on their own, and how likely the VC's symptoms would resolve accordingly. We also asked if they thought the VC's problems were "normal" or signs of mental illness, and if the VC would be stigmatized by others if they disclosed their symptoms. Next, we asked participants to put themselves in the VC's situation and had them answer the same follow-up questions as if they were experiencing the depressive episode.

This brief survey yielded rich data that assesses how treatment decisions, prognostic optimism, symptom appraisals, and stigma expectations were affected by participant's race and gender and the VC's race and gender. Their independent effects, as well as their interactive effects, were analyzed with a variety of statistical techniques such as logistic regression and factorial multivariate analysis of covariance (MANCOVA). In the future, a replication of this study will be conducted with a nationally representative sample of 1800 U.S. adults through survey fielding by TESS (Time-sharing Experiments for the Social Sciences), which will increase statistical power and the generalizability of the results. TESS is funded by the National Science Foundation and uses the National Opinion Research Center's (NORC's) Amerispeak Panel to field survey-embedded experiments that are blindly reviewed and competitively selected for fielding. This study in proposal form was accepted by TESS in March 2024 and we plan to wait for that data to prepare a final two-study manuscript.

This article was authored by Megan E. LaMotte and Dr. Marta Elliott, in that order. I contributed 90% of the effort including the conceptualization of the project, development of the survey, data collection and analysis, drafting the manuscript, and managing the submission plan. Dr. Elliott helped to conceptualize the project and develop the survey in addition to providing feedback on the data analysis and manuscript, in total representing about 10% of the effort necessary. The article has not been submitted to a journal yet because we plan to update it with the results of the follow-up study conducted in collaboration with TESS.

Chapter 5

This final chapter summarizes what was learned from each of the three articles in this dissertation, and synthesizes the findings to illustrate what the dissertation as a whole teaches us about race, gender, and mental health. This chapter includes the overall implications and limitations of the dissertation and presents promising directions for future research.

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Chapter 2:

**An Intersectional Approach to Testing Explanations of the Black-White Mental
Health Paradox**

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Abstract

Researchers have sought to explain Black Americans' lower rates of common mental illnesses than Whites, despite greater exposure to stressors, yet few explanations of this paradox are supported empirically. We examined whether race differences in mental health were owing to Black Americans' greater racial identity and religiosity, offsetting the ill-effects of stressors, and whether these counterbalancing mechanisms varied by mental health outcome and gender. Data came from the 25,454 Black and White men and women of the 2012-2013 National Epidemiologic Survey on Alcohol and Related Conditions (NESARC-III). We used structural equation modeling to test for indirect effects of race on mental health via stressors, racial identity, and religiosity, and tested multi-group models by gender. Results indicated that the Black-White mental health paradox could be due to the failure to account for Black Americans' increased risk of substance-use disorders and greater symptoms of poor mental health. Racial identity did not explain variations in mental disorder by race overall, but gendered analyses revealed that it protected against all mental disorders for Black women. Findings also indicated complex effects of Black Americans' greater religiosity. Greater religious importance exacerbated some mental health problems, whereas religious service attendance had protective effects, especially among women. Future research on explanations of the paradox should continue to incorporate multiple mental health outcomes and investigate intersectional identities.

An Intersectional Approach to Testing Explanations of the Black-White Mental Health Paradox

Surveys consistently find Black Americans have lower rates of depression and anxiety than Whites (Hasin et al., 2005; Weissman et al., 1988; Williams et al., 2007), despite disproportionate exposure to stressors. These findings run counter to social stress theories and comprise the subject of investigation referred to as the Black-White mental health paradox (BWMHP). Many scholars analyze whether race differences in mental health can be explained by Black Americans' greater access to coping resources, such as social support, self-esteem, and mastery. This research has progressed the study of the paradox, particularly those that demonstrate Black people's mental resiliency is partially due to their high self-esteem, which offsets, or "counterbalances", the negative mediating effects of stressors (LaMotte et al., 2023; Louie & Wheaton, 2019). However, unexplained differences in mental health persist even after accounting for Black Americans' self-esteem advantage.

This study makes three contributions to the BWMHP literature using nationally representative survey data. First, we test potential counterbalancing mechanisms between stressors and two psychosocial resources that are particularly salient to Black Americans: racial identity and religiosity. Second, we investigate not only mood and anxiety disorders, but also substance-use disorders (SUDs) and a continuous measure of poor mental health, which scholars argue more accurately reflects variations in mental health (Horwitz, 2002; Mirowsky & Ross, 2002). Third, we take an intersectional approach by analyzing these mechanisms by both race and gender. Most research compares Black and

White people, overlooking how the stress process is shaped in conjunction with other social statuses, such as gender.

Background

Black-White Differences in Mental Health

Nationally representative surveys find Black Americans have lower or equal rates of depression and anxiety disorders than White Americans (Hasin et al., 2005; Weissman et al., 1988; Williams et al., 2007). Some also find that Black people have lower rates of SUDs than Whites (Breslau et al., 2006; CBHSQ, 2021; SAMHSA, 2014), but these trends differ across the life course. Characterized as a “cross-over effect,” Black Americans have lower risk of SUDs than Whites during adolescence and young adulthood, but rates eventually even-out and sometimes reverse by midlife or older adulthood (Banks & Zapoloski, 2018; Thomas Tobin et al., 2022).

There is mixed evidence for the paradox in studies that measure mental health continuously, rather than categorically (i.e., presence/absence of disorder). In their systematic review, Barnes and Bates (2017) found Black people reported higher levels of psychological distress than Whites in 42 of 45 analyses, although most differences were not statistically significant, nor did they adjust for socioeconomic status (SES). Louie and colleagues (2022) tested race differences in depressive symptoms and mental disorder with and without controlling for SES. They found Black Americans reported higher depressive symptoms than Whites, and rates of mental disorder were equivalent. However, once controlling for SES, Black people had fewer depressive symptoms and lower rates of mental disorder than Whites. Other studies that adjust for SES also find that Black adults have lower rates of distress than Whites (Bratter & Eschbach, 2005;

LaMotte et al., 2023), and one found the same pattern among somatic symptoms of depression (LaMotte et al., 2023). Taken together, these results indicate that when mental health is measured continuously, Black Americans have equal or worse mental health than Whites, which is incongruent with the paradox. However, this disparity is owing to their socioeconomic disadvantage.

Theoretical Explanations

Stress process theory explains how social statuses shape mental health. It hypothesizes that those of socially disadvantaged statuses should have worse physical and mental health than their advantaged counterparts owing to their greater exposure to stressors and lesser access to coping resources (Pearlin, 1989; Pearlin et al., 1981). Based on their racial status and its association with greater exposure to financial stressors and racial discrimination (Lee et al., 2019; Williams, 2000), Black Americans would be expected to have worse mental health than Whites. Within this framework, the BWMHP would make sense if Black people had greater coping resources than Whites to counteract the pernicious effects of stressors.

Psychosocial resources most central to the social stress literature include social support, mastery, and self-esteem. Research finds that White people have equal or more social support and mastery than Black people (LaMotte et al., 2023; Louie et al., 2022; Mouzon 2013; 2014; Thomas Tobin et al., 2021). In contrast, Black Americans consistently report higher self-esteem than Whites (Thomas Tobin et al., 2021; Twenge & Crocker, 2002), and their self-esteem advantage explains much of their mental health advantage (LaMotte et al., 2023; Louie et al., 2022). Low self-esteem, specifically low self-worth, is often used as an indicator in validated mental health scales (e.g., Kessler et

al., 2003) so psychosocial resources like self-esteem that are distinct from, yet related to, mental health should be explored.

The rejection-identification model (Branscombe et al., 1999) posits that identifying with one's minoritized group may protect people from the adverse mental health effects of discrimination. Racial identity is a multidimensional construct that includes the extent that race is central to one's self-concept both normatively (racial centrality) and situationally (racial salience), one's positive or negative evaluations of their racial group (private regard), and one's ideologies about their racial group's place in society (public regard) (Sellers et al., 1998). Most racial identity literature measures centrality because of its stability over time and similarity to other group-identity models, while also including items that tap private regard (Sellers et al., 1998). Racial identity is typically theorized to serve as a buffer against the health-detrimental impact of identity-relevant stressors such as racial discrimination, helping to preserve one's sense of self-worth despite exposure (Yip et al., 2019).

Among African Americans, Branscombe and colleagues (1999) found racial identity was strongly associated with well-being, outweighing the negative impacts of perceived prejudice. Race-comparative studies find racial identity is higher among Black Americans than Whites (Crocker et al., 1994; LaMotte et al., 2023), which could partially explain the BWMHP. For example, Hughes, Kiecolt and Keith (2022) found racial identity contributed to Black Americans' greater self-esteem and lower odds of depression and anxiety relative to Whites. However, LaMotte et al. (2023) found no such effects of racial identity in continuous or categorical measures of mental health.

Religiosity might contribute to the paradox, as well, because Black Americans are more religious than Whites (Chatters et al., 2009; Mouzon, 2017; Taylor et al., 2007). Louie et al. (2022) found Black Americans' greater religious service attendance and belief in divine control partially explained their fewer depressive symptoms and lower odds of mental disorder than Whites. Schieman, Pudrovska and Milkie (2005) found belief in divine control was associated with high self-esteem among older Black adults, but not older Whites. Additionally, Upenieks, Louie and Hill (2023) found Black Americans' lower psychological distress was partially owing to having fewer religious struggles than Whites. However, some studies found no protective mediating or moderating effects of religiosity (LaMotte et al., 2023; Mouzon, 2017).

Overall, research on racial identity and religiosity as explanations of the BWMHP has yielded mixed support. Discrepancies may be partially attributed to methodological differences. For example, LaMotte et al. (2023) used an online quota sample while other studies (Hughes et al., 2022; Louie et al, 2022; Mouzon, 2017) used probability samples. Additionally, racial identity and religiosity were operationalized differently across studies. More evidence is needed to determine if these resources help explain the BWMHP.

Intersectional Approaches

Intersectionality refers to how multiple systems of oppression simultaneously shape individuals' experiences (Crenshaw, 1989; 1993). Focusing on single characteristics and their related systems of oppression (e.g., race and racism) ignores the multidimensional nature of peoples' lives and how some are oppressed in multiple ways. Research on the BWMHP typically focuses on the single dimension of race. Analyses

stratifying racial groups further by gender could provide important context otherwise ignored.

Studies on mental health and gender generally find women have higher rates of internalizing disorders (e.g., depression) and men have higher rates of externalizing disorders (e.g., substance-use disorder) (Kessler, 2003; Reynolds et al., 2015). This is largely attributed to gender socialization and adherence to traditional gender roles that influence differences in stress exposure between men and women (Elliott, 2013; Rosenfield & Mouzon, 2013). However, men's internalizing symptoms may be underestimated because traditional masculine ideals inhibit men from reporting symptoms and seeking help, and bias clinicians against recognizing men's symptoms (Smith et al., 2018).

These "traditional" gender schemas were developed with a White frame of reference so are less applicable to Black Americans. For example, Black women tend to exhibit traits such as independence and assertiveness, and often serve as both their family's breadwinner and caretaker. Gender role flexibility between Black men and women might partially explain why the gender gap in internalizing disorders is narrower among Blacks than among Whites (Rosenfield & Mouzon, 2013).

Further, Black and White women, and Black and White men, are not equal in their rates of mental disorders. Studies that stratify analyses by gender reveal the BWMHP holds across genders (Barnes et al., 2013; Erving et al., 2019; Thomas Tobin et al., 2022). Both Erving and colleagues (2019) and Thomas Tobin and colleagues (2022) found Black men and women had equal or lower rates of mood, anxiety and SUDs with few exceptions. Barnes and colleagues (2013) stratified their sample by gender, age, and

education, and all subgroup analyses yielded results consistent with the paradox. Taken together, these studies demonstrate strong evidence that Black people have lower rates of disorders than Whites, regardless of gender.

Race and gender differences in stress exposure also influence mental health. Turner and colleagues (1995; 2003) found women experienced more recent stressful life experiences (SLEs) than men, especially those involving close others. However, their results were mixed as to whether men or women experienced more chronic strains. Also, while men have exhibited greater exposure to job stressors, such patterns are changing as the public sphere becomes less gender-segregated (Elliott, 2013). Overall, lifetime stress exposure is roughly equivalent between men and women, but at any given time (i.e., cross-sectionally), women may experience more stressors than men (Turner et al., 1995; Turner & Avison 2003). Similarly, Black men and women are differentially exposed to stressors. Black women experience more recent SLEs, vicarious institutional discrimination, and interpersonal discrimination characterized by disrespect and condescending behavior, while Black men experience higher interpersonal discrimination overall (Moody et al., 2022; Mouzon et al., 2020).

Evidence additionally suggests race and gender differences in psychosocial resources. Congruent with traditional gender schemas, personal control (i.e., mastery) is a critical resource for men, and feeling powerless is detrimental to their mental health (Elliott, 2013; Rosenfield & Mouzon, 2013). Intersectional perspectives suggest this may be particularly so for White men (Schieman et al., 2005) because they are accustomed to societal power owing to their gender and race privileges. Also, social support and relationships are critical resources for women (Elliott, 2001; Rosenfield & Mouzon,

2013). Black women, specifically, draw largely on social support and religious resources, while Black men use a range of active coping and emotion regulation strategies (Jacob et al., 2021; Rosenfield & Mouzon, 2013).

The stress process becomes increasingly complex when intersectional identities like race and gender are simultaneously examined. Although previous studies have found that the BWMHP holds when stratifying by gender, the underlying mechanisms may be both raced and gendered. Research should reflect the lived reality that social disadvantage is not defined by a single social status, but a web of intersecting statuses.

Study Aims and Hypotheses

This study aims to enhance our understanding of the BWMHP by testing counterbalancing mechanisms between stressors (racial discrimination, SLEs, and trauma) and psychosocial resources (racial identity and religiosity) utilizing the stress process framework (Figure 2.1), and by considering the intersection of race and gender. We chose these mediators because of their centrality in the literature and prior evidence of race and/or gender differences. We test whether resources explain race and gender differences in mood, anxiety, and SUDs, and poor mental health symptoms by offsetting the disproportionate effects of stressors experienced by Black Americans.

Hypothesis 1: The BWMHP is robust across mood, anxiety and substance-use disorders, and poor mental health symptoms.

Hypothesis 2: The counter-theoretical racial differences in mental health are partially explained by mediating effects of racial identity and religiosity that counterbalance the mediating effects of racial discrimination, SLEs, and trauma.

Exploratory Research Question: How do the direct associations between race and mental health outcomes and the indirect pathways via stressors and psychosocial resources differ by gender?

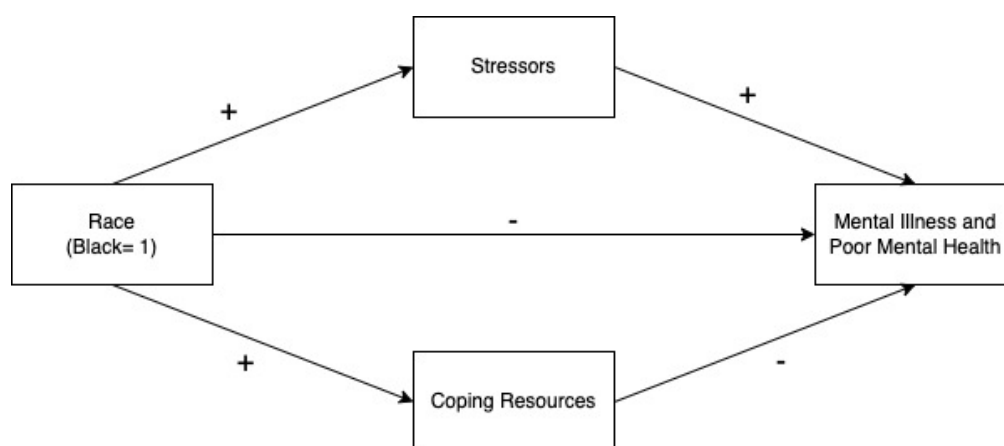


Figure 2.1: Simplified depiction of mediation model under investigation representing Hypothesis 1 and Hypothesis 2.

Methods

Study Sample

Data come from the 2012-2013 National Epidemiologic Survey on Alcohol and Related Conditions (NESARC-III), a cross-sectional, nationally representative survey of non-institutionalized U.S. adults ($N=36,309$)¹. Our sample included the 25,454 U.S.-born, non-Hispanic, Black ($n=7,189$) and White ($n=18,265$) respondents with complete data (missing data = 3.4%). NESARC-III used multistage probability sampling, and racially minoritized groups were oversampled to permit racial comparisons. Interviews were computer-assisted and conducted in-person. For more information, see

<https://www.niaaa.nih.gov/research/nesarc-iii/methodology>.

¹ According to the NIAAA website, the household and person-level response rates were 72% and 84%, respectively, yielding an overall survey response rate of 60.1%.

Data Analysis

To test Hypothesis 1 and address the exploratory research question of gender differences, we used stepwise generalized linear models (GLMs). We regressed mental health outcomes onto race, then added gender and the interaction variable, and finally income and education, so that our results are comparable to previous studies that examine the paradox with and without controlling for SES.

We used structural equation modeling (SEM) to test Hypothesis 2. SEM increases the precision of estimations by accounting for measurement error of latent variables and allows for multi-group analyses, which we employed to explore gender differences in counterbalancing mechanisms. All analyses were conducted in R (*survey*, *lavaan*, *lavaan.survey* packages) and incorporated the NESARC-III sampling weights so that the findings are representative of U.S. born, non-Hispanic, Black and White Americans.

We used approximate fit statistics to evaluate model fit including the Bentler Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the Root Mean Square Error of Approximate (RMSEA, point estimate and 90% CI), and the Standardized Root Mean-Square (SRMR). The following ranges indicate adequate model fit: CFIs and TLIs ≥ 0.90 or higher, RMSEA point estimates ≤ 0.10 , RMSEA 90%CI lower bounds ≤ 0.05 and upper bounds ≤ 0.10 , SRMR ≤ 0.08 (Hu & Bentler, 1995; Kline, 2016).²

Measurement

We measured poor mental health symptoms, racial discrimination, and racial identity with multiple scale items. We conducted Exploratory Factor Analysis (EFA) to

²All models (CFA and SEM) met criteria for adequate model fit. Fit indices are presented in a supplemental table (Appendix A).

determine the factor structure of potential latent variables and then Confirmatory Factor Analysis (CFA) to finalize the measurement of latent variables for the SEM models.³ The remaining constructs were measured with single items.

Dependent Variables

Mental disorders were assessed using the NIAAA Alcohol Use Disorder and Associated Disabilities Interview Schedule, DSM-V version (AUDADIS-5; Grant et al. 2015). We focus on three categories of disorders experienced in the past 12 months: mood disorder (1=non-hierarchical depression⁴ or dysthymia), anxiety disorder (1=any anxiety disorder), and SUD (1=any SUD, excluding nicotine addiction because it is legal, not mind-altering, and highly prevalent relative to other substance use).

Poor mental health symptoms were measured with the 6-item mental health subscale of the Short Form-12 (Ware et al., 1996) indicating how often in the past four weeks (1/never to 5/all of the time) respondents: 1) accomplished less than usual due to emotional problems, 2) did work less carefully than usual due to emotional problems, 3) felt calm and peaceful (reverse-coded), 4) had a lot of energy (reverse-coded), 5) felt downhearted and depressed, 6) had emotional problems interfere with social activities. The scale demonstrated good internal consistency (Cronbach's $\alpha=0.84$). The EFA revealed a one-factor structure, and the CFA model fit the data well.

Mediating Variables

³ We tested latent variables for gender invariance to make meaningful comparisons of the structural path coefficients in the multi-group analyses. Using the procedures described by Little and Slegers (2005), we found the latent variables were metric-invariant between gender groups.

⁴ Non-hierarchical depression refers to depressive episodes that are secondary to other mental disorders. Hierarchical depression, in contrast, must take precedence over other disorders and therefore excludes some people who experience depressive episodes. For more information, see: <https://www.hcp.med.harvard.edu/ncs/diagnosis.php>

Lifetime racial discrimination included four items⁵ from the Experiences of Discrimination scale (Kreiger et al., 2005) indicating how often (1/never to 5/very often) respondents experienced: 1) racial discrimination in public, 2) racial discrimination in any other situation, 3) called a racist name, 4) made fun of, picked on or threatened. The CFA model did not have adequate fit and introduced issues to the covariance matrices indicating measurement error. Therefore, we created a scale of discrimination (Cronbach's $\alpha=0.81$). Past-year SLEs was a count variable ranging from 0 to 4 or more, which represented the 90th percentile. There were 16 SLEs total ranging from interpersonal issues to financial burdens, among other experiences. Lifetime exposure to traumatic events was also a count variable ranging from 0 to 4. There were 19 traumas total (e.g., saw a dead body). If participants experienced more than four traumas, they were instructed to report the four most severe events.

Racial identity was measured with four items⁶ (Ruan et al., 2008) that represented racial centrality and indicated how much respondents agreed (1/strongly disagree to 6/strongly agree) with the following statements: 1) you have a strong sense of self as a member of your race/ethnic group, 2) you identify with other people from your race/ethnic group, 3) your race/ethnic group is important in your life, 4) you are proud of your race/ethnic heritage. The scale demonstrated good internal consistency (Cronbach's $\alpha=0.86$), and the CFA model fit the data well. Two items measured religiosity:

⁵ We excluded two items on discrimination in healthcare settings because they loaded onto a separate factor in the EFA.

⁶ We excluded four items on racial identity in one's social interactions because they loaded onto a separate factor in the EFA and did not predict mental health in preliminary analyses.

importance of religious or spiritual beliefs (1/not at all important to 4/extremely important) and religious service attendance (0/never to 5/2+ times a week).

Independent Variables

Race (1=Black, 0=White) and gender (1=woman, 0=man) were binary variables and SEM models were adjusted for: age (years), marital status (1/married or cohabiting), sexual orientation (1/LGB), household income (1/less than \$5,000 to 21/\$200,000 or more), education (0/none to 12/postgraduate degree), and employment status (1/employed). Bivariate analyses confirmed these were correlated with mental health in the expected directions: Age, marital status, income, education, and employment status were positively correlated with mental health, and sexual orientation was negatively correlated with mental health.

Structural Equation Modeling

We estimated two multiple-mediator models: one including the binary disorder outcomes, and one with the poor mental health CFA model. SEM figures found in the supplemental material (Appendix B) depict correlated residuals, the estimators used, and modifications made to meet SEM assumptions. Age and education were modeled as predictors for some mediators, as suggested by modification indices, whereas all other covariates predicted mental health outcomes only. Next, we re-ran the models applying the multigroup analysis command by gender. Chi-square difference tests (χ^2_D) and comparison of Akaike Information Criteria (AIC) and Bayesian Information Criteria (BIC) assessed whether multigroup models fit the data better than pooled models. When applicable, we used Wald Chi-Squared tests to investigate which structural regression coefficients and indirect effects significantly differed by gender.

Results

Descriptive statistics for the full sample and for each subgroup are presented in Table 2.1. Results of the stepwise Generalized Linear Models (GLMs) are in a supplemental table (Appendix A).

