More than Discrimination: The Significance of Race-Based Stress and Racial Identity for the
Mental Health of Black Americans

By

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To my amazing parents, Kim and Clay Thomas, who have provided their unwavering support throughout my life.

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INTRODUCTION

Racial disparities in health are pervasive and enduring, and for the past few decades, they have been the focus of sociological investigation. Evidence from a host of studies suggest that for most of the 15 leading causes of death (e.g. heart disease, cancer, stroke, diabetes, hypertension, and homicide), black Americans have higher mortality rates than whites, (Williams and Mohammed 2009; Kung et al. 2008), while findings from studies of mental health are more challenging to interpret. Generally, they reveal that blacks have lower rates of most psychiatric disorders and better self-rated mental health relative to whites (Mouzon 2013; Brown 2003); however, blacks also tend to have worse ratings of subjective well-being (i.e. life satisfaction or happiness) and higher levels of psychological distress compared to whites (Williams, Yu, and Jackson 1997). Nevertheless, most conclude that blacks generally have better mental health than whites (Brown 2003; Mouzon 2013), leading some to consider this association as a "race paradox in mental health" (Mouzon 2013).

While there have been a plethora of studies examining the trends that contribute to racial disparities in health, fewer have identified the specific mechanisms by which these differences occur. Recently, Brown and colleagues (2013) defined race as "a socially constructed status defined through and by social interaction across historical time that categorizes individuals according to phenotype variation, which supposedly indicates meaningful underlying genetic variation" (p. 258). Rejecting the notion that race is a true biological agent, the authors assert that along with ethnicity and nativity, race acts as a stratifying social status that can have a negative impact on health. Furthermore, the work of Williams and colleagues (Williams and Mohammed 2009; Williams, Yu, and Jackson 1997) describes two distinct ways by which race continues to drive health inequality, negatively impacting the health of blacks. First, as a group, black

Americans have lower incomes, lower levels of education, and are more likely to be poor (Williams, Yu, and Jackson). As such, early research on black-white health disparities tended to focus on socioeconomic differences between the groups. The overwhelming conflation of race and class in the literature has led some scholars to assume that race differences in health would disappear once SES is accounted for, although that has largely been unfounded (Williams, Yu, and Jackson. 1997; Farmer and Ferraro 2005). In most studies, black-white differences persist, even after controlling for economic factors (see Farmer and Ferraro 2005; Williams, Yu, and Jackson 1997 for examples), underscoring the fact that racial disparities are driven by more than variation in resources. The lower SES of blacks not only reflects individual-level disadvantage, but it represents the structural and historical marginalization of blacks as a group (Williams and Mohammed 2009). Factors such as residential segregation, for example, have played a major role in the blocked access to resources and increased exposure to toxins that blacks face, although they are not typically quantified in empirical studies.

The second association between race and health can be best explained by blacks' disproportional exposure to systemic and interpersonal racism, which has been inextricably linked to poor health and well-being (Brown et al. 2000; Williams and Mohammed 2009). A number of studies have found that blacks are more likely than others to have experienced discrimination due to race (Kessler et al. 1999; Shariff-Marco et al. 2011). Examination of the effects of racial discrimination in the lives of blacks has revealed that it acts as a distinct form of stress that has serious implications for health (Turner and Avison 2003; Williams, Yu, and Jackson 1997). Consequently, Williams and Mohammed (2009) identify three principal ways through which stress affects health: (1) Exposure to stress can give rise to negative emotional states that lead to psychological distress and ultimately compromise health. (2) The experience of

stress can lead to negative coping mechanisms such as smoking, overindulgence of alcohol, overeating, neglecting sleep, failing to exercise, and not taking prescribed medicine. (3) The psychological and behavioral responses to acute and chronic stressors can lead to structural and functional changes in multiple physiological systems (e.g. neuroendocrine, autonomic, and immune systems). Taken together, the multiple mechanisms by which stress influences health place blacks at a major disadvantage for poor health and well-being.

Clearly, race, as both a structuring agent and social identity that shapes interpersonal interactions, has a significant impact on the health and well-being of black Americans. Although the evidence from this research is only growing, few health scholars have thoroughly investigated the pervasiveness of race and its effect on the lived experience of this group. Much of the literature has focused on the stress due to perceived discrimination and unfair treatment (Kessler et al. 1999; Shariff-Marco et al. 2011), but less is known about more ambient and ambiguous forms of race-based stress that characterizes the everyday lives of black Americans. Focusing on this issue, this project aims to investigate the consequences of various race-based stressors and racial identity as major contributors to persistent black-white disparities in health by examining first, variation in the stress process among blacks. This project explores the significance of individuals' exposure to unique stressors, their racial context, and their coping behaviors across gender and social class lines in a three-paper investigation. With the examination of these unique forms of stress, this project promises to further elucidate the complex mechanisms underlying continued racial disparities in health.

*** Racial Disparities in Health: The Confluence of Race and Social Class ***

Within the area of research on health disparities has been a debate as to whether race or class plays a greater role in defining life chances and health. Although there are vast literatures outlining the relationship between SES and health (Syme et al. 1974; Marmot et al. 1984; Alder et al. 2000; House and Williams 2000), as well as racial differences in outcomes (Farmer and Ferraro 2005; Ennis et al. 2000; Lincoln, Chatters, and Taylor 2003; Pearson 2008), the effects of social class and race are often confounded. This is primarily due to two main factors. First, the literature on the SES-health relationship has primarily been amassed using white samples (Pearson 2008). This reflects the assumption of "race/ethnic similarity" that has been perpetuated in health research (Hunt et al. 2000; Lincoln, Chatters, and Taylor 2003). Simply put, researchers often make the assumption that social processes, such as the association between SES and health, work the same way across