Table 2.1
Weighted Descriptive Statistics

		Overall N=24,591	White men n=7,849	White women n=9,784	Black men n=2,807	Black women n=4,151
	Min-Max	Mean/%	Mean/%	Mean/%	Mean/%	Mean/%
<i>Stressors</i>						
Stressful Life Events	0-4	1.47	1.41	1.44	1.81	1.73
Traumatic Events	0-4	0.87	0.96	0.81	0.76	0.70
Racial Discrimination (4-item scale)	1-5	1.24	1.21	1.14	1.70	1.54
<i>Psychosocial Resources</i>						
Religious Importance	1-4	3.29	3.05	3.36	3.60	3.77
Religious Attendance	0-5	1.76	1.52	1.79	2.00	2.59
Racial Identity (4-item scale)	1-6	4.89	4.69	4.87	5.49	5.53
<i>Covariates</i>						
Age	18-90	47.79	47.89	49.22	42.37	43.87
Household Income	1-21	11.42	12.32	11.43	9.27	8.54
Education	0-12	8.45	8.55	8.57	7.70	7.94
Marital Status (% Married/Cohabiting)	0/1	57.60	63.41	59.54	41.32	30.25
Sexual Orientation (% LGB)	0/1	3.36	3.03	3.39	2.90	5.27
Employment Status (% Employed)	0/1	57.87	63.73	53.69	55.92	52.12
<i>Mental Health Outcomes</i>						
Mood Disorder (% Present)	0/1	13.22	9.65	17.23	8.55	13.35
Anxiety Disorder (% Present)	0/1	16.55	11.54	22.05	11.75	16.22
Substance Use Disorder (% Present)	0/1	16.38	20.20	12.25	23.63	13.45
Poor Mental Health (6-item scale)	1-5	1.96	1.85	2.03	1.94	2.12

Hypothesis 1: Presence of the Paradox

White women most often met criteria for mood disorders followed by Black women, White men, and Black men. According to the stepwise GLMs, Black Americans were less likely to meet criteria for mood disorders than Whites ($t = -3.98, p < .001$) and men were less likely than women ($t = 13.54, p < .001$). There was an interaction ($t = -2.22, p < .05$) revealing the gender disparity in mood disorders was larger among White Americans than Black Americans. These effects were not affected when adjusted for SES.

Anxiety disorders followed a similar pattern of highest among White women, followed by Black women, Black men and White men. Black Americans were less likely to meet criteria than Whites ($t = -3.72, p < .001$), men were less likely than women ($t = 16.76, p < .001$), and there was an interaction ($t = -4.84, p < .001$), demonstrating again that the gender gap in disorder was wider among Whites. Adding SES did not alter these effects.

In contrast, SUDs were highest among Black men, followed closely by White men, then Black women, and White women. Black Americans were more likely than Whites to meet criteria for SUDs ($t = 2.03, p < .05$), men were more likely to meet criteria than women ($t = -14.3, p < .001$), and there was no interaction. However, once adjusted for SES, race became non-significant, and the main effect of gender remained. Thus, Black Americans' greater odds of SUDs were owing to their socioeconomic disadvantage, but men's greater odds of SUDs were unaffected by gender differences in SES.

Lastly, Black women reported the highest average poor mental health symptoms followed by White women, Black men and White men. Counter to the paradox, Black Americans reported more symptoms on average than White Americans ($t = 5.35, p < .001$). Women reported more symptoms on average than men ($t = 13.61, p < .001$), and there was no interaction. Again, adding SES canceled out the main effect of race. Thus, women had worse mental health than men, and Black people had worse mental health than Whites, but this was explained by Blacks' lower SES. In sum, relative to Whites, Black Americans had lower rates of mood and anxiety disorders regardless of SES, and higher rates of SUDs and poor mental health symptoms owing to their lower SES.

Hypothesis 2: Counterbalancing Mechanisms

Table 2.2 presents standardized coefficients from the mediation model of race and the mental disorder outcomes. Black people experienced more SLEs and racial discrimination compared to Whites, but fewer traumas. As expected, Black people reported greater racial identity and religiosity (in terms religious importance and service attendance) than Whites. Once controlling for stressors, resources and covariates, Black Americans still had lower odds of having mood and anxiety disorders than Whites, but equal odds of having SUDs. All three stressors were associated with greater odds of disorders, but resources had mixed effects. Racial identity was not associated with any disorder type. Religious service attendance was associated with lower odds of anxiety and SUDs, but not with mood disorders. Religious importance was associated with lower odds of SUDs, and greater odds of mood and anxiety disorders.

Table 2.2
Weighted Standardized Estimates from Structural Equation Model of Mood, Anxiety, and Substance-use Disorders
 (N=24,591)

Variables	Mediators						Dependent Variables		
	Stressful Life Events	Traumatic Events	Racial Discrim.	Racial Identity	Religious Imp.	Religious Att.	Mood Disorder	Anxiety Disorder	Substance Use Disorder
Exogenous									
Race (Black=1)	0.261*** (0.030)	-0.017*** (0.015)	0.134*** (0.015)	0.338*** (0.034)	0.228*** (0.020)	0.161*** (0.023)	-0.116** (0.049)	-0.115*** (0.033)	0.025 (0.045)
Age	-0.363*** (0.004)	--	--	--	0.168*** (0.003)	0.151*** (0.003)	-0.008 (0.006)	0.012 (0.005)	-0.172*** (0.006)
Household Income	--	--	--	--	--	--	-0.069*** (0.010)	-0.063*** (0.011)	0.036* (0.011)
Education	--	--	--	-0.080*** (0.002)	--	0.133*** (0.003)	-0.014 (0.003)	-0.016 (0.003)	-0.017* (0.003)
Married/ Cohabiting	--	--	--	--	--	--	-0.047** (0.009)	-0.001 (0.009)	-0.077*** (0.010)
LGB	--	--	--	--	--	--	0.047 (0.094)	0.063 (0.093)	0.026 (0.110)

Employed	--	--	--	--	--	--	-0.058*** (0.008)	-0.057*** (0.009)	-0.010 (0.009)
Mediating									
Stressful Life Events	--	--	--	--	--	--	0.214*** (0.003)	0.195*** (0.002)	0.164*** (0.003)
Traumatic Events	--	--	--	--	--	--	0.080*** (0.002)	0.117*** (0.002)	0.033*** (0.002)
Racial Discrim.	--	--	--	--	--	--	0.046*** (0.006)	0.064*** (0.008)	0.071*** (0.009)
Racial Identity	--	--	--	--	--	--	-0.017 (0.005)	0.001 (0.003)	-0.015 (0.004)
Religious Importance	--	--	--	--	--	--	0.032** (0.004)	0.045*** (0.004)	-0.065*** (0.004)
Religious Attendance	--	--	--	--	--	--	-0.026 (0.009)	-0.042*** (0.006)	-0.079*** (0.006)
R-squared	0.18	0	0.018	0.135	0.088	0.06	0.088	0.086	0.134

Note: Standard Errors are reported in parentheses.

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 2.3 presents standardized coefficients from the mediation model of race and poor mental health symptoms, and the findings are similar to the disorder model. There was the same pattern of effects from race to the mediators, and all stressors and religious importance were associated with increased symptoms. However, racial identity and religious service attendance were associated with fewer symptoms, and after controlling for stressors, resources, and covariates, Black Americans had equivalent levels of poor mental health to Whites.

Table 2.3

Weighted Standardized Estimates from Structural Equation Model of Poor Mental Health (N=24,591)

Variables	Mediators						Dependent Variable
	Stressful Life Events	Traumatic Events	Racial Discrim.	Racial Identity	Religious Imp.	Religious Att.	Poor Mental Health
Exogenous							
Race (Black=1)	0.053*** (0.042)	-0.033** (0.034)	0.313*** (0.020)	0.279*** (0.044)	0.204*** (0.036)	0.158*** (0.020)	-0.011 (0.025)
Age	-0.321*** (0.012)	--	--	--	0.188*** (0.008)	0.171*** (0.005)	0.086*** (0.009)
Household Income	--	--	--	--	--	--	-0.138*** (0.015)
Education	--	--	--	-0.143*** (0.011)	--	0.126*** (0.005)	-0.081*** (0.009)
Married/ Cohabiting	--	--	--	--	--	--	-0.004 (0.015)
LGB	--	--	--	--	--	--	0.042*** (0.036)
Employed	--	--	--	--	--	--	-0.195*** (0.017)
Mediating							
Stressful Life Events	--	--	--	--	--	--	0.225*** (0.006)

Traumatic Events	--	--	--	--	--	--	0.096*** (0.006)
Racial Discrim.	--	--	--	--	--	--	0.091*** (0.015)
Racial Identity	--	--	--	--	--	--	-0.044*** (0.009)
Religious Importance	--	--	--	--	--	--	0.062*** (0.010)
Religious Attendance	--	--	--	--	--	--	-0.100*** (0.011)
R-squared	0.109	0.001	0.098	0.109	0.069	0.059	0.196

Note: Standard errors are reported in parentheses.

* $p < .05$, ** $p < .01$, *** $p < .001$

These models also estimated standardized indirect effects (Table 2.4), revealing that Black Americans' lower odds of having a mood disorder were not owing to their greater racial identity or greater religious service attendance. The only mediator that reduced their risk of mood disorders was traumatic events, although this indirect effect was relatively small. Black Americans' lower odds of anxiety disorders were also partially explained by fewer reported traumatic events, and by their greater religious service attendance. And while Black Americans' greater valuation of religion increased their odds of mood and anxiety disorders and poor mental health, it protected them against SUDs.

However, most of the protective effects of resources were much smaller than the detrimental effects of SLEs and racial discrimination, providing little evidence that racial identity or religiosity counterbalance stress exposure. For example, the indirect effect of race on anxiety disorders via religious service attendance was seven times smaller than that of SLEs. In the poor mental health model, the magnitude of the indirect effect through SLEs was similar to those of resources and could potentially be counterbalanced by racial identity or religious service attendance. Though, there was a considerably larger damaging indirect effect of discrimination, suggesting that Black Americans' disorder rates and symptom levels would be much lower if not for their disproportionate exposure to these stressors.

Table 2.4

Standardized Indirect Effects of Race on Mental Health Outcomes through Stressors and Resources

Pathway from race to mental health outcome through mediator			Indirect Effects
Black →	Stressful Life Events	→ Mood Disorder	0.056***
	Traumatic Events		-0.001***
	Racial Discrimination		0.006***
	Racial Identity		-0.006
	Religious Importance		0.007**
	Religious Attendance		-0.004
Black →	Stressful Life Events	→ Anxiety Disorder	0.051***
	Traumatic Events		-0.002***
	Racial Discrimination		0.009***
	Racial Identity		0.000
	Religious Importance		0.010***
	Religious Attendance		-0.007***
Black →	Stressful Life Events	→ Substance-Use Disorder	0.043***
	Traumatic Events		-0.001***
	Racial Discrimination		0.010***
	Racial Identity		0.005
	Religious Importance		-0.015***
	Religious Attendance		-0.013***
Black →	Stressful Life Events	→ Poor Mental Health	0.012***
	Traumatic Events		-0.003**
	Racial Discrimination		0.029***

Racial Identity	-0.012**
Religious Importance	0.013***
Religious Attendance	-0.016***

Note. Standardized estimates are reported so they can be compared relative to each other. Religious attendance was re-scaled and ranges from 0 to 1.67.

* $p < .05$, ** $p < .01$, *** $p < .001$

Gender Differences

Both SEM models significantly differed by gender, and both multi-group models fit the data adequately (Appendix A). Table 2.5 presents the unstandardized indirect effects, demonstrating which mediators were significant for each gender and how their magnitude compares between genders. The table labels indirect effects that are significantly greater for one gender than the other per the post-hoc Wald Chi-Squared tests.

All indirect effects of race on mental disorders via SLEs were significantly greater for men than women, yet in the case of racial discrimination, only its indirect effect on SUDs was greater for men. This means that Black men's mental health is particularly harmed by SLEs and discrimination relative to the other groups. Further, the indirect effects through traumatic events were only significant among women, benefitting Black women's mental health since they reported fewer traumas than White women. However, these indirect effects were so small that they rarely were significantly greater than men's null indirect effects. Likewise, indirect effects of race on all disorders through racial identity were only significant among women and small. However, racial identity's indirect effect on poor mental health was significant, negative, and of equivalent value for both genders, which means Black men's and women's greater racial identity reduced poor mental health symptoms relative to Whites.

Table 2.5

Results of the Multi-Group Models: Gender Differences in Unstandardized Indirect Effects

Pathway from race to mental health outcome through mediator			Indirect Effects	
			Men	Women
Black →	Stressful Life Events	→ Mood Disorder	0.053***a	0.035***
	Traumatic Events		-0.001	-0.002**
	Racial Discrimination		0.015**	0.015***
	Racial Identity		-0.003	-0.015***
	Religious Importance		-0.002	0.005*
	Religious Attendance		-0.001	-0.006***
Black →	Stressful Life Events	→ Anxiety Disorder	0.053***a	0.033***
	Traumatic Events		-0.001	-0.003**
	Racial Discrimination		0.022***	0.022***
	Racial Identity		-0.002	-0.009***
	Religious Importance		0.002	0.007**
	Religious Attendance		-0.007*	-0.007**
Black →	Stressful Life Events	→ Substance-Use Disorder	0.067***a	0.027***
	Traumatic Events		0	-0.001**b
	Racial Discrimination		0.025***a	0.008*
	Racial Identity		-0.001	-0.006*
	Religious Importance		-0.020***a	-0.006*
	Religious Attendance		-0.018***a	-0.010***
Black →	Stressful Life Events	→ Poor Mental Health	0.023***	0.024**
	Traumatic Events		-0.005	-0.009**

Racial Discrimination	0.080***	0.064***
Racial Identity	-0.035***	-0.024**
Religious Importance	0.016*	0.024**
Religious Attendance	-0.022***	-0.046*** ^b

Note. Unstandardized estimates are reported so they can be compared between men and women. Religious attendance was re-scaled and ranges from 0 to 1.67.

* $p < .05$, ** $p < .01$, *** $p < .001$

- a. Indirect effect is significantly larger for men than for women according to Wald Chi-Squared tests
- b. Indirect effect is significantly larger for women than for men according to Wald Chi-Squared tests

We found positive indirect effects of race on mood and anxiety disorders via religious importance for women only, which means Black women's greater importance of religion relative to White women accounted for increased odds of internalizing disorders. However, the indirect effect of religious importance on SUDs was significant and *negative* for both Black men and women, indicating that Black Americans' greater religious importance lowers their risk for SUDs. Additionally, this negative indirect effect was significantly greater among men than women, therefore religious importance is especially protective of SUDs for Black men. Consistent with its harmful effects on internalizing disorders, though, the indirect effect of race on poor mental health symptoms through religious importance was significant and positive. Therefore, putting greater importance on religion can benefit Black Americans' mental health in some ways (reduced odds of SUDs), but harm it in other ways (increased symptoms of poor mental health) and is most harmful to Black women's mental health (increased odds of mood and anxiety disorders).

In contrast, all significant indirect effects of race through religious service attendance were negative, indicating protective effects overall. It was a significant mediator of all outcomes for women and all but mood disorders for men. Thus, Black women's more frequent religious service attendance compared to White women decreased mood disorders, and both Black men's and women's more frequent religious service attendance relative to Whites decreased anxiety disorders, SUDs, and poor mental health symptoms. However, its protective effect on SUDs was greater for men than women, advantaging Black men, and the protective effect on poor mental health symptoms was greater for women, advantaging Black women.

Discussion

In this study, we investigate the underlying mechanisms of the BWMHP using an intersectional approach that incorporates gender and several mental health outcomes: three categories of disorder (mood, anxiety, and substance-use) and a continuous measure of poor mental health. First, we demonstrate how conclusions drawn regarding race differences in mental health are influenced by decisions regarding outcomes and the inclusion of gender and SES. Second, we show how race differences in mental health are shaped by stress exposure, racial identity, and religiosity. Third, we note how these underlying mechanisms are simultaneously raced and gendered.

Our analyses confirm findings that Black Americans are less likely than White Americans to meet criteria for mood and anxiety disorders (Hasin et al., 2005; Weissman et al., 1988; Williams et al., 2007), but more likely to meet criteria for SUDs and report poor mental health symptoms, owing to their socioeconomic disadvantage. The discrepancy in race differences of poor mental health symptoms versus mood and anxiety disorders is consistent with Louie et al.'s (2022) comparisons of mental disorder versus depressive symptoms. However, their outcome measure combined mood, anxiety and SUDs into one disorder category, whereas we distinguished among the three. In doing so, we find that race differences in SUDs are inconsistent with mood and anxiety disorders and contradict several studies that document equal or lower rates of SUDs among Black Americans relative to Whites (Breslau et al., 2006; CBHSQ, 2021; Erving et al., 2019; SAMHSA, 2014; Thomas Tobin et al., 2022).

It is possible that our finding departs from past research because of differences in SUD classification and criteria. NESARC-III was one of the first to use DSM-V criteria

in their diagnostic interviews and there were many changes made to SUD criteria from the DSM-IV to the DSM-V that could affect prevalence estimates (SAMHSA, 2016). Additionally, we excluded nicotine addiction from our classification of SUDs, and although it does not appear that other studies included it because their SUD prevalence is consistent with this study's prevalence, we cannot be certain. In our sample, nicotine addiction was higher among White respondents relative to Black respondents and including it would have reversed the racial disparity in SUDs we found. It is also unclear whether Black respondents in some of the previous studies were older on average than the NESARC-III sample. If they were, the discrepancy in SUD prevalence could be explained by the cross-over effect in which younger Black Americans exhibit lower risk for SUDs than Whites but the opposite trend is found among older populations (Banks & Zapoloski, 2018; Thomas Tobin et al., 2022).

Adding a gendered lens to our analyses confirms past findings that women are more susceptible to internalizing disorders and men are more susceptible to externalizing disorders (Elliott, 2013; Kessler, 2003; Reynolds et al., 2015). However, race modifies these gender differences. White women are the most susceptible of the four subgroups to mood and anxiety disorders, consistent with other studies that stratified their analyses by gender (Barnes et al., 2013; Erving et al., 2019). Also, the gender gap in internalizing disorders is wider among Whites than among Blacks, presumably because Black Americans follow less rigid traditional gender roles than do Whites (Rosenfield & Mouzon, 2013).

The main effects of both race and gender on SUDs, in which being Black and male were associated with increased odds rendered Black men particularly vulnerable to

this type of disorder. This contradicts past findings that Black men were no more likely to meet criteria for SUDs than White men (Erving et al., 2019; Thomas Tobin et al., 2022). Additionally, the main effects of race and gender on poor mental health symptoms, in which being Black and being a woman were risk factors, rendered Black women particularly vulnerable to poor mental health despite not having the highest rates of any disorder. However, one must bear in mind that the Black Americans' elevated risk of SUDs and poor mental health were a function of their lower SES, coinciding with other studies using continuous mental health measures (Bratter & Eschbach, 2005; LaMotte et al., 2023; Louie et al., 2022).

Hypothesis 2 was partially supported in that stressors were significant mediators in all models, but psychosocial resources yielded mixed results. Taking an intersectional approach was critical to discovering the distinct mechanisms underlying mental health for Black and White men and women. Researchers can better understand Black Americans' mental health and how it is impacted by stressors and resources by applying an intersectional framework and testing within-race gender differences. The intricacy in the findings reflect how Black people are socialized to process stress based on their race *and* gender.

Black Americans had greater racial identity than Whites, consistent with past research (Crocker et al., 1994; LaMotte et al., 2023), but the indirect effects on mental disorders were only present for women and relatively small compared to those of stressors. However, the protective effect of racial identity on poor mental health symptoms was much more robust, and equivalent between genders. This adds to the mixed findings of racial identity's effects when continuous and categorical mental health

measures are compared (Hughes et al., 2022; LaMotte et al., 2023). Nevertheless, we find racial identity is not powerful enough to outweigh Black Americans' disproportionate exposure to discrimination as Branscombe and colleagues' research (1999) suggests, and it mainly benefits women's mental health.

Religious importance and service attendance revealed opposing effects and some gender differences. Religious service attendance was protective against mood disorders for women only, anxiety disorders for both genders equivalently, SUDs for both genders (but more so for men), and poor mental health symptoms for both genders (yet more so for women). These findings help clarify the contrasting results that religious service attendance is (Louie et al., 2022) and is not (Mouzon, 2017) a significant mediator of race and depressive symptoms. The capacity for service attendance to protect Black Americans' mental health depends on gender and the outcome under investigation, but its protective effects were often smaller than the harmful effects of stressors.

In contrast, the indirect effects of religious importance were mostly harmful to mental health and exacerbated internalizing disorders for women, contrary to evidence that religious importance slightly benefits mental health (Garssen et al., 2021). Our finding could reflect the decreased odds of seeking mental health care among religious Black Americans (Lukachko et al., 2016), which could exacerbate symptoms. It could also reflect reverse causation wherein Black Americans who are struggling with their mental health, particularly Black women, are drawn to religious and spiritual beliefs. Finally, the only instance in which Black Americans' greater religious importance benefitted their mental health was in the case of reducing their risk of SUDs (especially

for men), which might reflect the role religion plays in preventing and treating SUDs (Booth & Martin, 1998; Grim & Grim, 2019).

Black Americans also experienced fewer traumas than Whites overall, consistent with estimates from the preceding NESARC survey (Roberts et al., 2011), but the indirect effects on mental health were only significant for women and were relatively small. Upon further analyses, we found Whites reported more experiences of serious injury, illness, witnessing death, natural disaster, and sexual assault, whereas Black Americans reported greater exposure to intimate partner violence, jail time, and being mugged. As such, the overall race difference obscures certain traumas that disproportionately affect Black Americans.

Overall, the multi-group mediation models highlight the imbalance between greater exposure to stressors and less access to psychosocial resources among Black men compared to Black women, especially for internalizing disorders. It is possible Black men use substances to cope with stress and this reduces odds of mental disorders aside from SUDs. This perspective aligns with the environmental affordances model which posits that Black Americans engage in poor health behaviors to alleviate stress and protect their mental health. However, evidence supporting this theory is mixed (Jackson et al., 2010; Keyes et al., 2011; Mezuk et al., 2010; Pamplin et al., 2021) and does not consider drug use or gender.

Limitations

Despite the benefit of a large, nationally representative dataset, the cross-sectional data pose limitations for substantiating causal processes and secondary data in general pose limitations for variable measurement. For example, the NESARC-III included fewer

racial discrimination items than the widely used Everyday Discrimination Scale (EDS; Williams et al., 1997) and their items demonstrated poor fit via CFA. Regardless, the scale revealed relatively large indirect effects of racial discrimination, consistent with past research using the EDS (LaMotte et al., 2023).

Additionally, this study measured only one dimension of racial identity (racial centrality) and two dimensions of religiosity (service attendance and religious importance). Using a single scale of racial centrality is not uncommon in studies of race and mental health (Branscombe et al., 1999; LaMotte et al., 2023; Sellers et al., 2003), but future studies should incorporate multiple dimensions of racial identity to achieve a better understanding of the role it plays. Hughes et al. (2022) help build on our understanding by finding that Black Americans with highly positive private regard had greater self-esteem and mastery, and lower rates of mental disorder than Whites. As for religiosity, there is evidence that measures such as divine control or religious struggles significantly account for Black-White differences in mental health (Louie et al., 2022; Upenieks et al., 2023) and access to those data could have provided a more comprehensive understanding of religiosity's effects in this study.

Finally, although diagnostic interviews within epidemiological surveys are standard practice for estimating population rates of mental disorders, they are subject to reporting biases. Race-specific reporting biases may explain Black Americans' lower rates of mood and anxiety disorders, yet greater poor mental health symptoms, relative to Whites. It is possible Black people under-report severe symptoms included in diagnostic criteria owing to internalized mental illness stigma and the belief that Black people must appear mentally strong (Anglin et al., 2006; Campbell & Mowbray, 2016), resulting in

underestimated disorders. Additionally, diagnostic algorithms could fail to capture other race-specific expressions of poor mental health, rendering Black Americans less likely to meet criteria for mood or anxiety disorders than Whites despite experiencing subjective discomforts. For example, Brown (2003) posits several mental health problems that arise from systemic racism that are inconsistent with disorders present in the DSM (e.g., anti-self issues). To Brown's overarching point, the operationalizations of mental health and illness that exist in standard diagnostic instruments are limited because the institutions that dictate definitions of disorders fail to proactively account for the mental health impacts of racial stratification.

Conclusion

The low rates of mental disorders among Black Americans relative to Whites has puzzled researchers for decades. Research investigating underlying mechanisms of the BWMHP have yet to fully explain Black people's apparent mental health advantage. Our findings suggest that the paradox only applies to mood and anxiety disorders, given that Black Americans had a higher rate of SUDs and higher average of poor mental health symptoms than Whites owing to their socioeconomic disadvantage. Future work on the paradox should continue to compare multiple categorical and continuous mental health outcomes with an eye to the potential for between-race reporting biases and race-specific idioms of distress.

This study also found that psychosocial resources, specifically racial identity and religiosity, do little to counterbalance the harmful effects of racial discrimination, and their small effects differ between mental health outcomes and genders. For example, racial identity and religious service attendance were more protective for Black women

than men, putting Black men at a disadvantage considering their greater exposure to SLEs and racial discrimination. The operationalization of religiosity also impacted its ability to counterbalance stressors because, in contrast to service attendance, the importance of religious beliefs in one's life exacerbated internalizing mental disorders and symptoms. Future research on the BWMHP should address mechanisms beyond racial identity and religiosity, such as methodological explanations. Research should also continue to incorporate intersectionality and diverse measures of mental health. Specifically, we suggest considering age in future studies of SUDs, and gender in studies of all mental health outcomes.

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Appendix A

Supplemental Tables

Table A1
Fit Statistics for Measurement Models and Structural Equation Models

Model	CFI	TLI	RMSEA (90% CI)	SRMR	χ^2_D	df _D
Measurement Models						
Poor Mental Health	0.98	0.95	0.089 (0.083, 0.096)	0.02	--	--
Racial Identity	0.99	0.99	0.045 (0.029, 0.064)	0.004	--	--
Structural Regression Models						
Full Disorder Model	0.99	0.98	0.072 (0.071, 0.073)	0.04	--	--
Full Symptom Model	0.95	0.94	0.040 (0.039, 0.041)	0.03	--	--
MGA Disorder Model	0.99	0.97	0.080 (0.079, 0.082)	0.03	2565.1***	77
MGA Symptom Model	0.95	0.94	0.040 (0.039, 0.041)	0.03	258.47***	158

Note. MGA=Multi-Group Analysis, CFI = Comparative Fit Index, TLI = Tucker-Lewis Index, RMSEA = Root Mean Square Error of Approximation, CI = Confidence Interval, SRMR = Standardized Root Mean Square Residual

*** $p < .001$

Table A2
Weighted Main Effect and Interaction Effect Generalized Linear Models of Mental Health Outcomes

	Model 1	Model 2	Model 3	Model 4
	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>
Mood Disorder Models				
Race (1=Black)	-0.023***	-0.026***	-0.011	-0.032***
Gender (1=Female)		0.072***	0.076	0.07***

RaceXgender			-0.028*	-0.026*
Household Income				-0.062***
Education				-0.006
<i>Anxiety Disorder Models</i>				
Race (1=Black)	-0.027***	-0.031***	-0.002	-0.016
Gender (1=Female)		0.096***	0.105***	0.101***
RaceXgender			-0.060*	-0.059***
Household Income				-0.048***
Education				-0.009*
<i>SUD Models</i>				
Race (1=Black)	0.019*	0.022*	0.034*	0.023
Gender (1=Female)		-0.083***	0.079***	-0.082***
RaceXgender			-0.022	-0.021
Household Income				-0.027***
Education				-0.007*
<i>Poor Mental Health Models</i>				
Race (1=Black)	0.093***	0.086***	0.084***	-0.035
Gender (1=Female)		0.173***	0.172***	0.148***
RaceXgender			0.005	0.018
Household Income				-0.283***
Education				-0.076***

* $p < .05$, ** $p < .01$, *** $p < .001$

Appendix B

Supplemental Figures

Structural Equation Models

The DWLS estimator was used for the binary logistic models of mental disorders (Figure B1) because the WLS estimator (the only other option when using the lavaan.survey package) could not converge. The default robust estimator of the lavaan.survey package was used for the other SEM (Figure B2) and all CFA models. Such estimators are robust to non-normality and are resistant to outliers, all of which were issues present in this data. Other assumptions of SEM which cannot be rectified with robust estimators (e.g., linearity, no multicollinearity) were not violated. Religious service attendance, age, and household income were re-scaled so their variances were similar with the other variables and the covariance matrix was not ill-scaled.

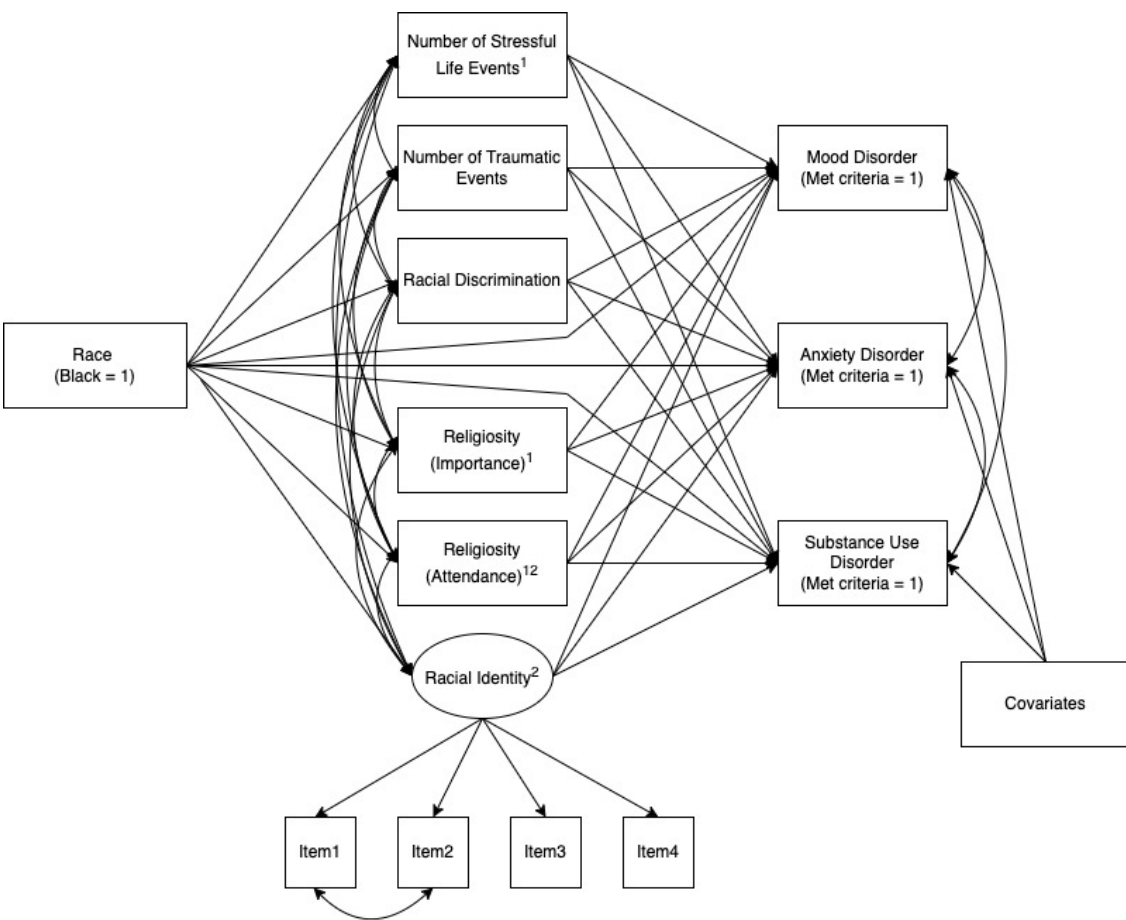


Figure B1. Structural Equation Model of Mental Disorders.

¹ Variable is further adjusted by age.

² Variable is further adjusted by education.

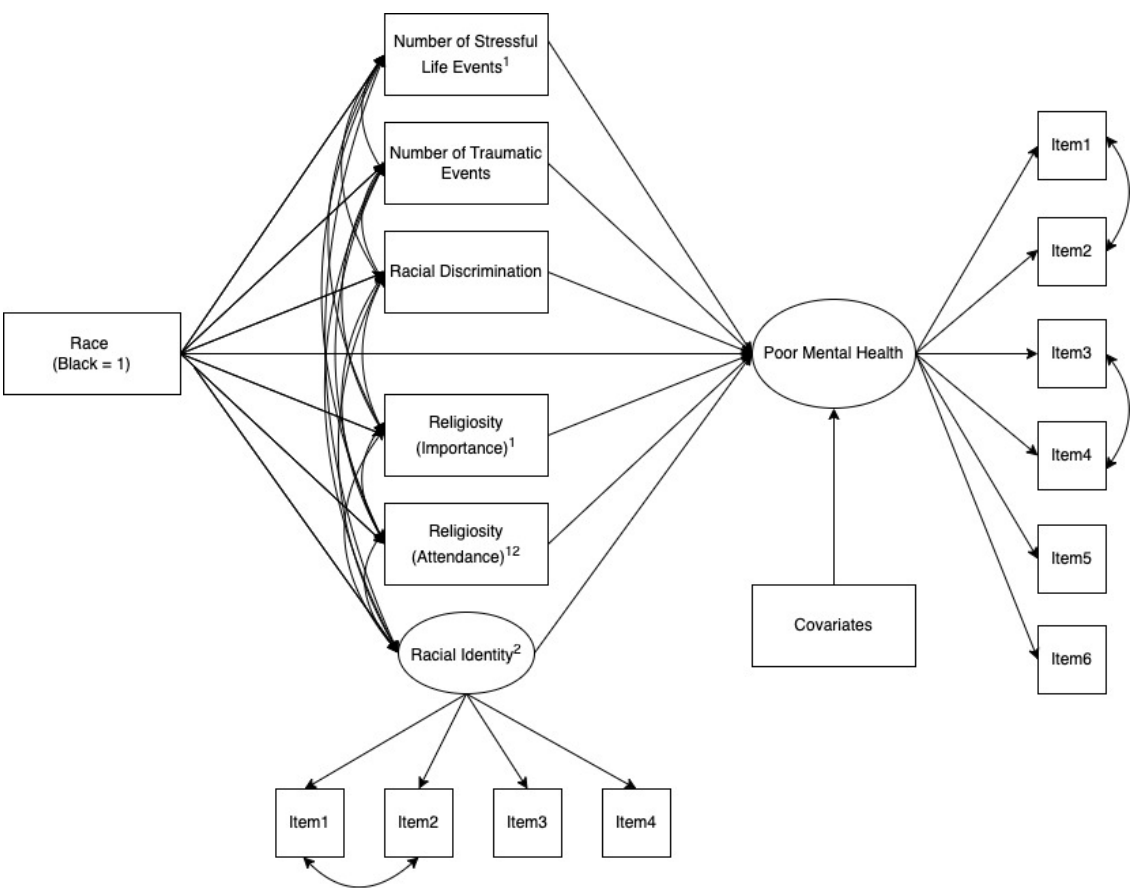


Figure B2. Structural Equation Model of Poor Mental Health.

¹ Variable is further adjusted by age.
² Variable is further adjusted by education.

Chapter 3:

“This is just Depressed-Ville”: Lay Explanations of The Black-White Mental Health Paradox

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Abstract

This study uses a novel approach to understand Black Americans' paradoxically low rates of depression and anxiety compared to White Americans. Drawing from 51 in-depth interviews with Black men, Black women, White men, and White women, we gathered and compared perspectives on why the Black-White mental health paradox exists. The results revealed that most participants, regardless of race and gender, believed the paradox is a methodological artifact rather than an accurate reflection of mental health differences between Black and White Americans. Race differences in mental illness stigma was the dominant mechanism proposed by participants, but race differences in stress desensitization and externalized distress were frequently mentioned, as well. The relationship between stigma and reporting bias is a critical area for future research, in addition to the structural stigma perpetuated by religious and medical communities as expressed by Black men and Black women, respectively.

“This is just Depressed-Ville”: Lay Explanations of The Black-White Mental Health Paradox

Survey research consistently finds that despite greater exposure to stressors associated with poor mental health such as financial strains and discrimination, Black Americans’ rates of depression and anxiety are lower or equal to Whites (Breslau et al., 2006; Hasin et al., 2005; Williams et al., 2007), a pattern known as the Black-White mental health paradox (BWMHP). Quantitative researchers have tested multiple explanations for this empirical puzzle, yet the paradox remains partially unexplained. This study is the first qualitative investigation that asks Black and White people across the U.S. why they think survey research finds White Americans have higher rates of depression and anxiety compared to Black Americans. This paper presents their initial reactions to the paradox and lay explanations of why the paradox exists.

Background

Social stress models, including stress process theory, posit that those of socially disadvantaged statuses face more stressors, have fewer resources to cope with stressors, and should therefore have worse physical and mental health than their socially advantaged counterparts (Pearlin, 1989; Pearlin et al., 1981). Such theories would predict that Black Americans have worse mental health than Whites owing to their socioeconomic disadvantages and greater exposure to stressors such as racial discrimination (Lee et al., 2019; Williams, 2000). However, large-scale, nationally representative surveys throughout the past several decades find that Black Americans have surprisingly lower rates of depression and anxiety than Whites (Breslau et al., 2006; Hasin et al., 2005; Williams et al., 2007), substantiating the BWMHP.

Researchers have tested multiple explanations for the paradox, but questions remain. Following social stress models, many scholars have quantitatively analyzed whether Black Americans' apparent mental health advantage is owing to their greater access to or more effective psychosocial resources, such as self-esteem, mastery, and religiosity (Hill-Joseph, 2019; LaMotte et al., 2023; Louie et al., 2022). The results indicate some of these resources partially explain the paradox when they are controlled for in multivariate analyses, yet Black people still have equal or better mental health than White people, suggesting a full explanation lies beyond psychosocial resources alone.

Another potential explanation that should be further explored empirically is racial differences in stress appraisal. Although not central to stress process theory, stress appraisal is a key element of Lazarus and Folkman's (1987) transactional model of stress and coping. Applied here, if Black Americans appraise stressors as less stressful than White Americans do, then they would have weaker stress responses and a lower likelihood of long-term, negative emotional outcomes. Brown and colleagues (2020) found support for this theory among older (51+ years old) Americans, but findings for samples representative of the Black and White adult populations have yet to be published.

Racial differences in symptom reporting between Black and White Americans may also contribute to the paradox and merit further study. Breslau et al. (2008) addressed reporting bias in their analysis of differential item functioning on a commonly used depression scale (CIDI). However, participants had to pass depression symptom screeners before answering follow-up questions (Barnes & Bates, 2017), so the findings only represent Black and White Americans who were willing to report common symptoms of depression such as low mood. Just as men's depression and anxiety might

be underestimated because they tend to suppress socially unacceptable emotions (Simon, 2014), Black Americans might underreport their symptoms to appear strong (Misra et al., 2021). In both cases, this is likely due to stigma towards those with mental illness, which is particularly high among men (Corrigan & Watson, 2007) and Black people (Anglin et al., 2006).

Intersectional Approaches to Study the Paradox

Intersectionality refers to how multiple social identities and their corresponding systems of oppression simultaneously shape individuals' experiences so research on "single axes" of identities disregards multidimensional experiences (Crenshaw, 1989). For example, research on either racial or gender discrimination does not fully capture the experiences of Black women who are discriminated against for their race, their gender, and their unique social position as Black women (Crenshaw, 1989). Most literature on the paradox focuses on race, but a few studies applied intersectionality to capture the relationships among race, gender, and mental health. However, they find that men and women within the Black population are more similar to each other than they are to their White gender counterparts (Barnes et al., 2013; Erving et al., 2019). For example, Black men and Black women have significantly less depression than White men and White women (Barnes et al., 2013; Erving et al., 2019). Nonetheless, the mechanisms underlying the BWMHP might differ by gender. For example, Black men and women may rely on different coping mechanisms to similarly protect their mental health. Alternatively, one gender may tend to cope effectively, while the other may tend to hide their symptoms because of internalized mental illness stigma. This study examines the

intersection of race and gender with the potential to uncover unique explanations among Black and White men and women.

Study Aims

One aim of this research was to tap into Black and White men's and women's cultural knowledge regarding stress, coping and mental health. We aimed to discover how they think about their mental health, talk about their mental health, and behave in ways that strengthen or weaken their mental health. By understanding these aspects of life, and picking up on any cultural norms, researchers may better understand why Black Americans exhibit better mental health outcomes than Whites in national surveys. Consequently, our second aim was to develop explanatory theories for the BWMHP that can inspire novel research directions.

Method

Although research on the paradox has primarily used survey methods and a deductive approach to statistically test theoretically grounded, explanatory variables, this study's aims required an inductive approach. Therefore, we used qualitative methods to gather perspectives and generate new theories. The findings described in this article reflect a part of a larger project in which we engaged with Black and White men and women directly through semi-structured, in-depth interviews. The study was exploratory, although past research pointed to specific constructs of interest which informed the design of the interview questions.

Six people were recruited for pilot interviews via convenience and snowball sampling with at least one representative from each of the four demographic groups (Black men, Black women, White men, White women). The pilot interviews served to

troubleshoot our procedures and interview guide, in some cases yielding data that inspired revisions to the guide to probe into unanticipated concepts. Purposeful quota sampling techniques were then used to recruit participants (N=51) through the research recruitment platform, Prolific. Prolific users report their personal characteristics upon signing up so researchers can identify sampling frames. Our sampling frame was limited to those self-identifying as “Black/African American” or “White/Caucasian”, and as cis-gender men or women. We also restricted our sample to U.S. born Americans ages 26-54 (generations X and Y), heterosexual, and non-Hispanic/Latino to increase similarity between participants so that differences could more confidently be attributed to race and/or gender.

Prolific users that fit eligibility criteria were notified of this study and if interested, they read a consent form explaining potential risks, benefits, and considerations for taking part in the interview study. After consenting, they verified their eligibility and scheduled an interview. Interviews were conducted and audio-recorded on the virtual meeting platform, Zoom, from March to September of 2023. Interviews lasted 45-75 minutes, and participants were compensated \$15. Steps taken to ensure participants’ confidentiality included limiting communications and payments to interviewees to Prolific’s secure site, such that no identifying information was collected. Further, participants’ names on Zoom were changed to pseudonyms of their choice to protect their confidentiality within the recording and transcripts. Finally, the Zoom video recordings were deleted once transcripts were finalized.

All interviews were conducted by the first author. They began with demographic questions and queries about stressors they encounter, coping mechanisms they have

developed, and mental health impacts, aligning with the aims of the overarching study. That portion of the interview typically lasted 45 minutes, ample time to gain rapport with the participants. At that point, we introduced the phenomenon of the BWMHP and prompted participants to consider why it exists. We encouraged participants to use the cultural knowledge of their in-group by framing the question to reference Black Americans' low rates of mental illnesses when interviewing Black participants, and White Americans' high rates of mental illnesses when interviewing White participants. We said: "In general, people who are Black [White] are less [more] likely to report symptoms of depression and anxiety than people of other racial groups. Is that something that makes sense to you? Why or why not?" Depending on participants' initial reactions and explanations, we probed into their thoughts on potential explanations derived from the paradox literature or the pilot interviews. For example, if they did not already mention stigma, we asked "Is there anything related to the stigma of mental illness that may explain their low [high] rates?" We interviewed until saturation was reached for each group, resulting in 12 Black men, 12 Black women, 12 White men, and 15 White women.

We used the qualitative data analysis software *Dedoose* and analyzed transcripts in stages described by Deterding and Waters (2021). The first stage included index coding to aid in data reduction and organization and writing thematic memos to store ideas for later reflection. The second stage was analytical coding to identify emergent themes that related to the research questions and relevant theory. The third and final stage explored code and theory validity by comparing analytical codes by race and gender groups and scrutinizing how thematic patterns comprise theoretical explanations of the paradox.

The first author, a White woman, was the sole interviewer and coder of the data; thus, the results may be shaped by her social position. However, we used data and investigator triangulation to increase the validity of the findings (Carter et al., 2014). Specifically, data triangulation converges the shared experiences of participants within groups to develop themes and increase confidence that conclusions drawn are real and not just extrapolations of the researcher (Creswell & Creswell, 2018). Investigator triangulation involved all authors reviewing the codebook and excerpts, discussing discrepancies, and revising codes accordingly until we achieved consensus.

Results

Table 3.1 presents all participants' pseudonyms with their respective race, gender, age, and subjective social class. There were noticeable racial disparities among those who identified themselves as low/working class, middle class, and upper middle class, aligning with Black Americans' socioeconomic disadvantage (Williams et al., 2016). Three participants felt the terms "low" or "working" class failed to represent the level of poverty they experienced so we use the term "poor" to differentiate their subjective social class.

Table 3.1
Participant Pseudonyms and Characteristics (N=51)

White Men (n=12)			Black Men (n=12)		
<i>Pseudonym</i>	<i>Age</i>	<i>Social Class</i>	<i>Pseudonym</i>	<i>Age</i>	<i>Social Class</i>
Arthur	51	Poor	Dragon	43	Low/working
Rudy	54	Poor	Dustin	49	Low/working
Wheels	36	Low/working	Andrew	28	Low/working
Spiff	35	Lower middle	Bender	34	Low/working
Steve	50	Lower middle	Jake	52	Lower middle
Serge	42	Lower middle	Dylan	33	Lower middle
Ralph	46	Middle	Dante	46	Middle

Bam	32	Middle	Mac	26	Middle
Ricky	45	Middle	Karl	47	Middle
Diego	36	Middle	Mark	32	Middle
Peter	32	Upper middle	Jeb	26	Middle
Jimothy	41	Upper middle	Alex	31	Upper middle

White Women (n=15)			Black Women (n=12)		
<i>Pseudonym</i>	<i>Age</i>	<i>Social Class</i>	<i>Pseudonym</i>	<i>Age</i>	<i>Social Class</i>
Lynn	53	Poor	Desi	54	Low/working
Jay	34	Low/working	Jamie	44	Low/working
Suzie	40	Low/working	Kate	51	Low/working
Stella A.	53	Low/working	Marissa	54	Low/working
Kay	36	Lower middle	Dee	48	Low/working
Kitty	52	Lower middle	Shawn	50	Low/working
Kaitlyn	40	Middle	GG	33	Low/working
Cat	44	Middle	Alison	52	Low/working
Anna	43	Middle	Tanya	51	Low/working
Candi	36	Middle	Shameka	39	Lower middle
Ashley	39	Middle	Jazzy	37	Middle
Sarah	35	Middle	Tia	49	Middle
Shelly	31	Middle			
LT	40	Upper middle			
Beth	43	Upper middle			

Additionally, the majority were parents (n=32), most of whom had at least 2 kids (n=23). Twenty-four were married or cohabiting, 20 were single, 6 were divorced, and 1 was in a relationship. Most were employed full-time, while 24 worked part-time, often consisting of online freelancing for websites like Prolific. Four participants were part- or full-time college students. Finally, many participants disclosed whether they had a mental illness because the interviews naturally elicited description of participants' mental health struggles. About 40% (mostly White women) said they were diagnosed with a mental illness or described their mental health as very poor, and 33% noted dealing with a mental health issue in the past, but claimed they had since recovered.

Reactions to the Black-White Mental Health Paradox

Table 3.2 presents each theme's total number of occurrences and the number of participants in each group that mentioned the theme. We created a typology from participants' reactions to our questions about race differences in mental health: those who believe the paradox reflects real racial differences and those who do not.

Overwhelmingly, participants thought that the paradox was not real. Some explicitly stated that survey estimates were inaccurate, like Dee (48, Black woman (BW)), who shook her head as the interviewer spoke and explained, "we have equal depression and anxiety [to non-Blacks]. In fact, probably more." Others did not explicitly challenge the findings, but still offered explanations that assume the paradox is not real, such as methodological biases skewing results. Notably, there were not glaring race or gender differences among those that doubted the validity of the paradox.

The few participants who thought the paradox was real explained that it aligned with what they see in daily life. For example, Ashley's (39, White woman (WW)) social network is primarily White and many have struggled with their mental health. Six people argued they could justify either perspective, and five people said so little that their opinion was unclear. However, most participants believed rates of depression and anxiety among Black Americans were underestimated, and that Black people probably have equal or higher rates of depression and anxiety compared to Whites.

Table 3.2
Themes and Subthemes by Race and Gender Group

Theme/Subtheme	Total ^a	Number of Participants			
		White Men (n=12)	Black Men (n=12)	White Women (n=15)	Black Women (n=12)
Paradox Typology					
Paradox is Real	4	0	1 (8%)	3 (20%)	0
Paradox is Not Real	36	10 (83%)	9 (75%)	7 (47%)	10 (83%)
Could go Either Way	6	2 (17%)	2 (17%)	0	2 (17%)
Unknown	5	0	0	5 (33%)	0
Mental Illness Stigma	62	9 (75%)	8 (67%)	11 (73%)	10 (83%)
High Stigma	30	3 (25%)	7 (58%)	3 (20%)	9 (75%)
Low Stigma	9	3 (25%)	1 (8%)	4 (27%)	0
Race Differences in Stigma	20	3 (25%)	2 (17%)	9 (60%)	2 (17%)
Suppress Feelings, Appear Strong, and Hide Weakness	47	5 (42%)	8 (67%)	6 (40%)	9 (75%)
Fear of Victimization	9	2 (17%)	3 (25%)	1 (7%)	3 (25%)
Suffering is Normalized, Trivialized, or Dismissed	11	1 (8%)	4 (33%)	0	4 (33%)
Lack of Awareness to Mental Health Issues	7	0	2 (17%)	1 (7%)	4 (33%)
<i>Role of Medical Community</i>	35	7 (58%)	10 (83%)	7 (47%)	3 (25%)
Access to Mental Health Care	22	5 (42%)	4 (33%)	6 (40%)	1 (8%)
Problems with Health Providers	13	2 (17%)	6 (50%)	1 (7%)	2 (17%)
<i>Role of Religion</i>	53	6 (50%)	11 (92%)	4 (27%)	11 (92%)
Go to God and Pray About It	13	0	2 (17%)	1 (7%)	6 (50%)
Unanswered Prayers	3	0	1 (8%)	0	2 (17%)
Let Go and Let God	8	2 (17%)	2 (17%)	2 (13%)	2 (17%)

Social Resources	9	1 (8%)	4 (33%)	1 (7%)	2 (17%)
Desensitization to Stress	51	12 (100%)	11 (92%)	12 (80%)	11 (92%)
Yes/Possibly	25	7 (58%)	4 (33%)	7 (47%)	4 (33%)
Yes, but...	13	0	8 (67%)	0	4 (33%)
No	11	4 (33%)	0	5 (33%)	2 (17%)
Coping Mechanisms	38	8 (67%)	7 (58%)	6 (40%)	4 (33%)
Substance Use, Anger, Violence	27	6 (50%)	6 (50%)	5 (33%)	4 (33%)

Note. a. Total number of occurrences for the theme/subtheme, not the total number of participants who spoke on the theme/subtheme.

Lay Explanations of the Black-White Mental Health Paradox

Mental Illness Stigma

We asked all participants about mental illness stigma within their communities. Most participants who believed that stigma was high in their communities were Black, whereas most who thought stigma was low in their communities were White. Several immediately blamed these racial differences in stigma for the BWMHP, like Cat (44, WW) who said that high rates of depression and anxiety among Whites “100%” make sense because “there’s not a cultural stigma attached to it like there is in some cultures.” Others did not use the word “stigma,” but made it clear that the stigmatized nature of mental health among Black Americans is problematic, like Mac (26, Black man (BM)):

I mean saying that we have less depression and anxiety? No. That makes no sense. The reason why it's less reported is because it's not acceptable. It's very taboo in the Black community, because you always get told that you need to be tough, and you need to be able to deal with this.

The idea that appears in Mac’s quote of having to appear tough or strong, and suppress symptoms of depression and anxiety, was a dominant subtheme in Black Americans’ explanations for the paradox. This is done to avoid appearing weak which participants explained is assumed of people who struggle with their mental health. For instance, Alex (31, BM) said of Black people:

If something's bothering them, they're not really going to talk about it... To them, it's just like signs of weakness that they don't like showing. And to them, stuff like that [depression and anxiety] is a weakness. So there's no point of talking about it. There's no point of expressing it. You just want to basically look average or strong. Like looking weak is not the best policy, I'd say.

The stigma towards mentally or emotionally “weak” people and the resulting need to suppress vulnerabilities are reinforced through ridicule, bullying, and victimization. For

example, after mentioning race differences in depression and anxiety, Rudy (54, White man (WM)), said:

It's not because Black folks, people of color, aren't depressed. That's not why. They're super fucking depressed. Because they are poverty stricken, and they're growing up in the same kind of place that I grew up in, you know what I mean? And they don't have any better fucking tools to work with then I did. But that place is a violent place, and it's not a place that's conducive to seeking help. It's a place that teaches you to keep your mouth shut and not show any Goddamn weakness! That's what it is...And that's why people in that place don't reach out for help because they get kicked in the teeth when they try to. Somebody takes advantage of that. In fact, everybody takes advantage of that...That's why people in marginalized communities don't reach out for help. Because everything in their life has taught them that you don't show that.

Rudy highlighted that Black Americans, along with White Americans of low socioeconomic status (SES) like himself, are socialized to hide their weaknesses to avoid victimization. Tia (49, BW) echoed this sentiment and explained that, for Black people, these social norms began during slavery to protect oneself from White slaveowners' abuse. In a similar but less violent way, she claims Black people today feel they must keep their symptoms hidden to avoid extra adversity such as being demeaned by peers or family members.

Other cultural aspects to mental illness stigma that emerged from the interviews spoke to how Black Americans' history of oppression and resilience are used to trivialize, dismiss or normalize Black peoples' mental health issues. For example, some claimed older generation Black people at times "downplay" the younger generation's mental health problems as minor compared to the problems of older Black Americans (e.g., the fight for civil rights). Additionally, the struggles of former generations are used to depict depression as normal and something that all Black people just need to "deal with" on their own. For example, Tanya (51, BW) explains:

Our emotional pain...It's normal...I actually once went to therapy and they said, "List the traumas of your parents, and your parents' parents, as far as you can go back." [laughs] My therapist was crying, and I was laughing! I was like "yeah, it's real fucked up." But that's normal! So if depression is normal, if your mama and your grandma and two of your aunts were depressed, you would be depressed. And you have all the same symptoms...it's just like- I'm normal! Everybody's like this...except the White people are getting medication for it [laughs]!

Dante (46, BM) made a similar point of how depression is the norm and not sympathized for:

I think it's presumed you should be strong enough to deal with this because we're all dealing with it. We're all not going to check on our depression. This is just depressed-ville. It's almost like a crab and a barrel mentality like, where are you going? No, you need to be down here depressed with the rest of us.

The analogy Dante uses likens Black people to crabs in a barrel. Crabs could, in theory, climb out of the barrel and escape to safety just as people who are struggling with their mental health could attempt to get the help they may need. However, it is because the other crabs pull each other back down into the barrel that they all meet their demise. In the human case, Dante claims Black people similarly prevent each other from getting mental health care by convincing each other that depression is a normal part of life. This quote also conveys what plenty of other participants suggested: that seeking help for mental health issues is just as stigmatized among Black Americans as the mental illnesses themselves.

Participants also argued the cultural stigma towards mental illness hinders some from realizing they are experiencing symptoms of poor mental health. For example, Desi (54, BW), says:

If you been told [depression] is some malarkey your whole life and you see it as senseless, then you may be more apt to not answer, self-report, accordingly. If you've been brought up to not really be allowed to identify your feelings, you know, because that's the DNA from slavery...It's like it's part of the lineage, you

know? It's sick. But what do you do? What do you do? So they may not be self-reporting accordingly, because they can't identify it.

She contends that depression stigma fosters an aversion to characterizing one's feelings and behaviors as symptomatic, but also inhibits recognition of symptoms to begin with. Therefore, Black Americans' inflation of their mental health might be purposeful for some, but unintentional for others. Both cases result in underreported symptoms and, subsequently, an underestimated rate of depression among Black Americans.

Role of Medical Community. The medical community is one institution that appeared to play a critical role in perpetuating stigma among Black Americans leading to underreported symptoms of poor mental health. Two subthemes emerged: lack of access to mental health care and problems with mental health professionals.

Both Black and White participants used racial disparities in mental health care access to rationalize the BWMHP. Karl (47, BM) outlines the process by which structural stigma in the form of inequitable access to mental health care creates cultural stigma:

I think [Black Americans' low reports of depression and anxiety] probably stems from lack of access. Going back a generation, a generation before that- there was no access to any kind of mental health support. So the answer then becomes, "Okay, well I'm not going. I can't go to therapy. I can't go to the doctor for this. So I'm not going to go to the doctor for this." And then "we don't go to the doctor for this. We don't talk about this. We don't do these things. That's for other people." And then that just sort of trickles down to generations where if you don't know anybody that's gone to counseling, you don't know anybody that has talked openly about these things...you just sort of fall in line.

Several middle and upper-middle class White women noted their superior access to mental health care and health insurance as reasons for their lower stigma and greater willingness to report symptoms. A few White men also shared this point of view, but one of the more unusual perspectives came from Arthur (51, WM). At one point, Arthur

considered himself upper class, but in recent years he became homeless, so now he understands how hard it is for economically disenfranchised people to work the system to get mental health care:

For two years I've been on Medicaid. I've been asking for two years to see a psychiatrist other than the psychiatrist I see for five minutes at stabilization units after being picked up by the police or going in myself. There's no continuity there. I'm pretty smart. [At least] I thought, and I know how to get things done. I couldn't imagine somebody that didn't know how to get access to these resources or find these things. I mean, what hope do they have?

Through these accounts, we see the problematic nature of racial disparities in mental health care access and the differential impact of class between racial groups. The general lack of access to mental health care reported by Black Americans not only restricts them from getting help for their mental health issues, but also bolsters the belief that Black people shouldn't get help. Whites of lower SES like Arthur also report inadequate access to mental health care, but the relatively abundant access reported by the White Americans compared to Black Americans normalizes treatment as a valid option when needed. Therefore, even when barriers are shared between racial groups of similar class backgrounds, ideological differences of who should use mental health services persist.

However, there are inequities in mental health care beyond access that contribute to Black Americans' mental illness stigma and underreported symptoms. The subtheme of fear of victimization described earlier reappears when Black participants, primarily Black men, discuss their distrust of medical professionals and how that deters them from reporting symptoms of poor mental health. They used phrases like "preyed upon" and "taken advantage of" to describe how their race has been treated in the past, hence why

they keep their mental health issues to themselves and avoid treatment. For example, Mac brought up the Tuskegee Syphilis Study to explain why Black people may not accurately report their symptoms to medical professionals. Cultural insensitivity and perceived incompetence of White clinicians were also described as barriers too large to overcome. Tanya described several issues she has had with White therapists, including one argument about whether racism even existed, which led her to stop treatment until she could find a Black therapist. She says:

I think that cultural insensitivity is bigger than any stigma because if your finger is holding on by a nub- by the skin- you go and get help no matter what. And when people are in that much emotional pain, they get help no matter what. But when you have to go through that extra step? It's like I'll just die.

Thus, the lack of Black clinicians who can relate to clients trying to cope with race-related stressors is yet another obstacle keeping Black people from seeking help. Bender (34, BM) mentioned that in his list of barriers to help-seeking, one of which was simply the vulnerability of being Black in America:

If we can't ask folks to not be aggressive towards our race, what's the point going to ask for help with our mental issues? Like if you can't trust somebody not to have a gun to your head, or not to have you in a chokehold, or [not] to have 5 guys taking you down- because, you know, we need 5 guys to take down a 120-150 pound dude- what's the point of walking into a psychiatrist's office and being like, 'Hey, I want to talk to you about my problems,' ...It's just everyone's feeling afraid of everybody. Everyone feels mistrustful of everybody. And so as a result, when it comes to [mental health professionals], it's not something that we turn to as a race.

Altogether, these are issues of structural stigma within the medical community and in American society at large. Aside from the inequities in access to mental health care, the inequities in the quality of care make Black Americans resistant to reporting symptoms and getting help. The prospect of being helped and getting better is

overshadowed by the prospect of being mistreated or misunderstood. In short, it is not worth the trouble.

Role of Religion. Religious organizations were the second entity that participants suggested perpetuate mental illness stigma among Black Americans and negatively impact their mental health. Black Americans brought up messages such as “pray about it” and “take it to God” when describing how Black people must suppress their symptoms of distress. For example, Dylan’s (33, BM) response to whether Black Americans’ low rates of depression and anxiety made sense to him was, “Yes, because in my family they tell you, ‘just suck it up and deal with it,’ or ‘pray about it.’...As I get older, I hate that saying: ‘just pray about it’. So you're right about that. Like it's a stigma.” With the quotes of others, it became clear that these religious messages perpetuate stigma by dismissing mental health issues and calls for help, and insisting such matters should stay between the individual and God.

Gigi (33, BW), who has social anxiety and is relatively religious, explained how her religious community is not a source of support for her, but a source of isolation. She said she felt “left out” in the Black community because she struggles with her mental health and can’t just “pray it away” like Black people insist on. Gigi went on to describe how these religious messages are not helpful, but harmful to those with mental health issues and in need of support:

I think everybody's just saying, “Well, don't talk to me about it. Go tell God about your problems. He's going to handle it all for you.” And I think that's a way for people to not even talk to each other about it. They're just praying and keeping to themselves, their imagination to God, you know? [God] trying to fix it for them. It’s not helping each other as a community to overcome the problem. And I get that, sometimes I don't want to hear about your problems... All I got to do is pray about it. Talk to God about it. And he’ll clear it up for you in time...That to me

feels dismissive. Like, well, you don't even want to listen to me, to hear me out. Let me just go away. That's how I hear it when they say it that way.

Two participants, both Black women, even said seeing a therapist is considered a sin within their church, making prayer the only acceptable option. Thus, religious institutions in the Black community perpetuate stigma of both mental illness and its treatment. Relying solely on prayer, though, can cause more problems for those struggling with their mental health if their prayers go unanswered. Not only do their symptoms remain untreated, but the feeling of neglect from God can “sour” their relationship with God and their church, as Karl (47, BM) said. Jazzy (37, BW) is an example of that. She experienced significant childhood trauma and struggles with “extreme depression”. People would often tell her to “turn to God”, but she says:

I don't feel like God wants anything to do with me. That's how I feel. I don't want to say I don't believe in God, because I know God's real, but I feel like he just does not listen to me. And people were saying, “you’re negative,” and, “you need to lose that negative mindset,” like “don't say stuff like that.” And I’m like, you just don't get it. You have something to believe in. You have a reason to wake up to. I don't have that. It's different for me, and I've been searching for it since I was a kid. So I honestly don't get it. I used to believe in God when I was a little girl, but I was a little girl. I didn't know anything. I just listen to what was told to me. So now it's like...I honestly don't know what to believe.

Positive impacts of religion were also noted, like people who felt they benefitted from a strong spiritual connection and that their faith in God helped them through tough times. Others mentioned social resources from church involvement that benefit mental health, such as social support. However, positive impacts were cited from a mix of White and Black participants, whereas negative impacts of religion were cited most often by Black participants, and the relationship between religion and mental illness stigma came primarily from Black women.

Desensitization to Stress

An explanation for the BWMHP that emerged in the pilot interviews was that Black Americans are “prepped for stress” due to their history of oppression and hardship, and that desensitization to stressors thwarts mental illnesses. Thus, we asked participants whether they thought Black Americans had lower rates of common mental illnesses because they were better prepared to handle stressors than White Americans. White participants were split, and their opinions did not depend on their gender. Jimothy (41, WM) was one of the few who offered this explanation without even being prompted saying Whites’ high rates of depression and anxiety relative to other racial groups was most likely a “byproduct” of their socioeconomic advantage:

If everything is going well in your life, you'll probably notice the idiosyncrasies that stress you out and maybe a small thing can cause a lot of stress. Whereas if you have a lot of stress in your life constantly, you may have developed coping mechanisms, strategies, and resilience at a far earlier age.

Of those who disagreed with this theory, some argued White people have just as much trauma and stress in their lives as Black people, so everyone is equally “prepped for stress”:

No. I think that goes along the same lines with “Well, White people don't face problems. They have less problems in their world so they make up problems,” or “They just can't cope with stress because they haven't had the same stress that everybody else in the world has had,” and I honestly think that's BS. I don't think that's true at all. I really don't agree with that. (Anna, 43, WW)

Rather than argue White people face just as much stress as Black people, others disputed the idea that consistent exposure to stress leads to desensitization. For example, Rudy said that going through hard times doesn’t “suck” any less for Blacks versus Whites, and pointed to Whites’ greater tangible resources saying, “If anything, I would say that White

people are better prepared because they're more likely to have resources available to them that would get them on the right path to proper assistance. But less [prepared]? Hell no. I would never say they were less prepared to deal with it." Tanya agreed with Rudy. When asked if she felt Black people are better prepared for stress, she said, "No. We simply have fewer options...Which has more to do with functions of class than race." However, Tanya was one of only two Black people who disagreed with the theory of racial differences in stress sensitivity.

The large majority of Black participants believed Black people are indeed better prepared to handle stressors owing to desensitization. Some focused on generational resilience like Kate (51, BW) who, when asked whether she believed in the "prepped for stress" hypothesis, said:

I want to say yes, because we've struggled for so long. And you can ask anybody and they'll say, "yeah, we've been struggling for so long." Trying to fight for the things that we desire and deserve, and so forth. Coming from being slaves and coming out of slavery, and then dealing with civil rights and discrimination, and so forth. So yes, I definitely agree with that.

Others, like Shameka (39, BW), focused on the individual stress adaptation process. Shameka spoke of how one habituates to hardships over their life, which deters harmful stress responses, saying of herself, "I've already been through it, so it's not going to stress me out so much." Jake explained how racial differences in stress sensitivity are gendered as well, by comparing middle-aged Black and White men and the phenomenon of the "mid-life crisis":

Well, I heard of something similar to what you just said. They were talking about men's mid-life crisis. And what I understood was that apparently in White men it's more prevalent than in Black men. And the reason they gave was that, you know, Black men always knew that there was a game. That this idea of the 'American Dream', if you want to call it that, or the "if you just do this, everything will come

out right,” well Black folks already didn't believe in that because of their history. But a lot of the white men did. But then they're not all rich. So the ones that get to a certain point and realize, “hey, it's not turning out the way I thought it should be,” they start having issues because somehow life is all of a sudden not making sense. And so I can understand this. You know, if you're already skeptical, you're not going to get upset because things didn't all come out right.

In this quote, Jake is validating that both Black and White men face hardship, which several White participants used as justification to refute the “prepped for stress” hypothesis. However, the different stress responses experienced are instead owing to differences in expectations.

Although nearly all Black participants felt that Black people are socialized to be better prepared for stressors than Whites, most argued that there is an important caveat: stress preparation fails to prevent mental illnesses. For example, Karl said:

Historically, societally, yes. In order to make it, Black people have had to just sort of accept this higher level of stress, this higher level of danger, of injustice in their lives. They've had to make the most of it. They had to get through it. They had to teach their kids to expect it and deal with it. So I think society has forced Black people to be, if not mentally stronger, than I would say more resistant to things like stress, like injustice...And if you're raised to expect that life's not going to be fair, there are going to be people that treat you differently because of the way you look, if you've heard that message from a young age, when it happens it's not going to feel any better. You're still going to have to see your way through it. But someone told you a long time ago, and pretty consistently, this was going to happen so it's not taking you by surprise.

Mac's response was similar, but he said that expected stressors actually “exacerbate” poor mental health due to the harm in accepting Black Americans' disproportionate stress as a social fact. Efforts to reduce racial disparities are unprioritized and their stress then compounds over time.

Dee said she keeps her “guard up” so she is not “blind-sided” by race-related stressors; however she thinks that resilience to racism is impossible because everyone

eventually reaches their “breaking point.” Jazzy doesn’t believe that Black people’s mental health is resilient to stress, either. Instead, she said those that are perceived as strong are “just used to all the bad stuff” and “numb from the pain”. She described herself as one of these “numb” people and said, “They always say that you gotta go through the storms in order to see the rainbow. But I feel like I've been going through storms my whole life. I haven't seen a rainbow.” Finally, a few Black participants felt that they can mentally overcome some types of race-related stressors, but not all (e.g., unprovoked killings of Black people via the news). Therefore, while Black participants largely resonated with the idea that Black Americans are better prepared to handle stressors than White Americans, many of them do not believe the preparation protects their mental health when they do encounter stressors. It still leads to distress and other negative mental health outcomes.

Coping Mechanisms

Participants also cited various coping mechanisms that might differ between racial groups. White participants felt that White people exercise more, have greater financial resources to prevent stressors, and greater family support to cope with stress compared to Black people. Those coping mechanisms and resources do not represent plausible explanations for the paradox, though, because they would improve the mental health of Whites, not worsen it. However, participants most often discussed substance use, anger, and violence, which are coping mechanisms that could explain race differences in mental health. If Black Americans are more likely than Whites to externalize their distress through substance use, anger, or violence, they would demonstrate fewer internalizing symptoms such as those of depression and anxiety. Our qualitative data cannot test that

hypothesis directly, but participants gave great insight into externalizing problems within their communities.

More Black participants noted externalizing problems in their communities than Whites, but spoke of a range of externalizing problems, whereas White Americans only mentioned substance use.⁷ A few White participants spoke from their own experience of coping with substances, like Rudy who coped through years of family stress by smoking crack and eventually turned to pills in an attempted suicide. In the months after losing her father, Cat mixed Xanax with copious amounts of alcohol, about 15 beers or 2 bottles of wine per day. Wine seemed to be the preferred substance to cope with stress for White women. Sarah (35, WW) said, “I think alcohol as a coping mechanism seems more acceptable in White culture because the wine is classy, and like the drinks of choice in the Black culture may be different and not viewed that way.” All in all, it appeared that alcohol use, specifically, was a common and socially acceptable way to cope with stress among White people.

Substance-use was a common coping mechanism cited among Black participants, too, but anger and violence were noted as additional ways in which distress is externalized among Black Americans. For example, regarding Black Americans’ relatively low rates of depression and anxiety, Alison (52, BW) says:

It's not because something spectacular is going on. It's [because] they are not talking about it and they're holding it in, or they're drinking the problems away, or fighting, or going to jail instead of getting the help that they need. And they may not know they need help so maybe people should go out to the communities, but will they be receptive? I don't know. I don't know if all of my people would be receptive to that kind of help, because they look at that as a weakness.

⁷ Table 3.2 shows a higher code count among Whites (11) than Blacks (10) because some White participants referenced substance use, anger, or violence among racial minorities.

Her quote not only highlights the externalizing symptoms of distress, but implies they are a more socially acceptable way to cope than seeking professional help because the latter is perceived as weak. Bender said that anger and violence are mechanisms for displaying strength, and that those behaviors are reinforced. He said:

[Black people] become more aggressive or more mentally unstable to deal with the instability around them. They will become more unhinged in order to match their surroundings and it's an easier thing to fit into. It's easier to fit into a broken society or broken community when you are a broken person rather than trying to be, you know, a whole person trying to work with broken people or being a broken person trying to work with whole people. It just doesn't work out very well for them.

In high school, Bender felt like a whole person trying to fit in with broken people because he was one of the few kids that were good students and uninvolved with drugs or gangs. He attributed the social acceptance of negative behavioral outcomes to the overall resistance to proactive coping strategies such as seeking help among Black youth. Additionally, a few Black participants noticed patterns of gang involvement, domestic violence and child abuse as ways Black people cope with stress.

Through these accounts, we see that Black Americans might be socialized to rely on coping mechanisms like drinking, anger, and violence more than White Americans. Although the purpose of engaging in these behaviors is to cope with stress, they are also symptoms of distress. However, they are ways in which distress is externalized through behavior, rather than internalized and existing solely in one's body and mind.

Discussion

Black and White men and women across the U.S. were interviewed to discover lay explanations of the BWMHP. Suggesting a reporting bias in survey and clinical data, Black and White men and women alike argued the paradox represents race differences in

willingness or ability to report symptoms of depression and anxiety rather than differences in experienced symptoms. Mental illness stigma was proposed as a primary mechanism behind the paradox. Participants explained that even though mental health issues are common among Black Americans, they are still so stigmatized that Black people must hide their distress and put on a façade of strength and resilience. If they reveal their symptoms, they will be viewed as “weak” or “crazy” and be victimized for it. Additionally, seeking help, especially from mental health professionals, is discouraged because that will compromise the image of strength that Black Americans are expected to uphold by society. Pervasive stigma even renders some Black Americans unable to accurately report their symptoms of poor mental health.

We primarily used our Black participants’ words to illustrate the theme of mental illness stigma, but that is not because this theme was not present in the opinions of our White participants. Nearly half of White participants suggested race differences in mental illness stigma was a valid explanation for the paradox, although most were women. It is possible this explanation was not as salient for White men as it was for White women because stigma is relatively high among men in general (Corrigan & Watson, 2007), potentially making them less attuned to racial disparities. Nevertheless, mental illness stigma and reporting bias were widely held explanations for the paradox, which increases our confidence in its validity.

Furthermore, these cultural aspects of mental illness stigma have emerged in previous research. A systematic review of quantitative and qualitative studies on mental illness stigma found Black Americans often conceal their symptoms to avoid negative treatment from others and that their lack of knowledge regarding mental illnesses is

related to greater stigma (Misra et al., 2021). The themes of suppression and concealment of mental health issues to appear strong is also consistent with the pervasive Strong Black Woman (SBW) schema. Although this archetype requires presenting oneself as mentally resilient, it is correlated with depression symptoms (Abrams et al., 2019). Thus, the SBW schema presents a barrier to mental health care and diagnosis for those with poor mental health. In our study, the need to exude strength because of the cultural association between depression and weakness was not gendered, given that Black men noted these themes just as often as Black women.

However, our intersectional framework illuminated how different institutions, and the structural stigma they perpetuate, were more salient to Black men than Black women and vice versa. Specifically, Black men more often attributed the paradox to structural stigma rooted in the medical community. They claimed barriers such as a lack of access to mental health care, a lack of culturally competent providers, and a general distrust of the medical community perpetuate stigma among Black Americans, all of which coincide with findings from previous studies (Misra et al., 2021). Although these barriers disadvantage Black Americans in general, they were discussed by more Black men than women. This is likely due to Black men's greater medical mistrust relative to Black women (Armstrong et al., 2007), which is enhanced by the masculine role identity (Hammond, 2010). For example, Black men's history of maltreatment by medical professionals undermines their power over their bodies and livelihoods, which inherently threatens their masculinity because autonomy is central to the masculine role identity (Hammond, 2010). Therefore, the role played by the medical community might be

especially salient to Black men because of the unique way that the structural stigma rooted in medicine negatively impacted Black men's humanity.

Black women, on the other hand, more often attributed the paradox to structural stigma rooted in their religious communities. Half of the Black women interviewed, and a few Black men, suggested that their religious community and beliefs perpetuate mental illness stigma and poor mental health by dismissing peoples' calls for help and asserting they leave their problems with God. Our findings coincide with studies documenting the pernicious effects of religiosity, such as increased stigma towards people with mental illness (Pederson et al., 2023), worse mental health by way of negative religious coping (Park et al., 2018) and religious trauma (Ellis et al., 2022). It is unsurprising that the negative influences of religion were particularly salient to Black women because they are more involved with religious organizations (Taylor et al., 2014) and utilize religious coping more often than Black men (Chatters et al., 2009). Thus, Black women presumably have more firsthand experience of religion's positive or negative impacts in times of distress. Taken together, Black male and female participants argue that the structural stigma exhibited by health care and religious institutions impact the ability and willingness of Black Americans to report symptoms of depression and anxiety, which could contribute to the puzzling low rates of these mental illnesses reported in the Black population relative to Whites.

Based on the theme of externalizing problems within Black communities, our findings also suggest measurement bias contributes to an inaccurate perception of Black resilience. Although called a "mental health" paradox, researchers' bias towards operationalizing mental health as the absence of internalizing symptoms (e.g., depression

and anxiety) fails to address the supposed prominence of externalizing problems in Black communities. Since they are socialized against expressing symptoms of depression, participants argued that distress is exhibited through more socially acceptable symptoms like substance use, anger, and violence. Expanding the operationalization of mental health to include those manifestations of distress might help explain the racial gap in mental health.

Scholars have been calling for the use of more comprehensive mental health measures for decades (Aneshensel et al., 1991; Pearlin, 1989; Horowitz, 2002; Mirowsky & Ross, 2002; Schwartz & Meyer, 2010), and some have answered these calls, yielding mixed results. Breslau et al. (2006) found Black Americans had fewer substance disorders than White Americans, but LaMotte et al. (N.d.) found they had more. In nationally representative samples, Mabry & Kiecolt (2005) found Black and White Americans had equal levels of anger frequency and intensity, yet Boylan et al. (2015) found Black Americans had greater outward expression of anger than Whites. However, stratifying by education revealed the racial disparity in anger was only present among those without a college education (Boylan et al., 2015). Regardless, the combinations of themes that emerged from our participants, mainly that depression and anxiety are highly stigmatized and concealed, yet substance use, anger and violence are acceptable and common, suggest researchers should be more inclusive in their operationalizations of mental health.

In contrast to methodological biases, the “prepped for stress” theory, i.e., that Black Americans have adapted to their disproportionate stress exposure and are desensitized to stressors relative to Whites, assumes the paradox represents real race

differences in mental health. Support for this theory was somewhat divided by race. A third of White participants refuted the theory, compared to only two Black participants. However, it was not that the rest of Black participants firmly believed they had an advantage of desensitization that mitigates their stress response. They argued Black people are indeed mentally prepared to expect certain stressors like racial discrimination, but that does not necessarily lead to a lower stress response and better mental health. This modified theory somewhat contradicts the quantitative evidence by Brown et al. (2020) that Black Americans' appraised stressors as less upsetting compared to White Americans and the difference in stress appraisal fully accounted for Black Americans' lower depression. Yet, it could be consistent with Lazarus and Folkman's (1987) model of stress and coping which suggests that stress appraisal and responses depend on the extent that the stressors threaten, harm or challenge oneself, including one's values, beliefs and self-concept. For example, even though Black people might be socialized to expect stressors like racial discrimination, such discriminatory experiences can still be perceived as threatening (e.g., to one's physical safety), harmful (e.g., to one's self-esteem) or challenging (e.g., to one's value of equality). Any of those cases would trigger a stress response. Therefore, future research should more closely test the applicability of Lazarus and Folkman's model to Black Americans' stress and coping to determine the validity of our participants' claims that their preparation for stress does not necessarily protect them from mental health issues.

Strengths and Limitations

This study is the first of its kind to present explanations for the BWMHP derived from in-depth interviews. Theories on stress and mental health, and decades of

quantitative research applying those theories, provide ample insight into racial disparities, yet these efforts have not fully explained this empirical puzzle. Therefore, qualitative, exploratory research such as our study is needed to advance our understanding of the paradox. The race and gender comparative design is another advantage that illuminates similarities between demographic groups and identifies intersectional differences. For example, most participants, regardless of race or gender, denied that the paradox represents real differences in mental health. Digging deeper, we found Black men primarily perceived problems with the medical community as playing a role in the paradox, whereas the stigmatizing role played by religion was most salient among Black women. Therefore, our carefully selected quotas revealed how different institutions impact different groups, but all contribute to a single overarching issue.

We also set parameters on age, sexual orientation, and ethnicity to establish similarity between participants so as to highlight race and gender differences. However, it is impossible to ‘control’ for everything that collectively shapes life experiences and perspectives. In hindsight, the age range might not have been narrow enough to restrict variations to gender and race. The young men stood out from the rest of the participants for having a relatively stress-free lifestyle (e.g., few financial or family obligations). Additionally, during recruitment, an unexpected bias emerged that our sample over-represented people with poor mental health, perhaps because the study topic attracted them and/or because people with poor mental health are more likely to do online research for pay on sites like Prolific. We became more attuned to this bias after interviewing the White women, the majority of whom described their mental health as poor, so we modified pre-screening of Black women to ensure that at least half did not have a mental

disorder. This extra pre-screening was not necessary for the men to achieve diversity in mental health. However, as is customary with qualitative research, we did not expect to yield results that were definitively representative of the populations of interest.

Conclusion

Many researchers attribute the Black-White Mental Health Paradox to real race differences in mental health, but lay theories drawn from over 50 interviews of Black and White Americans suggest the paradox is a methodological artifact. Participants largely believe that Black Americans' depression and anxiety are underestimated because of the greater mental illness stigma and greater externalizing symptoms masked as coping mechanisms among Black Americans. Potentially validating the paradox, though, participants also believe Black Americans are better adapted to stressors than Whites. Scholars should investigate whether desensitization to stressors protects Black Americans from developing mental illnesses, a theory that many Black men and women doubt.

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Chapter 4:

**How the Intersection of Race and Gender Shapes Reactions to Depression in Others
and Oneself: A Vignette-based Experiment**

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Abstract

Mental illness stigma is greater among Black Americans than White Americans, but it is unclear whether gender interacts with race to produce differences in stigma-related beliefs and behaviors. Such differences could contribute to underreported depression symptoms and underestimations of depression among Black people and men. In this experiment, we presented participants with a vignette describing a person experiencing classic symptoms of a depressive episode and manipulated their race (Black or White) and gender (man or woman). Participants were also Black or White and men or women (N=880) and randomly assigned to one of the four vignettes. We tested whether the VC's race and gender, the participants' race and gender, and the interaction between VC and participant attributes affected participants' treatment endorsement, prognostic optimism, symptom appraisals, and stigma expectations. We followed up the experimental vignette and questions with a second vignette that asked participants to put themselves in the VC's position, and inquired into whether they would react differently to their own hypothetical depression symptoms. The results included some findings that were consistent with Black Americans' and men's greater stigma towards mental illness and professional treatment, but also some that were counterintuitive to these trends. However, we found striking within-race gender differences among Black Americans. This research illustrates the intersectional differences in expected stigma and symptom appraisals that should be further studied to determine if they contribute to reporting biases in depression assessments.

How the Intersection of Race and Gender Shapes Reactions to Depression in Others and Oneself: A Vignette-based Experiment

Stigma towards people with mental illness is particularly high among racial minorities in the U.S., including Black Americans (Eylem et al., 2020). Among those living with mental illness, perceived stigma can have devastating impacts to one's self-concept including internalization of stigmatizing beliefs and fear of being discriminated against by others (Corrigan, 2004). These thoughts not only worsen mental health, but also prevent people from talking about their problems with friends, family or medical professionals (Corrigan, 2004). Black Americans' pervasive cultural stigma surrounding mental illness has been shown to contribute to underutilization of mental health care (Alvidrez et al., 2008; Clement et al., 2015; Gaston et al., 2016; Misra et al., 2021), leaving Black people who need mental health care to deal with their problems on their own. However, it is unclear whether the stigma among Black people also prevents them from accurately reporting their symptoms in diagnostic interviews as part of national surveys on mental health. If so, that could help explain why Black Americans' rates of common mental illnesses, such as depression, as estimated in epidemiological surveys are unexpectedly low compared to the rates of White Americans.

This study investigates the effects of race on perceptions of mental illness and mental health care that might contribute to reporting biases in national surveys. We focus on expected stigma, symptom appraisals, and likelihood of seeking mental health care as well as its perceived effectiveness. Gender is also central to our analysis to demonstrate how race and gender statuses collectively shape reactions to symptoms of mental illness. This research is highly relevant to the design of psychiatric epidemiological surveys and

intends to increase awareness of important race and gender reporting biases that might distort diagnostic interview data. Additionally, the results are relevant to mental health professionals working with Black and White populations or attempting to increase outreach in these communities.

Background

Psychiatric epidemiological surveys find Black Americans have lower or equal rates of depression than White Americans (Blazer et al., 1994; Bratter & Eschbach, 2005; Breslau et al., 2006; Hasin et al., 2005; Weissman et al., 1988; Williams, 2000; Williams et al., 2007), which contradicts theoretical predictions like those derived from stress process theory. Stress process theory (Pearlin et al., 1981; Pearlin, 1989) contends that socially disadvantaged groups, including racial minorities, should have relatively poor mental health because they are disproportionately exposed to stressors such as financial strain and racial discrimination. Thus, Black Americans' lower rates of depression relative to Whites are paradoxical, and referred to as the Black-White mental health paradox (Keyes, 2009).

Drawing from social stress models, research on the paradox has focused on race differences in psychosocial coping resources that might buffer stressors and explain Black Americans' relatively low rates of depression (LaMotte et al., 2023; Louie et al., 2022; Mouzon, 2013, 2014, 2017; Thomas Tobin et al., 2021). However, most research finds null or small effects that do not fully account for Black Americans' apparent mental health advantage. Understudied explanations outside of those derived from social stress models include methodological biases, such as reporting bias. It is possible that Black Americans underreport their symptoms of depression, which would result in deceptively

low rates relative to White Americans. To date, there has only been one study that tests the reporting bias hypothesis. Breslau and colleagues (2008) tested whether Black and White Americans at-risk for depression responded differently to questions from a commonly used diagnostic interview instrument (CIDI). They found Black respondents were less likely to endorse various symptoms, but their lower depression prevalence was unaltered after correcting for differential item functioning, suggesting that rates are not necessarily biased by reporting differences. However, the analysis only included people who met the screening criteria of low mood and anhedonia, and Black respondents were significantly less likely than Whites to do so. Thus, it is possible that reporting biases in the screeners was an overlooked source of bias.

There are several explanations as to why Black Americans may underreport symptoms of depression. Pervasive stigma towards mental illness within Black communities could be responsible. Being labelled as a person with a mental illness can result in serious negative consequences such as social ostracization, discrimination in the workplace, or worse medical care (Corrigan, 2004). According to Corrigan (2004), if people are able to hide their stigmatized status, they might do so to avoid these negative impacts; a phenomenon he refers to as “label avoidance.” Depending on the severity, symptoms of depression can be concealed and there are various levels of disclosure one may participate in, including keeping one’s stigmatized mental health status a complete secret or disclosing their problems with select trusted individuals (Corrigan, 2004; Herman, 1993).

There is evidence to suggest that Black people are more likely than Whites to hide their depression symptoms, which could contribute to their low prevalence rates of

depression yielded by epidemiology surveys. For example, many studies have found that Black Americans exhibit greater mental illness stigma than Whites (Anglin et al., 2006; Conner et al., 2010; Eylem et al., 2020; Rao et al., 2007). Their stigma towards mental illness appears to be heightened by the prejudice and discrimination towards Black people in general (Misra et al., 2021), a phenomenon known as “double discrimination” (Alang, 2019). Additionally, Black Americans’ overarching belief that they must appear strong and not show any weakness may lead to symptom concealment (Alvidrez et al., 2008; LaMotte et al., N.d.).

Also likely to influence Black Americans to underreport symptoms of mental illness is their higher distrust of medical researchers and health care professionals (Corbie-Smith et al., 2002; Halbert et al., 2006; Shoff & Yang, 2012) owing to their history of maltreatment (Byrd & Clayton, 2001). Black people have been the victims of some of the most well-known cases of medical maltreatment in the U.S. like the Tuskegee Syphilis Study, but their victimization by medical researchers was not contained to these isolated instances. Black people were continually refused medical services, given inadequate care, and unethically experimented on by White medical professionals from the time they arrived in the U.S. via the American Slave Trade until great progress was made by the Civil Rights Movement of the late 20th century (Byrd & Clayton, 2001). Yet, many unethical practices continue and racial disparities in medical care quality remain a pressing issue.

Research supports that Black Americans’ mental illness stigma paired with their distrust of medical professionals contribute to their underutilization of mental health care (Alvidrez et al., 2008; Clement et al., 2015; Corrigan, 2004, Gaston et al., 2016; Misra et

al., 2021) which biases clinical data on racial disparities in mental illness. Stigma and distrust might also bias the way in which Black people respond to questions about their mental health in standardized diagnostic surveys. Additionally, underreporting might stem from Black Americans' tendency to normalize symptoms of mental illness (Gaston et al., 2016; Misra et al., 2021; Zuvekas & Fleishman, 2008). If experiences that clinicians treat as symptoms are perceived by Black Americans as normal, they might not mention them, let alone select them on standardized surveys. For example, Villatoro and colleagues (2018) found that African Americans are less likely than Whites to perceive a need for mental health care even if they met criteria for a mental disorder. Therefore, a proportion of Black Americans who need mental health care are in denial of that need, which could stem from label avoidance or the belief that their symptoms are normal.

Although there is ample evidence to suggest that race differences in mental illness stigma and appraisals of depression symptoms contribute to the Black Americans' low depression rates, research has not directly tested these potential explanations of the paradox. Most research on these topics is aimed at bringing awareness to and ameliorating barriers to mental health care for Black Americans. However, they are also relevant to the psychiatric epidemiology surveys, rendering them relevant to the study of the Black-White mental health paradox.

Also relevant to this research are the effects of gender. Similar to differences between racial minority and majority group members (Eylem et al., 2020), men have greater mental illness stigma than women, are less likely to perceive a need for mental health care when they meet criteria for disorder, and less likely seek treatment than women (Corrigan & Watson, 2007; Villatoro et al., 2018). Therefore, in studying issues

related to stigma and help-seeking, one should account for gender differences or analyze how they shape the outcomes in tandem with race.

Based on intersectionality theory, which explains how combinations of social identities collectively shape experiences and perspectives (Crenshaw, 1989), the juncture of racial and gender identities may yield distinctive effects on the beliefs and behaviors central to this study. For example, White men and women, but not Black men and women, have different levels of perceived need for mental health care (Villatoro et al., 2018). Also, in a community sample, Ward and colleagues (2013) found Black women were more likely than Black men to believe mental illness had negative consequences, yet they were more optimistic that mental health care could help and more willing to engage in it personally. Therefore, by incorporating gender, we can test whether within-race differences in gender further explain between-race differences in depression appraisal, treatment endorsement, and stigma.

Research Questions and Hypotheses

This study will form a foundation for future research on reporting biases by examining race and gender differences in beliefs that may lead to biased reporting of symptoms, which in turn may skew clinical and survey data. These include race and gender differences in appraisals of depression symptoms, expected stigmatization, the likelihood of seeking mental health care for such symptoms and the expected effectiveness of that care. To determine causal effects of race and gender, we embedded an experiment in a survey that described a person (vignette character; VC) experiencing symptoms consistent with depression. We manipulated their characteristics, so they were either a Black man, a Black woman, a White man or a White woman. Participants also

identified as belonging to one of those four demographic groups, allowing us to compare participants who matched or mismatched the VC on race and/or gender. For each outcome (treatment endorsement, prognostic optimism, depression appraisals, stigma expectations), we empirically tested the following research questions:

1. How is the outcome affected by the participant's race and gender?
2. How is the outcome affected by the VC's race and gender?
3. Is the outcome affected by the matching or mismatching between the participant's and the VC's race and/or gender (i.e., testing interactions between participant and VC characteristics)?

Because people may react differently to a hypothetical stranger than they would react if they were in that stranger's situation, we also questioned their responses to a vignette that was identical to the one described above, with the exception that it asked the participant to consider *themselves* in the same situation. In response to this scenario, we analyzed how treatment endorsement, prognostic optimism, depression appraisals, and stigma expectations were shaped by the participant's race and gender.

Given the evidence of greater mental illness stigma among Black Americans and men, we hypothesized stigma expectations to be higher among those participants and higher for VCs who shared those same social statuses. We also expected that the juncture of racial and gender identities would yield distinctive results according to intersectionality theory. Specifically, we hypothesized that stigma expectations to be highest among Black men because they represent an intersection of the population in which stigma is highly perpetuated by both their racial and gender group. Similarly, reflecting their underutilization of mental health care, we expected participants who were

Black and/or men to be less likely to endorse seeing a mental health professional than their race and gender counterparts. We also expected that this effect would be augmented when the VC was Black or a man. Additionally, Black people tend to be apprehensive towards seeking professional help, but one study found that they were more optimistic than Whites that therapy was an effective way to treat mental health problems (Anglin et al., 2008). Thus, we were eager to see if race differences in prognostic optimism would emerge, and whether further within-race gender differences would be revealed as they did in Ward et al. (2013).

Finally, based on qualitative work suggesting that distress is normalized among Black people and the quantitative evidence that they are less likely than Whites to realize they need mental health care when symptomatic, we expected Black participants to appraise depression symptoms as the normal ups and downs of life and be less likely than Whites to label symptoms as signs of mental illness. However, we were interested in seeing how the experimental condition might manipulate the effect of participant race. For example, would the normalizing effect from Black participants be stronger for Black VCs than White VCs? Or would a struggling Black VC clash with the ideal of resilience in a way that leads Black participants to think something must be clinically wrong with them? This could be especially so for Black female VCs given the “Strong Black Woman” stereotype (Abrams et al., 2014) which refers to the unrealistically high standard imposed on Black women to be mentally and emotionally resilient.

Method

This study analyzed experimental survey data from a quota sample recruited via Prolific Academia (www.prolific.com). The sample (N=880) was split evenly among

Black men, Black women, White men, and White women to comprise four groups of 220 participants each. Inclusion criteria were being a U.S. citizen, Non-Hispanic/Latino Black or White race, man or woman, and 18 years or older. We also set education quotas to require that each of the four groups were split evenly between those with or without a college degree because online survey takers tend to be disproportionately college-educated (Peer et al., 2017). Prolific users who met inclusion criteria were invited to complete the survey and those who were interested read the consent form and verified their eligibility before continuing to the survey. Respondents were paid \$10.05 per hour and the survey took about 4 minutes to complete. Because the survey was brief, there was a single attention-check item and a few respondents in each group were excluded owing to failing it.

Vignettes

Our experiment used a 2 (Race: Black or White) x 2 (Gender: man or woman)⁸ factorial design that manipulated the demographics of a vignette character (VC), resulting in four conditions that participants were randomly assigned to: White female VC (Danielle), White male VC (Daniel), Black male VC (Devon), Black female VC (Destiny). In all conditions, the vignette described the VC as experiencing symptoms consistent with a depressive episode according to the Diagnostic Statistical Manual for Mental Disorders, 4th edition (DSM-IV). Our vignette was derived from the major depression vignette included in the General Social Survey National Stigma Study

⁸ Gender is the focus of our paper, not biological sex. However, we use the terms “male” and “female” to describe the VC’s gender to increase readability. For example, referring to a White female VC is more direct than referring to a VC who is a White woman. This strategy also helps differentiate the VC conditions (e.g., White female VCs) from the participant groups (e.g., White women).

(Pescosolido et al., 2021). Photos of the vignette characters complemented these vignettes to reinforce the race and gender manipulation. They were selected from the Chicago Face Database which provide photos normed for facial expression, attractiveness, and age (Ma et al., 2015), and we chose four that portrayed similar levels of negative affect.

Immediately following the vignette, participants responded to a manipulation check question and questions assessing their endorsement of mental health treatment and prognostic optimism for the VC, appraisals of the VC's symptoms, and expected stigma towards the VC.

Next, we asked participants to imagine that they had the same symptoms as the VC. The vignette text was shown again but revised to encourage the participant to put themselves in the VC's position. For example, instead of "Danielle has been feeling really down," this second vignette read "**You** have been feeling really down." Therefore, the second vignette attempted to simulate the hypothetical situation of the participant experiencing symptoms of depression. Participants answered the same follow-up questions, but this time with respect to themselves to compel them to be honest about what they would do, which may differ from what they think other people (e.g., a VC) in the same situation should do. Both vignettes and follow-up questions can be found in the Appendix.

Measurement

Independent Variables

The independent variables of interest were participant group (White women, White men, Black men, Black women) and experimental condition (White female VC, White male VC, Black male VC, Black female VC). Covariates were measured as

follows: age (in years), education level (0= no college degree, 1= college degree or higher), transgender (0= cisgender, 1= transgender), political conservatism (0= very liberal to 6=very conservative), self-rated mental health (0= poor to 4=excellent), lifetime history of psychiatric disorder (0= no diagnosis, 1=been diagnosed).

Dependent Variables

The dependent variables were constructed from the vignette follow-up questions that assessed treatment endorsement, prognostic optimism, symptom appraisals, and stigma expectations. These questions were worded very similarly following each vignette, but referenced the VC after the first vignette and referenced the participant after the second vignette.

Treatment endorsement: Participants were asked what the VC should do about his/her situation and were given two options to choose from: A) Give it some time and hope his/her situation improves on its own or B) schedule an appointment with a mental health professional. Options A and B were randomized to control for order effects. Similarly, after the second vignette, participants were asked “If this were how you were feeling, which one do you honestly think you would choose?” and were presented with the same options.

Prognostic Optimism: Depending on participants’ chosen option (give it time vs. seek treatment), they were asked how likely it was that the VC’s (or their own) problems would resolve. For example, if they selected that the VC should schedule an appointment with a mental health professional, they were asked “How likely or unlikely do you think it is that **seeing a mental health professional** will help resolve [VC name]’s problems?” Responses ranged from very unlikely (0) to very likely (5), representing one’s optimism

that symptoms would resolve by seeing a mental health professional or giving it some time.

Symptom Appraisal: Participants were asked how much they agreed or disagreed that the VC was: 1) experiencing a mental illness, and 2) experiencing the normal ups and downs of life. We intended to reverse-code the second item and average these responses for a single measure of appraisal as “normal” versus mental illness, but the alpha reliability score was 0.61 so we analyzed them as single-item dependent variables ranging from strongly disagree (0) to strongly agree (5). Following the non-experimental vignette, items were phrased “If I were feeling this way...I would assume I am experiencing a mental illness”, and “...I would assume I am experiencing the normal ups and downs of life” and coded in the same way (0=strongly disagree to 5=strongly agree).

Stigma Expectations: Participants were asked how much they agreed or disagreed that the VC: 1) would be looked down on if he/she shared how they were struggling, and 2) should keep his/her feelings to himself/herself because people will view him/her as weak. Once again, we intended to average these responses for a single measure of expected stigma towards the VC, but the alpha reliability score was 0.66 so we analyzed them as single-item dependent variables ranging from strongly disagree (0) to strongly agree (5). Following the self-referential vignette, items were phrased “If I were feeling this way...People would look down on me if they knew”, and “I would keep my feelings to myself because people would view me as weak,” referring to the expectation of themselves being stigmatized by others (0=strongly disagree to 5=strongly agree).

Data Analysis

Analyses were conducted in IBM SPSS Statistics 28 (IBM Corp., Armonk, N.Y., USA). We conducted Welch's t-tests with Bonferroni adjusted alpha levels to detect significant mean and proportional differences in dependent variables and covariates between Black and White Americans and between men and women. We then used logistic regression to analyze the main effects of participant group (reference group = White women) and experimental condition (reference group = White female VC) on the binary outcome of treatment endorsement for the VC (seek treatment=1 vs. give it time=0). We used a similar logistic regression strategy for testing main effects of participant group on treatment endorsement in reference to how they would hypothetically respond if they were experiencing those same symptoms.

For the ordinal outcome variables (prognostic optimism, symptom appraisals, and stigma expectations), we used Univariate and Multivariate Analysis of Covariance (ANCOVA and MANCOVA). Although ANCOVA is designed for continuous dependent variables, the results of ANCOVA versus ordinal probit regression were substantively the same for all models. Additionally, using ANCOVA tested the significance of all between-group comparisons, whereas regression compares three groups to a single reference group. In discussing the results of these tests, we report the significance of the "main effects," which refers to the overall effect of an independent variable (e.g., the effect of participant group) on an outcome, and the significance of the "simple effects," which refers to the effect of an independent variable on the outcome at each level of another independent variable (e.g., the effect of participant group when the VC is a White female). Whenever possible, we used MANCOVA to preserve power, lower the Type 1 error rate, and account for the moderate correlations among dependent variables. All

ANCOVA and MANCOVA models included Bonferroni adjustments among the pairwise comparisons to further avoid making a Type 1 error.

We originally planned to predict prognostic optimism separately for the subset of the sample that recommended the VC should seek treatment and the subset that indicated the VC should give it time. However, only 111 of 880 participants chose ‘give it time,’ which were too few participants to test in a single analysis. Therefore, we predicted prognostic optimism for the VC with the entire sample and treated their selected option as a covariate. However, we used subsets in testing prognostic optimism following the self-referential vignette because participants were more equivalently split between seeking mental health care (n=461) and giving it time (n=419) when considering themselves. The assumptions of multivariate normality and equality of variances were met for all prognostic optimism models.

The four dependent variables measuring VC symptom appraisals and expected stigma towards the VC were analyzed simultaneously using MANCOVA. Most of the equality of variances assumptions were violated (per Levene’s Tests), as well as the equality of covariances assumption (per Box’s M Test) so we report the robust Pillai’s Trace statistic and p-value for the overall MANCOVA. The residuals across most of the models were normally distributed and group cell sizes were equal, which relaxed the assumptions of MANCOVA (Rusticus & Lovato, 2014). Finally, the four dependent variables measuring hypothetical symptom appraisals and expectations of stigma if they were experiencing the same symptoms as the VC were analyzed simultaneously using MANCOVA. It presented parallel issues with inequality of variances and covariances, but met the assumption of multivariate normality.

Results

Descriptive Statistics

Table 4.1 presents the descriptive statistics for the overall sample, as well as statistics split by gender (Men versus Women) and by race (Black versus White). On average, participants were about 39 years old, leaned slightly liberal in political orientation, and had good mental health. Thirty-nine percent of the sample had been diagnosed with a psychiatric disorder at some point during their lifetime. Additionally, 4% identified as transgender and, by design, 50% had college degrees. Men reported slightly better mental health than women, and fewer men than women had ever been diagnosed with a psychiatric disorder. Black participants were a few years younger and more liberal than Whites, and were less likely to have been diagnosed with a psychiatric disorder than Whites.

Eighty-seven percent of participants said the VC should schedule an appointment with a mental health professional rather than give it time to see if the VC's symptoms resolve on their own. More women than men recommended this, but there were no significant differences by race. Moreover, Black participants and women were significantly more optimistic that the VC's symptoms would resolve. Women were more likely than men to identify the VC's symptoms as mental illness, and Black participants were more likely than Whites to think the VC's symptoms were part of the normal ups and down of life. Finally, men were more likely than women to expect that the VC would be stigmatized for their symptoms if others knew, but these variables did not differ by race.

When participants were asked to reconsider their answers if they themselves were experiencing the same depression symptoms, responses did not differ greatly between Black and White participants or men and women. Once again, women were more likely than men to say that they would identify the symptoms as mental illness, but none of the other variables significantly differed by gender. Black participants were significantly more likely than Whites to say that they would seek professional help for their symptoms and were more optimistic than Whites that their symptoms would resolve. There were no significant racial differences in symptom appraisal or expectations of stigma.

Table 4.1
Descriptive Statistics Overall, by Race, and by Gender

		Overall N=880	Men n=440	Women n=440		Black n=440	White n=440	
	Min- Max	M/Prop.	M/Prop.	M/Prop.	<i>t</i>	M/Prop.	M/Prop.	<i>t</i>
<i>Covariates</i>								
Age	18-90	39.34	39.30	39.38	0.09	37.75	40.93	3.65*
College degree	0/1	0.50	0.50	0.50	0.00	0.50	0.50	0.00
Transgender	0/1	0.04	0.03	0.04	0.89	0.03	0.05	1.24
Political Conservatism	0-6	2.14	2.18	2.11	-0.63	1.95	2.34	3.49*
Self-rated Mental Health	0-4	1.95	2.09	1.82	-3.56*	2.06	1.85	-2.79
History of Psychiatric Disorder	0/1	0.39	0.28	0.49	6.37*	0.32	0.45	4.19*
<i>Experimental Vignette Outcomes</i>								
VC should seek treatment	0/1	0.87	0.83	0.91	3.58*	0.87	0.88	0.10
Prognostic optimism	0-5	3.45	3.33	3.58	4.19*	3.58	3.33	-4.18*
Symptoms are mental illness	0-5	3.25	3.08	3.41	4.38*	3.18	3.32	1.82
Symptoms are normal	0-5	2.60	2.69	2.50	-2.40	2.75	2.44	-3.94*
People will look down on VC	0-5	1.80	1.97	1.63	-4.16*	1.91	1.69	-2.69
People will think the VC is weak	0-5	1.09	1.29	0.90	-5.25*	1.17	1.02	-1.95
<i>Self-Reflective Vignette Outcomes</i>								
I would seek treatment	0/1	0.52	0.50	0.55	1.55	0.58	0.47	-3.05*
Prognostic optimism	0-5	3.30	3.26	3.33	0.87	3.53	3.07	-5.59*
Symptoms are mental illness	0-5	2.96	2.80	3.13	3.35*	2.90	3.02	1.26
Symptoms are normal	0-5	2.79	2.84	2.75	-0.99	2.90	2.69	-2.23
People will look down on me	0-5	1.85	1.96	1.74	-2.37	1.93	1.77	-1.74
People will think I am weak	0-5	1.93	2.03	1.83	-2.13	1.94	1.92	-0.23

*Significant at the Bonferroni adjusted alpha level of 0.003

Experimental Vignette Outcomes: Effects of Participant and Vignette Character Race and Gender

Table 4.2 presents results of the logistic regression which models the effects of participant group (White women, White men, Black men, and Black women) and VC condition (White female VC, White male VC, Black male VC, and Black Female VC) on whether one recommends that the VC should see a mental health professional. Black men were significantly less likely than White women to say the VC should see a mental health professional. There were no effects of VC condition or interactions.

Table 4.2
Logistic Regression Results (N=880)

Predictors	VC should seek treatment (1) versus wait it out (0)		
	<i>B</i>	<i>SE</i>	<i>OR</i>
<i>Participant Group (White women=0)</i>			
White Men	-0.50	0.31	0.61
Black Men	-0.79*	0.31	0.45
Black Women	0.14	0.36	1.15
<i>VC condition (White female=0)</i>			
White male VC	0.03	0.28	1.03
Black male VC	0.36	0.30	1.44
Black female VC	0.13	0.29	1.14
<i>Covariates</i>			
Age	0.00	0.01	1.00
College degree	-0.13	0.22	0.88
Transgender	1.05	1.04	2.86
Political Conservatism	-0.27***	0.06	0.77
Self-rated Mental Health	-0.12	0.11	0.89
Hx of Psychiatric Disorder	0.10	0.26	1.11
Intercept	3.20***	0.55	24.63
Nagelkerke R-squared		0.09	

A 4x4 Factorial ANCOVA tested whether there were main and interactive effects of participant group and VC condition on one's prognostic optimism for the VC. There was a significant main effect of participant group $F=10.71, p<.001, \eta_p^2=0.04$ and the pairwise comparisons of the estimated marginal means revealed Black women were significantly more optimistic that the VC's symptoms would resolve compared to all other groups (Figure 4.1).

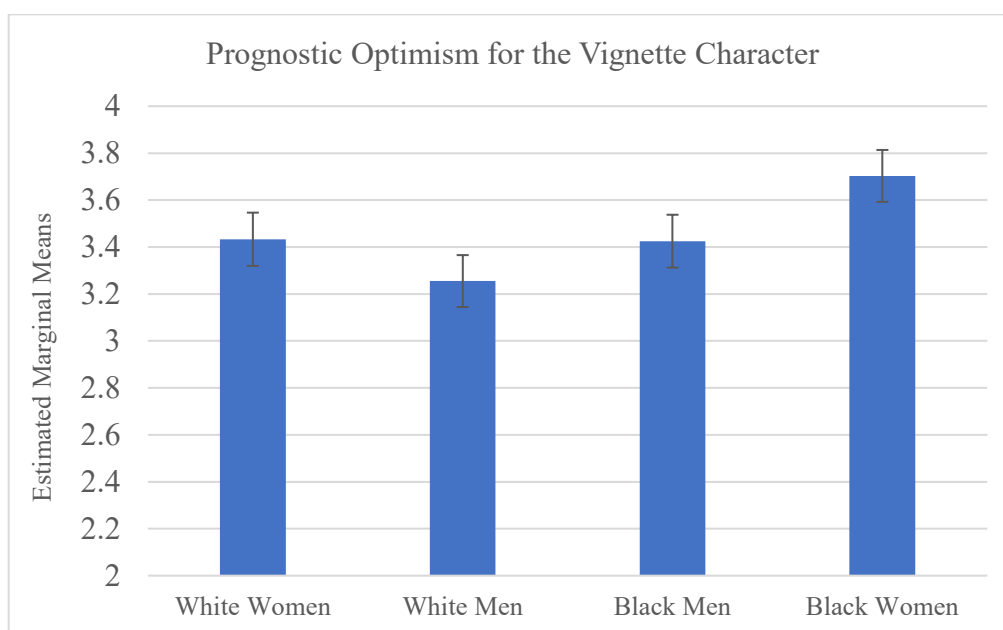


Figure 4.1. Comparison of prognostic optimism for the vignette character among participant groups. Error bars: 95% Confidence Intervals. Adjusted for age, college degree, transgender, political conservatism, self-rated mental health, history of psychiatric disorder, and whether the participant said the VC should seek treatment or give it time.

The main effect of VC condition and the interaction between participant group and VC condition were non-significant. However, there were a few significant simple effects which are depicted with superscripts on the estimated marginal means in Table 4.3. Within the White female vignette condition, Black men were more optimistic than

White men, and Black women were more optimistic than all White participants. When the VC was a Black woman, though, Black women were more optimistic than all men. Looking at just Black men, we see they were significantly more optimistic when the VC was a White woman than when the VC was a Black man or woman

Table 4.3

Estimated Marginal Means Between Participant Groups Within Each VC condition

Experimental Vignette Outcomes	VC Condition	White Women	White Men	Black Men	Black women
		<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>
Prognostic Optimism	White female VC	3.39	3.22	3.73 ^{be}	3.85 ^{ab}
	White male VC	3.37	3.22	3.40	3.58
	Black male VC	3.42	3.33	3.26	3.62
	Black female VC	3.56	3.25	3.31	3.76 ^{bc}
Symptoms are mental illness	White female VC	3.32	3.19	3.22	3.45
	White male VC	3.32	3.32	3.02	3.14
	Black male VC	3.60 ^c	3.25	3.04	3.29
	Black female VC	3.40	3.11	2.89	3.40
Symptoms are normal	White female VC	2.59	2.37	3.15 ^b	2.72
	White male VC	2.55	2.40	3.08 ^b	2.70
	Black male VC	2.33	2.57	2.69	2.56
	Black female VC	2.28	2.39	2.60	2.55
People will look down on the VC	White female VC	1.55	1.77	1.92	1.82
	White male VC	1.56	1.74	1.90	1.60
	Black male VC	1.40	1.80	2.29 ^a	1.74
	Black female VC	1.53	2.12	2.38 ^{ad}	1.75
People will think the VC is weak	White female VC	1.10	1.11	1.47	0.93
	White male VC	0.79	1.20	1.37 ^a	1.06

Black male VC	0.64	1.11	1.38 ^a	0.95
Black female VC	0.86	1.12	1.60 ^{ad}	0.77

- a. significantly greater than White women
- b. significantly greater than White men
- c. significantly greater than Black men
- d. significantly greater than Black women
- e. significantly greater when VC is a Black male or female

A 4x4 Factorial MANCOVA tested whether there were main and interactive effects of participant group and VC condition on the four items that measured VC symptom appraisal and stigma expectations towards the VC. There was a multivariate main effect of participant group, *Pillai's Trace*=0.07, $F=5.31$, $p<.001$, $\eta_p^2=0.04$, and it was a significant predictor for each dependent variable in the MANCOVA.

Specifically, Black men were significantly less likely than Black or White women to believe the VC was experiencing a mental illness (Figure 4.2a). Additionally, Black men were more likely than White men or women to believe the VC was experiencing the normal ups and downs of life (Figure 4.2b). Regarding the expectation that people would look down on the VC for their symptoms, Black women were less likely than Black men to agree and White women were less likely to agree compared to both groups of men (Figure 4.2c). Similarly, White women were less likely than men to agree that the VC should hide their feelings in fear of being viewed as weak (Figure 4.2d). Contrastingly, Black men were more likely than all other groups to agree that the VC should hide their feelings for that reason (Figure 4.2d).

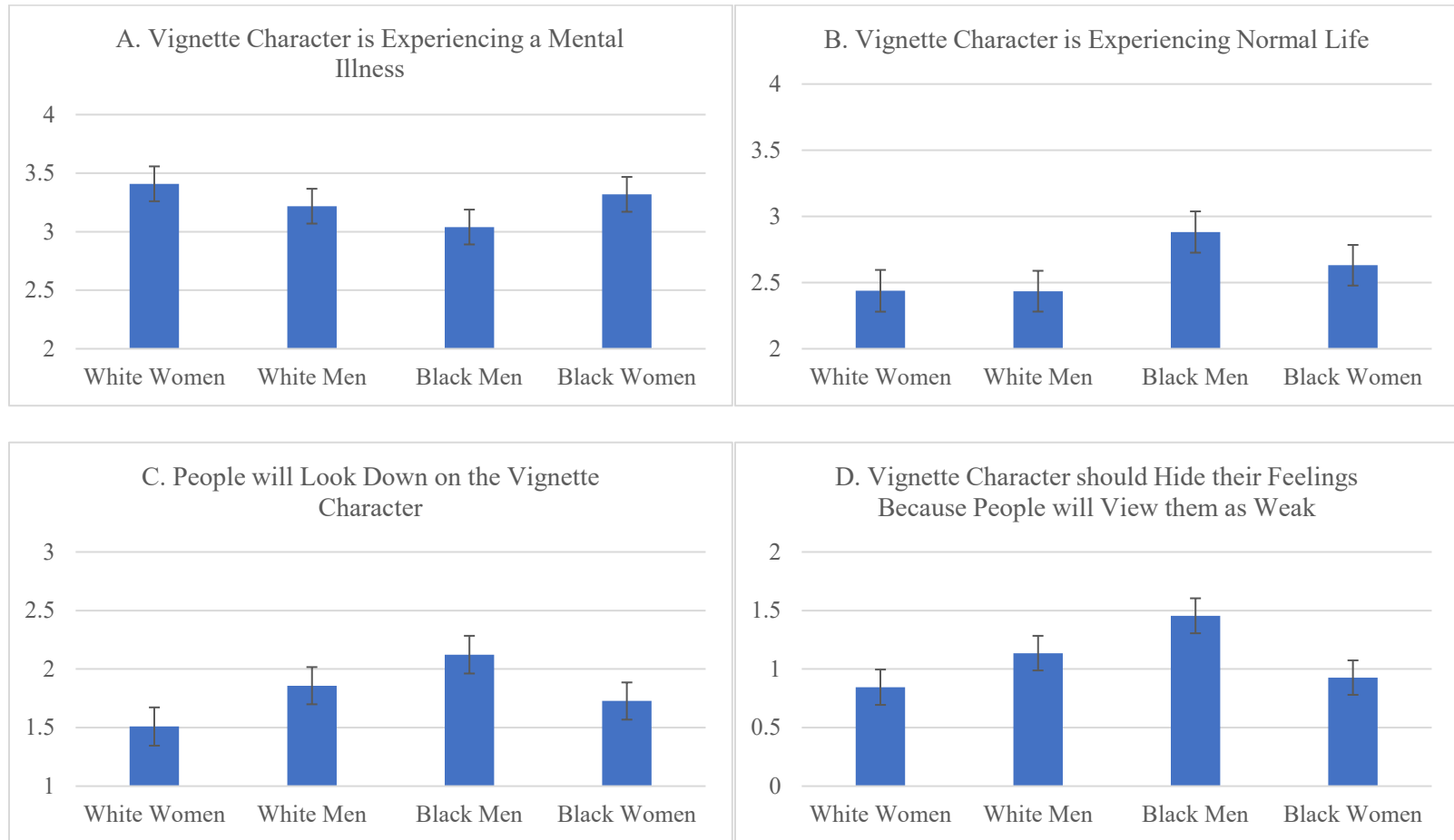


Figure 4.2. Comparison of participant groups' marginal means for responses to the vignettes. Error bars: 95% Confidence Intervals. Adjusted for age, college degree, transgender, political conservatism, self-rated mental health, and history of psychiatric disorder.

There was no multivariate main effect of experimental condition, and no significant interaction overall, but there were significant simple effects among each dependent variable as seen in Table 4.3. First, White women were more likely than Black men to believe that Black male VCs were experiencing a mental illness. Second, Black men were more likely than White men to believe White VCs in general were experiencing normal ups and downs of life. Third, Black men were more likely than White women to believe that Black male VCs would be looked down on for their symptoms, and more likely than women in general to believe Black female VCs will be looked down on. Finally, Black men were more likely than White women to think male VCs should hide how they feel to avoid being labelled weak, and more likely than women in general to feel this way when the VC is a Black female.

Self-Reflective Vignette Outcomes: Effects of Participant Race and Gender

According to a logistic regression, there was no significant effects of participant group on whether one would see a mental health professional if they were experiencing the same symptoms as the VC. Because the sample was nearly evenly split on these two options, we analyzed their prognostic optimism with separate ANCOVAs. The first ANCOVA tested the effect of participant group on the likelihood that their symptoms would improve by seeing a mental health professional and found a significant main effect $F=8.41, p<.001, \eta_p^2=0.05$. The pairwise comparisons revealed Black men were significantly more optimistic than White men that their symptoms would resolve with treatment, and Black women were more optimistic than both White groups (Figure 4.3).

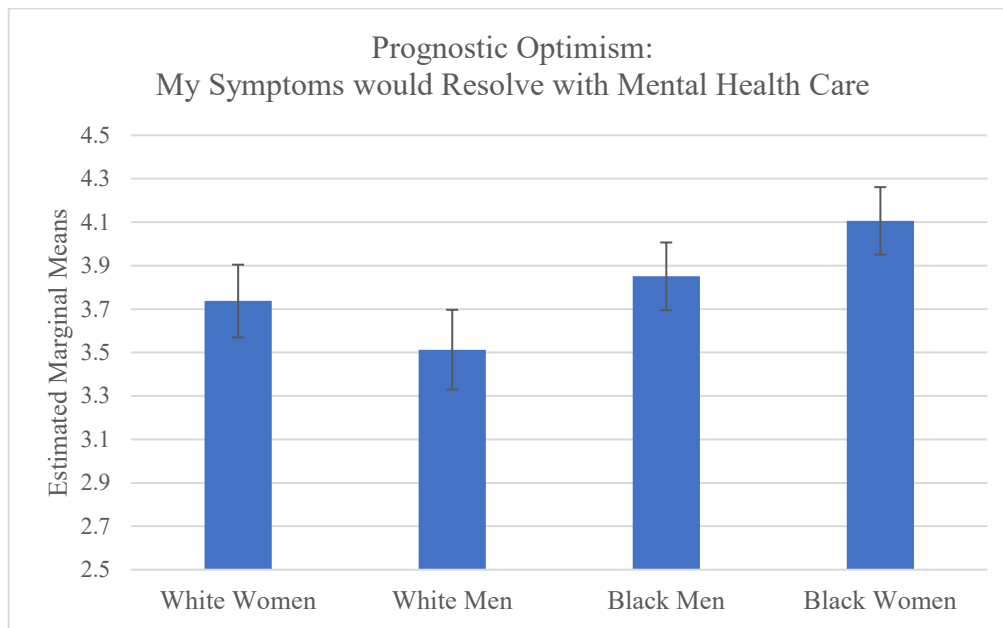


Figure 4.3. Comparison of participant groups' prognostic optimism among those that said they would see a mental health professional (n=461). Error bars: 95% Confidence Intervals. Adjusted for age, college degree, transgender, political conservatism, self-rated mental health, history of psychiatric disorder.

The second ANCOVA tested the effect of participant group on the likelihood that their symptoms would resolve on their own and found a significant main effect $F=5.24$, $p=.001$, $\eta_p^2=0.04$. The pairwise comparisons revealed Black men were significantly more optimistic that their symptoms would resolve on their own than both White men and women (Figure 4.4).

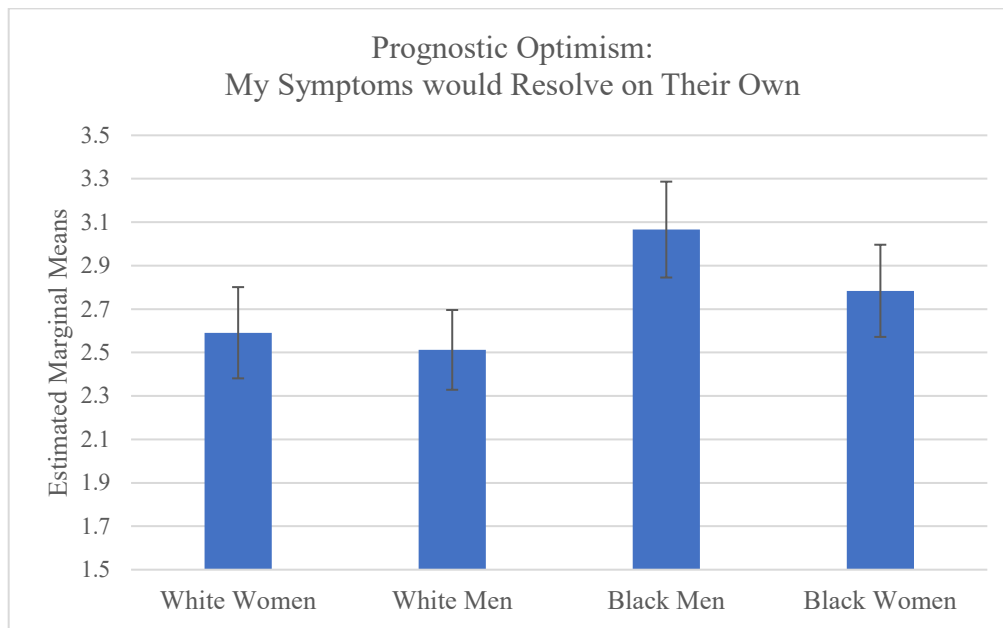


Figure 4.4. Comparison of participant groups' prognostic optimism among those that said they would give it some time and see if symptoms resolve on their own (n=419). Error bars: 95% Confidence Intervals. Adjusted for age, college degree, transgender, political conservatism, self-rated mental health, history of psychiatric disorder.

A MANCOVA tested whether there were main effects of participant group on the four items measuring symptom appraisals and expected stigma towards oneself in the case that the participant was experiencing depression. There was a significant multivariate effect of participant group, *Pillai's Trace*=0.03, $F=2.17$, $p=0.01$, $\eta_p^2=0.01$, but upon closer inspection participant group had a significant main effect on only one dependent variable in the MANCOVA: belief that people would look down on them if they had the same symptoms as the VC (Figure 4.5). Specifically, Black men were significantly more likely to expect this type of stigmatization than White women.

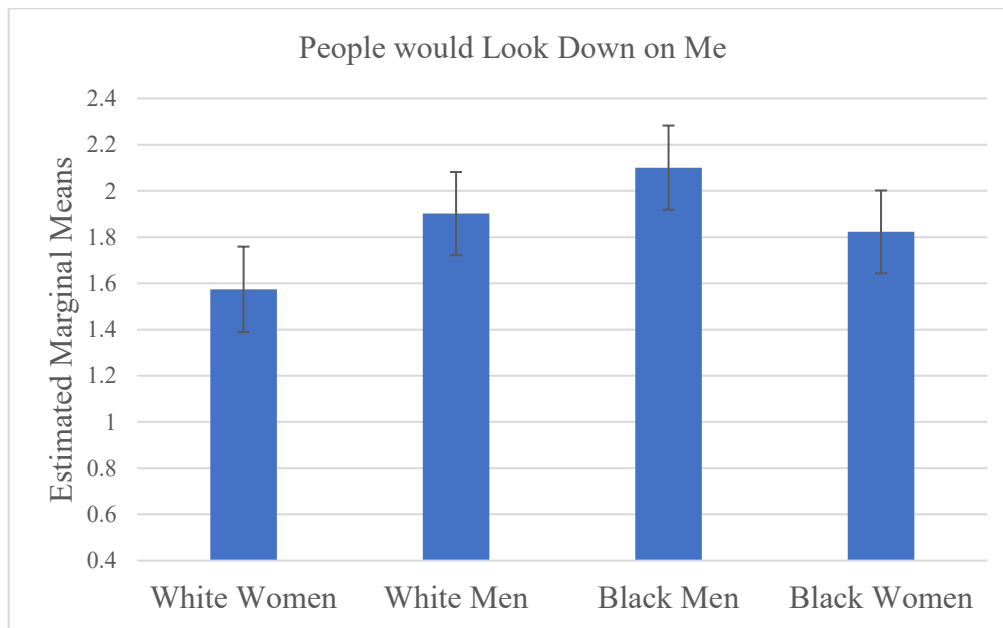


Figure 4.5. Comparison of participant groups on believing that people would look down on them if they were experiencing the same symptoms as the VC. Error bars: 95% Confidence Intervals. Adjusted for age, college degree, transgender, political conservatism, self-rated mental health, history of psychiatric disorder.

Discussion

In this experimental study, we manipulated the race and gender of a VC and randomly assigned participants to each vignette according to their race and gender to analyze effects on treatment endorsement, prognostic optimism, symptom appraisals, and stigma expectations. This approach resulted in numerous means of exploring the impacts of race and gender on people's responses to others' mental health problems and their own hypothetical mental health problems. We first discuss the patterns of race and gender separately. Then, guided by our intersectional framework, we discuss the patterns that emerged amongst the four distinct groups under investigation (White women, White men, Black men, and Black women). In studying the converging impacts of race and gender, we learn more than we could have if studying race or gender alone.

Responses to the experimental vignette were mostly patterned by gender in the expected ways. Consistent with men's greater stigma towards mental illness and mental health care (Corrigan & Watson, 2007; Villatoro et al., 2018), men were less likely to recommend that the VC seek mental health care for their problems, less optimistic that the VC's problems would resolve, less likely to believe the VC's problems were indications of mental illness, and more likely to believe the VC would be stigmatized by others. Not all these gender effects stayed consistent among the responses to the self-reflective vignette, though. For example, the men in our study were just as likely as women to say they personally would seek treatment if they were experiencing the symptoms in the vignette (50 vs. 55%, respectively). This is not to say the men in our sample were remarkably willing to see a mental health professional, but rather the women were more apprehensive than expected.

Also, there were not significant gender differences in stigma expectations in response to the self-reflective vignette, but this is owing to our use of a Bonferroni corrected alpha level. Men were indeed more likely than women to think others would look down on them and perceive them as weak, but this was not significant at the .003 level. A consistent finding over both vignettes was that men were less likely to label symptoms as mental illness, but not necessarily more likely to write them off as normal. This appears to be label avoidance driven by mental illness stigma (Corrigan, 2004). Men know that these symptoms of depression are not normal, but because of their greater stigma towards mental illness they do not label it as such.

Amongst the racial comparisons, we found Black participants were more likely than Whites to think that the VC's symptoms were part of the normal ups and downs of

life. This provides race-comparative, quantitative evidence of the normalization of depression symptoms to help substantiate the findings from qualitative and within-race studies (Gaston et al., 2016; Misra et al., 2021). There was a similar race difference in response to the self-reflective vignette, Black participants were more likely than Whites to view their own symptoms as normal, but this was not significant at our adjusted alpha level. Also, similar to the finding of Anglin and colleagues (2008) in which Black participants had greater prognostic optimism for VC's receiving mental health treatment, we found that Black participants were more optimistic than Whites in response to both the experimental and self-reflective vignettes.

Past these findings, patterns in the outcomes by race were not what we expected. Most notably, significantly more Black participants than White participants indicated that they would see a mental health professional if they were experiencing the same symptoms of the vignette. This goes against the predictions derived from research demonstrating that Black Americans perceive less need for mental health care than Whites (Villatoro et al., 2018), have more negative attitudes towards mental health care than Whites (Conner et al., 2010), and generally use mental health care less often than Whites (Harris et al., 2005; Swartz et al., 1998). Furthermore, neither vignette yielded significant race differences in stigma expectations, even though past studies find greater public and internalized stigma among Black Americans when compared to Whites (Anglin et al., 2006; Conner et al., 2009; Conner et al., 2010; Eylem et al., 2020; Rao et al., 2007) and high expectations of stigma for Black people with mental illness (Campbell & Mowbray, 2018; Misra et al., 2021). However, like the null effects of gender on stigma expectations, this is partially owing to our Bonferroni adjusted alpha level. The findings

from the converged race and gender groups that are discussed below further help us understand these seemingly counterintuitive racial patterns.

By testing the effects of distinct race and gender groups (White women, White men, Black men, and Black women), we were able to see intersectionality at play. Intersectionality is concerned with the interplay between different social statuses and their inherent privileges. The layers to one's identity collectively shape their experiences in a way that is different from others who might share in one identity, but not another (Crenshaw, 1989). For example, although Black men and women share the same underprivileged racial status, they have different levels of privilege based on their gender. In general, White men hold the most advantaged societal position because of their compounding race and gender privileges, but in the realm of mental health and treatment, White women arguably hold a more privileged position than White men because of the lower stigma experienced by women relative to men. Our findings affirm this privilege of White women and contrasts it against the disadvantage of Black men in particular, the group which perhaps faces the most mental illness stigma because of it being reinforced by their race and their gender.

Black men were a focus of most of the significant differences found in this study, and many of these occurred when Black Men were compared to White women, specifically. They were less likely to say the VC should seek treatment, less likely to think the VC was experiencing a mental illness, more likely to think the VC's symptoms were normal, and more likely to think the VC would be stigmatized for their symptoms. They were also the main group that was swayed by the VC's race and gender. When the VC was Black and/or male, Black men expected even more stigma, were less optimistic

about recovery, and were less likely to recognize mental illness compared to some of the other participant groups. The self-reflective vignette yielded fewer results than the experimental vignette did, but it was Black men who were significantly more confident in their ability to come out of depression on their own with time and significantly more likely to expect people would look down on them for experiencing symptoms of depression.

Many of these findings are consistent with research specifically focused on Black men. For example, Ward et al. (2013) found that Black men were less open than Black women to acknowledge mental health problems and were less likely to seek professional help for mental health problems. These tendencies were likely owing to their greater expected stigma like Thompson et al. (2004) found. Just like the Black men in our study said others would view them (or the VC) as weak for experiencing these symptoms of depression, focus groups of Black men in Thompson's study said mental illness and receiving mental health treatment were associated with weakness. Additionally, Black men's lower likelihood of recognizing depression symptoms as mental illness could reflect stigma and label avoidance, but also their tendency to identify mental health problems with externalizing symptoms (e.g., anger, substance-use; Watkins et al., 2010). Overall, our study demonstrates the pressing need for mental health outreach among Black men to reduce stigma and increase mental health literacy.

We expected Black women's outcomes would fall between those of White women and Black men because of the countervailing effects between greater mental illness stigma within Black communities but lower stigma among women generally. However, that was not always the case. For example, Black women- *not* White women-

were the most optimistic out of all groups that the VC would recover from depression and the most optimistic that they, themselves, would recover from depression with professional help. These positive perceptions of professional help were surprising in light of past research that finds Black women perceive less need and willingness to engage in professional services compared to averages among women in general (Watson & Hunter, 2015) and receive less mental health care than White women (Padgett et al., 1994; Rosen et al., 2007).

Otherwise, Black women's average responses to the experimental vignette were mostly aligned with White women's averages and differed from Black men's averages in notable ways. For example, Black women were significantly less likely than Black men to think Black female VCs would be stigmatized for their symptoms. This was also surprising considering the pervasive ideals among Black women to suppress weakness and vulnerability, which they associate with depression and seeking mental health care (Woods-Giscombe et al., 2016). Both the Strong Black Woman (SBW) schema and Superwoman schema endorse that Black women should project strength and expressing symptoms of depression to others would negate that image of strength (Abrams et al., 2019; Woods-Giscombe et al., 2016). Therefore, one might expect Black women to respond differently to a Black female VC than other VCs, e.g., think they should hide their symptoms in fear of being viewed as weak more than other VCs should. It is possible that our sample of Black women did not highly endorse SBW or Superwoman characteristics, thus they expected less stigma and had more positive views of mental health care than Black women who do internalize those characteristics.

It is also possible that our findings reflect real progress being made by mental health care outreach to Black women. Perhaps Black women are more willing to use professional mental health services, more confident in its ability to help, and are less fearful of being judged than they have been in the past. It is unclear whether these impressions are accurate or overly optimistic because research on these trends is lacking. Cook and colleagues' (2017) analysis of the nationally representative Medical Expenditure Panel Survey found mental health care use slightly increased among Black Americans from 2004 to 2012. Also, analysis of the National Stigma Studies revealed depression stigma has declined overall from 2006-2018, and this change is mostly consistent between White and Non-White Americans (Pescosolido et al., 2021). However, our findings suggest a need to investigate within-race trends in attitudes towards mental illness and help-seeking because there may have been more progress for Black women than Black men.

Limitations and Directions for Future Research

This study's ability to generalize findings to Black and White populations is limited by its use of a non-representative online quota sample. A replication of this study with a nationally representative probability sample is forthcoming and will greatly benefit this line of research. We will integrate the findings between studies to come to more solid conclusions on Black and White men's and women's beliefs about depression symptoms and their treatment. The replication will also enable comparisons between types of samples, which will prove beneficial to future researchers who are interested in using recruitment platforms like Prolific, but are unsure about the potential external validity of their results.

Additionally, this study's ability to detect small effects was limited by its sample size. According to an a-priori power analysis, our sample size could only detect effects of size 0.16 or greater, and a small effect for Cohen's F statistic used in ANCOVA is around 0.10. Therefore, the lack of effects from our vignette manipulation could be attributed to methodological decisions such as the sample size and the use of Bonferroni adjusted alpha levels. The null effects of the experimental condition, though, could also be owing to demand characteristics. Online quota samples such as ours are comprised of people who take a lot of surveys; some consider online survey-taking their full-time or part-time job. Therefore, our sample might be more accustomed to experimental vignettes than the general population is and possibly made more of an effort to not be influenced by the vignette character's race or gender than would a probability sample. This study's replication with a probability sample of Black and White Americans will help determine if the manipulation of VC race and gender is effective in influencing peoples' responses to the depression vignette.

Another methodological decision that might have influenced the findings relates to the wording of a questionnaire item. After both vignettes, participants were asked for the extent that they agreed or disagreed that the VC (or themselves) should keep their feelings hidden because people will view them as weak. This is a double-barreled question that researchers are warned not to include in questionnaires (Dillman et al., 2014). The item seemingly presents two questions in one, which confuses participants making them unsure of how to respond. For example, some respondents might think the VC should hide their feelings, but not because others will view the VC as weak. Other respondents might think the VC will be viewed as weak, but that shouldn't deter the VC

from hiding their feelings. How do these people choose to agree or disagree when they might agree with the one statement, but disagree with the other? Not only do double-barreled questions make it difficult for respondents to select an answer, but it makes it difficult to interpret the results because the item reflects both expected stigma and a hypothetical behavior. Future research, like our replication study, should learn from this mistake and avoid double-barreled questions.

Conclusion

Understanding the complexities of stigma towards mental illness and treatment among diverse race and gender groups can help identify why some people may not accurately report their symptoms to researchers or clinicians. Underreporting could be intentional to avoid stigmatization or unintentional owing to a misunderstanding of what mental illness constitutes. This study employed an intersectional framework to illustrate how one's race and gender together influence how they react to symptoms of depression. Consistent with past research, we found men relative to women exhibited greater stigma in their responses to the vignettes, and Black people relative to Whites exhibited a tendency to normalize symptoms of depression. Surprisingly, though, more Black people than White people said they would seek professional help if they were experiencing symptoms of depression.

However, we found that relying on between-race comparisons or between-gender comparisons fails to fully uncover patterns amongst Black and White men and women. Our intersectional approach highlighted the distinct patterns among each subgroup. For example, Black men appeared the most vulnerable to stigmatized beliefs, and these were at times heightened when the VC was Black and/or male, but Black women's reactions

portrayed knowledge about mental health issues and openness to treatment consistent with (and at times exceeding) White women's responses. Future research should initially replicate this experiment to substantiate or clarify the patterns observed in this study. Documenting the race and gender differences that are present in peoples' beliefs and motivations regarding mental health is an important first step to identifying potential reporting biases. Research can then explore whether these differences in mental illness stigma and its consequences partially account for the Black-White mental health paradox.

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Appendix

Survey Instrument

Experimental Vignette	<p>[Name (Daniel/Devon/Danielle/Destiny)] is a [White/Black] [man/woman] living in the United States. For the last two weeks [Name] has been feeling really down. He/She wakes up in the morning with a flat, heavy feeling that sticks with him/her all day long. He/She isn't enjoying things the way he/she normally would. In fact nothing seems to give him/her pleasure. Even when good things happen, they don't seem to make [Name] happy. He/She pushes on through his/her days, but it is really hard. The smallest tasks are difficult to accomplish. He/She finds it hard to concentrate on anything. He/She feels out of energy and out of steam. [Name] feels pretty worthless, and very discouraged.</p> <p>[Insert picture of Vignette Character that accompanies the vignette. Pictures follow this table]</p>
Treatment endorsement	<p>[Name] is considering what to do about their situation. In your opinion, which of the two options should he/she do?</p> <ol style="list-style-type: none"> a. Give it some time and hope his/her situation improves on its own b. Schedule an appointment with a mental health professional
Prognostic optimism	<p><i>If 1A is selected:</i> How likely or unlikely do you think it is that [Name]'s problems will resolve on their own?</p> <p><i>If 1B is selected:</i> How likely or unlikely do you think it is that seeing a mental health professional will help resolve [Name]'s problems?</p> <ol style="list-style-type: none"> a. Very unlikely b. Unlikely c. Somewhat unlikely d. Somewhat likely e. Likely f. Very Likely

<p>Symptom appraisals and Expected stigma</p>	<p>How much do you agree or disagree with the following statements?</p> <p>[Name] is experiencing a mental illness.</p> <p>[Name] is experiencing the normal ups and downs of life.</p> <p>People will look down on [Name] if he/she shares that he/she is struggling in this way.</p> <p>[Name] should keep his/her feelings to himself/herself because people will view him/her as weak.</p> <p><i>Response Scale for all Statements:</i></p> <ol style="list-style-type: none"> a. Strongly disagree b. Disagree c. Somewhat disagree d. Somewhat agree e. Agree f. Strongly agree
<p>Self-reflective vignette</p>	<p>Take a moment to imagine you were experiencing these problems that [Name] is...</p> <p>You have been feeling really down. You have been waking up in the morning with a flat, heavy feeling that sticks with you all day long. You aren't enjoying things the way you normally would. In fact nothing seems to give you pleasure. Even when good things happen, they don't make you happy. You push through your days, but it is really hard. The smallest tasks are difficult to accomplish. You find it hard to concentrate on anything. You feel out of energy and out of steam. You feel pretty worthless and discouraged.</p>
<p>Treatment endorsement</p>	<p>If this were how you were feeling, given these two options, which one do you honestly think you would choose?</p> <ol style="list-style-type: none"> a. Give it some time and hope my situation improves on its own. b. Schedule an appointment with a mental health professional.

Prognostic optimism	<p><i>If A is selected:</i> How likely or unlikely is it that your problems would resolve on their own?</p> <p><i>If B is selected:</i> How likely or unlikely is it that seeing a mental health professional would help resolve your problems?</p> <ul style="list-style-type: none"> a. Very unlikely b. Unlikely c. Somewhat unlikely d. Somewhat likely e. Likely f. Very Likely
Symptom appraisals and Expected stigma	<p>How much do you agree or disagree with the following statements? If I were feeling this way...</p> <p>I would assume I am experiencing a mental illness.</p> <p>I would assume I am experiencing the normal ups and downs of life.</p> <p>People would look down on me if they knew.</p> <p>I would keep my feelings to myself because people would view me as weak.</p> <p><i>Response Scale for all Statements:</i></p> <ul style="list-style-type: none"> g. Strongly disagree h. Disagree i. Somewhat disagree j. Somewhat agree k. Agree l. Strongly agree

Daniel:



Devon:



Danielle:



Destiny:



Chapter 5: Discussion and Conclusion

The Black-White mental health paradox remains a contemporary topic of inquiry among social scientists. Discovering the underlying mechanisms of the paradox is essential to understanding racial disparities in mental health. Aside from their greater self-esteem, why else do Black Americans exhibit such mental and emotional resilience compared to racially privileged Whites? This dissertation sought to answer that question and employed a sequential mixed methods design to test explanations derived from preexisting theory, and to uncover novel explanations. The first article (Chapter 2) did this by testing whether the Black-White mental health paradox was owing to measurement bias, differences in racial identity, or differences in religiosity. The second article (Chapter 3) used an inductive approach and interviewed Black and White people on their opinions regarding mental health among their racial groups. Inspired by these first two studies, the third article (Chapter 4) explored differences in stigmatized beliefs that might lead to reporting biases between Black and White survey respondents. Throughout all three studies, I additionally analyzed the impact of gender in race differences. The overarching intersectional framework highlighted complexities in stress, coping, and mental health among Black men, Black women, White men and White women. Although I found several similarities, the diversity in privileges between these four groups yields distinct patterns in the stress process.

Summary of Findings Within Articles

The purpose behind Article 1 was to test explanations for the paradox that required deeper attention. The first explanation was the measurement bias hypothesis, i.e., the theory that the paradox is partially an artifact of the dominance of mood and

anxiety disorders in studies on mental health because those disorders are biased towards the mental health of Whites. Past studies have compared categorical measures of disorder to continuous measures of distress (Barnes & Bates, 2017; Louie et al., 2022), psychological symptoms to somatic symptoms (LaMotte et al., 2023) and various types of psychological disorders to each other (Breslau et al., 2006, Erving et al., 2019). However, inconsistencies in the treatment of socioeconomic adjustments and the impact of gender limited the conclusions to be made on whether the paradox is owing to measuring biased indicators of mental health. We found the highest rates of mood and anxiety disorders among White women, the highest rates of SUDs among Black men, and the highest averages of poor mental health symptoms among Black women. Without adjusting for SES, Black Americans had higher rates of SUDs and more symptoms of poor mental health than Whites, but these were fully accounted by their lower SES. Therefore, evidence of a measurement bias impacting the paradox depends on whether researchers include SES differences in their conceptualization of race.

Second, this study tested whether the paradox was owing to Black Americans' greater racial identity compared to Whites. Although racial identity is believed to be a psychosocial coping resource for Black people (Branscombe et al., 1999), evidence that it accounts for race differences in mental health is mixed (Hughes et al., 2022; LaMotte et al., 2023). By way of advanced SEM techniques, we found that Black Americans' greater racial identity was associated with fewer poor mental health symptoms, and lowered rates of all types of mental disorders for Black women, specifically. However, its protective effects did little to counterbalance the large harmful effect of stressors on the mental health of Black Americans. Therefore, racial identity did not appear to be an impactful

psychosocial resource for Black mental health, and especially not for Black men. The data available for racial identity in this secondary dataset was very limited in scope, though, so conclusions regarding racial identity's relationships to stressors and mental health should not be drawn from this study alone. I elaborate on this topic in my discussion of overall limitations of the dissertation and propose future research directions.

Lastly, considering the benefits of religiosity to Black Americans' mental health (Nguyen, 2020) and mixed results as to whether it accounts for the paradox (Louie et al., 2022; Mouzon 2017), we explored the separate effects of religious service attendance and importance of religion. Separating these two dimensions of religiosity rather than averaging them as we did in previous work (LaMotte et al., 2023) revealed opposing effects on mental health, and adding gender into this analysis clarified these effects even further. Black Americans' greater religious service attendance had protective effects relative to Whites. For Black women, attending religious services was associated with lower odds of all types of mental disorders and fewer symptoms of poor mental health relative to White women. Black men's greater service attendance relative to White men was also associated with decreased odds of anxiety disorders, SUDs and fewer symptoms of poor mental health. Similarly, Black Americans' greater importance of religion accounted for lowered odds of SUDs, especially for Black men, but all other effects found were harmful to mental health. For example, Black women's greater religious importance relative to White women increased their odds of mood and anxiety disorders.

Overall, this study found explanations for the Black-White mental health paradox that represent varying degrees of practical significance. Measurement bias, specifically the failure to consistently include SUDs and continuous measures of mental health, likely

accounts for some paradoxical findings in the existing research. However, controlling for SES most likely produces results in which Black Americans' mental health appears better than Whites regardless of the measure. We found racial identity (specifically centrality) and religiosity (mainly religious service attendance) also account for Black Americans' better mental health compared to Whites, but their benefits are small and inconsistent across genders. Black women reap most of these small benefits, leaving Black men more vulnerable to the pernicious effects of stressors. In light of these findings, I continued my dissertation eager to explore new research directions, which was the purpose of Article 2.

Article 2 was derived from an in-depth interview study with Black and White U.S. men and women. Part of its purpose was to inquire upon their perceptions of mental health within their communities: whether they think estimates of depression among their racial group seem accurate based on what they see in their day to day lives, and why or why not. Emergent themes from the interviews provide explanations as to why the Black-White mental health paradox might exist. The race and gender comparative design allowed for themes most prevalent among specific subgroups to emerge, as well. Therefore, the interviewees' explanations are contextualized to the racial and gender socialization processes that shaped their relationship to mental health and coping within their life.

One explanation derived from the interviews was that the mental health paradox is a methodological artifact owing to greater mental illness stigma among Black Americans compared to White Americans. Black and White interviewees alike thought surveys that find Black people have less depression and anxiety than Whites were inaccurate representations of mental health between these populations. They explained that Black

people are socialized to not report their symptoms on surveys because of the cultural stigma towards mental illness. Black participants, and some White participants that had lived in multicultural communities, detailed the many facets of this stigma and how it is perpetuated. For example, as many other qualitative studies have found (Alvidrez et al., 2008; Thompson et al., 2004; Woods-Giscombe et al., 2016), struggling with one's mental health is perceived as a personal weakness, as is getting professional help for one's mental health. This belief was thought to bias the way in which Black people report their mental health on surveys and to clinicians. Black women, in particular, spoke about how these stigmatized beliefs are perpetuated by messages from their religious figures and church members to "pray it away" and "take it to God". Black men spoke more about the influence of structural stigma in mental health care, ranging from lack of access to health care to distrust of doctors and researchers, which they believe deter Black people from being honest about their mental health.

Another explanation derived from the data that also suggests the paradox may be a methodological artifact is that Black Americans might express distress through externalizing symptoms more often than Whites. This is consistent with the measurement bias hypothesis discussed in Article 1. In probing participants for what coping mechanisms they see most often among community members of their race, more Black than White participants reported things like anger, substance use, and aggressive behavior. If Black people are externalizing their distress more often than Whites, then their rates of internalized disorders will inherently be lower than Whites on surveys, but that does not mean they experience better mental health. This could be connected to the

theme of mental illness stigma if externalizing distress is more socially acceptable among Black Americans than internalizing it, as the interview data suggested.

Lastly, an explanation that resonated with some Black and White participants, was the lay theory that Black Americans have better mental health than Whites because they are somewhat desensitized to stressors whereas White Americans are hypersensitive to stressors. Many White participants thought they were not as mentally prepared to encounter stressors as people from racial minority groups. Most Black participants thought they were indeed better prepared to encounter stressors than Whites, but most argued this did not necessarily protect them from mental health issues. They explained that Black people are taught to expect stressors like racial discrimination, but encountering them is still highly distressing. This sentiment is consistent with LaMotte et al. (2023), which found Black people were no less vulnerable to the negative mental health impacts of stressors than Whites. Therefore, from the perspectives of lay people, artifactual explanations hold the most promise for future studies of the Black-White mental health paradox. Because of their emphasis on mental illness stigma, it was clear that this needed to be explored further in the third and final dissertation study.

The purpose of Article 3 was to build a foundation for research on the reporting bias hypothesis for the Black-White mental health paradox. Rather than testing whether high levels of stigma accounted for racial differences in mental health, we found it necessary to first substantiate the effects of race and gender on beliefs and motivations that may contribute to underreported symptoms. All the outcomes in this study were suggested by interview subjects to differ by race and/or gender and lend to artifactual differences in rates of depression. For example, we tested if there were differences in

participants' endorsement of seeking professional help and their prognostic optimism because interview subjects claimed mental health care is not for Black people, partly because it is not helpful to them. Also, some interview subjects claimed Black people do not recognize symptoms of depression as anything abnormal because so many people around them experience those symptoms and don't identify them as mental health issues. Therefore, we tested differences in how participants appraised depression symptoms. Lastly, a major theme from the interviews was that even when Black people recognize they have depression, they don't discuss it with others because of perceived stigma towards those with mental health issues, and some suggested this was especially so for men of color. Therefore, we tested race and gender differences in expected stigmatization.

We found these outcomes were patterned by gender in ways consistent with men's greater mental illness stigma. For example, men were significantly less likely than women to label depression symptoms as indicators of mental illness and, regardless of the experimental vignette character's race or gender, men were less likely to recommend they seek professional help, had less prognostic optimism, and greater expectations of stigma than women. However, differences by race were not always consistent with what our interview subjects suggested. We did find Black people normalized symptoms more than Whites did, as opposed to interpret them as mental illness. However, compared to Whites, Black people were more likely to say they would seek professional help for the symptoms described in the vignette, they had greater prognostic optimism, and there were no significant differences in stigma expectations.

Some of the unexpected findings from our racial comparisons are probably owing to the contrasting patterns between Black men and Black women, which demonstrates the importance of taking an intersectional approach. Black men and women are socialized in different ways because of their gender and the experiment resulted in very different outcomes at times between these two groups. For example, when the vignette character experiencing depression was a Black woman, Black men were the least optimistic that her symptoms would resolve of all four participant groups, whereas Black women were the most optimistic. In this same case, Black men were most likely to agree that the Black female vignette character should hide her symptoms because people will think she is weak, whereas Black women were the least likely of all four groups to agree to that.

Overall, Black men's responses to our depression vignettes exhibited high levels of stigma towards mental health issues and treatment. In addition to their significant differences from Black women, their reactions were often significantly different from White women's responses which exhibited relatively high levels of acceptance of mental health issues and treatment, and Black men significantly differed from White men at times, too. Therefore, Black men stand out as a group that might be especially vulnerable to underreporting their symptoms of mental health issues because they seem to be socialized to avoid labels of mental illness and avoid mental health care for fear of being stigmatized. Black women, on the other hand, appear to be more influenced by the gendered norms of mental health and help-seeking than the racialized norms.

Summary of Findings Across Articles

The findings of each study in this dissertation offer multiple points of integration. This is in part owing to the dissertation's overarching sequential design because some

methodological decisions in later studies were based on the findings of earlier studies. However, some connections emerged naturally from the data. In both cases, the purpose behind the mixed methods dissertation was fulfilled: we learned more about the Black-White mental health paradox from integrating the findings across all three studies than we could have learned if the dissertation focused on only one of them. The integrated findings speak mainly to the influences of religion on Black and White peoples' mental health and artifactual explanations for the paradox.

Religious Influences

A common thread throughout Articles 1 and 2, and what also may underlie some of the cultural stigma exhibited in Article 3, is that religiosity can have negative impacts on mental health. Religiosity was very important to many of the interview subjects, especially the Black women I interviewed, however there was a clear tension between religiosity and mental health. Their accounts help explain why we found harmful indirect effects of religious importance in Article 1, which were mostly experienced by Black women. Perhaps the more importance religion has in one's life, the more potential it has to negatively impact their mental health. Gigi (from Article 2) is a perfect example of this. She is highly involved in her church, describes herself as very religious, but has been deeply hurt by the lack of emotional support from church leaders and members. She has been made to feel ashamed of her mental health issues and hopeless for recovery. If religion wasn't as central to her life, maybe the dismissive behavior exhibited by her church family wouldn't have affected her so deeply and she would have pivoted to find support elsewhere. These findings do not necessarily negate the positive effects of religiosity on mental health in other ways, though. Aside from the negative impacts

religion can have on one's mental health, both Articles 1 and 2 revealed positive impacts such as the mental health benefits of attending religious services and the social resources that religious involvement provides.

Artifactual Explanations

The research that comprises this dissertation suggests artifactual explanations of the Black-White mental health paradox are owed more attention. Findings from Articles 1 and 2 imply that the paradox is partially owing to a measurement bias, i.e., the disproportionate attention given to depression in the literature compared to substance use and other externalizing symptoms (e.g., anger). Some studies do take SUDs into account (Breslau et al. 2006; Erving et al., 2019; Thomas Tobin et al., 2022) but none that I am aware of incorporate anger or aggression, which were coping mechanisms discussed by our interview subjects. These behavioral tendencies might represent coping mechanisms to lay people, similar to how the EA model positions poor health behaviors as stress-buffering coping mechanisms (Jackson et al., 2010). However, they could also represent race- and gender-based ways of expressing distress. Therefore, modeling these behaviors as reflections of mental health rather than coping mechanisms that deter mental health problems could make for a more parsimonious model that reflects the various conceptualizations of mental health between race and gender groups.

The relevance of the poor health behaviors central to the EA model (i.e., smoking nicotine, drinking alcohol, and eating unhealthy foods) to the issue of measurement bias posed here is questionable considering studies do not unanimously find that Black Americans smoke, drink, and eat unhealthy foods more so than White Americans (Jackson et al., 2010; Keyes et al., 2011; Mezuk et al., 2010; Pamplin et al., 2021). Given

our findings across Articles 1 and 2, research on outcomes such as SUDs, anger, aggression, and continuous scales of mental health pose more promise for addressing the assumption that Black people have better mental health than Whites.

An important caveat to research on possible measurement bias in studies of the Black-White mental health paradox is to be mindful of the effects of SES in one's analyses. The race differences in depression and anxiety that were consistent with the paradox were present regardless of controlling for SES. However, the race differences we found in SUDs and poor mental health symptoms that were *inconsistent* with the paradox disappeared after controlling for SES. Some may argue this means there is no measurement bias, and the paradox is consistent across mental health outcomes, but controlling for SES does not necessarily reveal the true effect of race. Race is a construct inherently confounded with the socioeconomic oppression of Black people in the U.S. Therefore, controlling for SES leaves us with a variable (race) that has lost part of its meaning. Doing so still helps us understand the parts of systemic racism that directly impact the health of Black Americans. For example, controlling for SES in Article 1 taught us that the socioeconomic disadvantages that come with being Black increase Black Americans' odds of SUDs and symptoms of poor mental health relative to Whites.

Another artifactual explanation that emerged from Article 2 and was explored deeper in Article 3 was that Black Americans underreport their symptoms of depression and anxiety more than White Americans do because of their greater stigma towards mental illness and mental health care. According to the interviews, Black men and women expressed many of the same characteristics of stigma that leads them to keep their depression hidden. However, in Article 3, stigmatized beliefs towards mental health and

treatment were often stronger among Black men than women. Therefore, underreporting symptoms might be more of a problem among Black men than Black women, unless our quota sample of Black women in Article 3 was unusually accepting of mental illness and treatment. The planned replication of this experiment with a nationally representative probability sample should aid in determining the external validity of our present findings.

Strengths and Limitations

A benefit of this dissertations' mixed methods design is that the strengths and weaknesses of each study complement each other. Often, one study's design counteracted the limitations of another study. For example, the cross-sectional design employed in Article 1 renders it impossible to substantiate the causal link proposed between religious importance and mental health between Black and White men and women. Qualitative research, however, can provide anecdotal evidence of causal processes that people perceive occurring in their own lives. A longitudinal panel survey design would have provided a stronger test of causality than our in-depth interview study. Nonetheless, the interview data provided more evidence for religiosity's negative impacts on mental health via the interview subjects' own life experiences than was possible with the cross-sectional survey data. Similarly, the limitations of Article 2 in substantiating the effects of race and gender on depression appraisals and stigma expectations were overcome by the experimental design in Article 3, which had the potential to identify cause and effect relationships between the social statuses and stigma-related outcomes. For these reasons, I highly recommend mixed methods designs in future research on the paradox, and in social science research, in general.

Upon further reflection on Article 1 specifically, it has become clear that this dissertation is limited in its scope of racial identity's effects on mental health and its ability to counterbalance the stressors to which Black people are disproportionately exposed. The reliance on secondary data from the NESARC-III to study racial identity in this way posed inadequate measurement of its multi-dimensional nature. Our measure only consisted of four items which appeared to tap the construct of racial centrality, but these items did not come from a validated scale. Furthermore, assuming they did measure one's racial centrality, that construct is merely one dimension of multiple that comprise racial identity and the stages of its development (Carter, 1991; Lee & Ahn, 2013; Sellers et al., 1998). Centrality has demonstrated insignificant (Banks & Kohn-Wood, 2007), harmful (Burrow & Ong, 2010; Hoggard et al., 2015), and weak positive (Lee & Ahn, 2013) associations with Black Americans' mental health. Specifically, its harmful effects can be in part attributed to its ability to make one more aware of or attuned to racial discrimination, which in turn negatively effects mental health (Burrow & Ong, 2010; Sellers & Shelton, 2003).

Other dimensions of racial identity, such as the positive or negative attitudes one has towards their racial group (Lee & Ahn, 2013; Mouzon & McLean, 2013; Mouzon et al., 2022), or the developmental stage of one's racial identity (Carter, 1991; Franklin-Jackson & Carter, 2007), may be more impactful to mental health than centrality. The combination of dimensions that comprise one's racial identity might also be more influential to mental health than the effect of one dimension alone. For example, Banks and Kohn-Wood (2007) conducted a cluster analysis of the Multidimensional Inventory of Black Identity's seven subscales to create four racial identity "profiles." They found

Black Americans who they termed “integrationists” (i.e., high in assimilation and humanism, low in nationalist ideologies, moderate in regard and centrality) were more negatively impacted by discrimination than Black people of other racial identity profiles.

All of that being said, race comparative studies of mental health could greatly benefit from multidimensional analyses of racial identity that are customary in within-race studies. This could even be pertinent to future research on mental illness stigma and reporting biases because aspects of Africans Americans' racial identity have been linked to high levels of self-stigma and perceived stigma by others for seeking help (Cheng et al., 2013). Finally, another area for future research is the application of intersectionality to the study of racial identity and mental health. For example, Graham-Bailey and colleagues (2019) innovatively tested how one’s combined racial centrality, gender centrality, and class centrality affected their awareness of different sources of oppression and their social justice attitudes. The impacts of one’s intersecting identity centralities on mental health remain unexplored, though.

Implications for Future Research

Our findings regarding religiosity have three major implications for future research. First, when studying the effects of religiosity on Black and White Americans’ mental health, it is imperative to investigate how these effects might differ by gender. Simply controlling for gender could obscure the detrimental effects it has for one gender, but not the other. For example, if we had not conducted multi-group analyses by gender in Article 1, we would have concluded that religious importance accounted for increased mood and anxiety disorders for Black people in general. However, stratifying the SEM models by gender revealed this was only applicable to Black women.

Second, it is not accurate to conclude importance of religion negatively impacts mental health in general. The valence of its' effects (positive vs. negative) differ by type of mental health outcome. Specifically, it is associated with lower rates of SUDs, especially among men. As the focus of the qualitative interviews was on depression and anxiety, the topic of religiosity's positive impacts in lowering one's use of substances was not broached. Future research on religiosity and mental health should consider these results and tailor their hypotheses based on the type of outcome under investigation.

Third, future research should continue to separately analyze multiple dimensions of religiosity. There is already a diversity in religiosity measures used in studies of the Black-White mental health paradox (Louie et al., 2022; Mouzon 2017; Upenieks et al., 2023). Thus, this is simply a caution to future scholars that to fully understand the impact of religiosity on mental health, especially as it differs between race and gender groups, one must consider multiple dimensions of religiosity: service attendance, importance of religion, sense of divine control, religious struggles, social support (or in some cases, abuse) from religious leaders and figures, and more.

As for future research on artifactual explanations of the paradox, incorporating more externalizing symptoms of distress and continuing to use continuous measures of mental health are both strategies that can help reduce measurement bias. Regarding externalizing symptoms, substance use, anger, aggression, or other behavioral manifestations of distress should be explored further. However, it is unclear how impactful including these outcomes will be because past research finds modest race differences in them, if they find significant differences at all. For example, quantitative evidence for Black-White differences in anger are few (Boylan et al., 2015; Mabry &

Kiecolt, 2005; Magee & Louie, 2016), as well as in aggression (Harris 1992, 1996), and representative data with adult samples appear non-existent in the aggression literature. Therefore, more research is needed on these constructs.

It will be important to consider how stereotypes and stereotype avoidance may shape results of future research on externalized distress. For example, similar reporting biases that appear in studies of depression owing to Black Americans' avoidance of being labelled as weak may appear in studies of anger owing to their avoidance of being stereotyped as the 'angry Black man/woman'. It is also possible racial stereotypes influenced our qualitative data and misled our conclusions to begin with. Perhaps Black interviewees' suggestion that anger and aggression are prevalent reactions to stress among Black people was somewhat a reflection of widely held stereotypes. Thus, both qualitative and quantitative investigations of race differences in externalizing symptoms must try to circumvent these pervasive racial stereotypes.

In addition to including various measures of mental health, research is needed on potential measurement bias in the instruments used to measure depression and anxiety in psychiatric epidemiological surveys. It is possible that Black Americans have just as much depression and anxiety than Whites, but the diagnostic interview process and algorithms that determine whether someone meets criteria for these disorders are systematically biased. For example, in a supplemental examination of the NESARC-III data, I found that Black participants were significantly more likely than Whites to screen out of the diagnostic interview for depression. The screening questions required participants to look back over their entire life and identify if they had a period of low mood or anhedonia that lasted for at least two weeks. Although Black participants were

less likely to recall such an episode than were Whites, those who did recall one differed significantly from Whites on certain follow-up questions. The full battery of questions assessing depression included over twenty symptoms, many of which Black participants reported more often than Whites (e.g., appetite change, moving/talking slowly, restlessness).

The fact that Black Americans are less likely than Whites to recall a 2-week period of low mood or anhedonia when looking back over their whole life could represent a genuine racial difference in how depression manifests. That is, it might be true that Black people are less likely than Whites to experience two-week episodes of these phenomena over their life course. However, there are other explanations for why Black Americans may not report past episodes that could reflect measurement bias. For example, they may be less likely to identify their past experiences in these terms owing to a greater stigmatization of psychological symptoms relative to other symptoms among Black Americans (e.g., somatic symptoms). Regardless, the requirement of experiencing low mood or anhedonia might lead to underestimated rates of depression among Black Americans who struggle with other symptoms of depression, but this is purely speculative. There is no way to determine with these data what the rates of depression between racial groups would have been without the screening criteria in place.

Additionally, race differences in mental illness stigma and related reporting biases in mental health research are compelling areas for future research on the paradox. Our research suggests it is essential to test how gender might affect the legitimacy of these explanations, because they might hold more explanatory power for men than women owing to the gender-based stigma towards mental illness and help-seeking. Studies of

how this cultural stigma is perpetuated will also benefit from an intersectional lens, indicated by Article 2, which found that the sources of structural stigma expressed by Black people depended on gender. The structural stigma towards mental illness in religious organizations might be more impactful to Black women than men, and vice versa for the structural stigma embedded in medical institutions.

Scholars should also consider the effectiveness of online survey methods in studying reporting biases between race and gender groups. It might be very difficult, if not impossible, to manipulate the survey-taking environment to identify reporting biases or counteract such race and gender-based patterns in underreporting. Certainly, there are strategies yet to be tested. For example, one could control for social desirability or test whether race differences in social desirability contribute to paradoxical mental health outcomes between Black and White Americans. Alternatively, survey-embedded experiments that manipulate stigma may identify race differences in the likelihood of reporting mental illness symptoms. Regardless, other methods should be explored, given the preponderance of evidence of under-reporting, not to mention measurement biases, uncovered in this dissertation.

Broader Impacts

This dissertation helps narrow the gaps in our knowledge regarding the relationships between race, gender, stress, and mental health. These findings can advance applications of social stress theory to Black Americans and inform social scientists and clinicians on the complex determinants of mental health among Black and White groups. Researchers of the Black-White mental health paradox should take from this research that factors beyond stressors and coping resources, such as cultural stigma and intersectional

differences within racial groups, impact mental health estimations. Incorporating these factors into the theoretical framework would improve the stress process model's applicability for studies on race differences in mental health.

The findings of this dissertation should also increase awareness of several issues among mental health professionals and general practitioners who are often the first point of contact for people of minoritized racial groups experiencing distress. It is critical for clinicians to be aware of cultural stigmas towards mental illness and treatment, and helping them overcome those barriers should be part of the providers' responsibilities. Knowledge of how these stigmas are perpetuated in Black communities can inform outreach interventions for Black men and women. For example, outreach in churches may be especially beneficial to religious Black people experiencing mental health issues (e.g., the PEWS program, Williams et al., 2014). Clinicians should also be aware of raced and gendered symptoms of poor mental health that might not be consistent with the symptoms of traditional clients (i.e., White women). Beyond increased awareness, the field of mental health treatment would most benefit from clinicians who are equipped to help people of marginalized groups cope with non-conforming symptoms.

The implications of this research for public health agencies overlap with those of mental health professionals because of their involvement in outreach programs and mental health interventions. However, there are also implications for the surveys of mental health and illness that are conducted by public health agencies. Advancements in research are needed to first diagnose the extent of methodological biases in survey estimates of mental illness and then circumvent these biases in future surveys. Until then, consumers of research from mental health surveys should be skeptical of the conclusions

drawn. We know that estimates of mental health issues do not perfectly reflect the actual issues of the population in general because not everyone will report their symptoms accurately, but estimates among certain subpopulations like those of Black Americans may be even more misleading.

Conclusion

Systemic racial oppression in the United States continues to perpetuate racial disparities in health. However, researchers lack an understanding of the impacts on Black Americans' mental health, mainly owing to their paradoxically low rates of depression and anxiety relative to White Americans' rates of these mental illnesses. This dissertation aimed to contribute to the paradox literature by further uncovering the mechanisms that underlie Black-White differences in mental health across three original empirical articles. It also aimed to uncover the intersectional differences in the stress process that are obscured by mental health studies that analyze the effects of race or gender alone. Through a secondary data analysis, an interview study, and a survey-embedded experiment, this dissertation explores explanations of the paradox pertaining to racial identity, religiosity, mental illness stigma and more. The findings are meant to inspire new directions in the study of the Black-White mental health paradox and provide direction for improvements in mental health care and mental health research of Black and White populations.

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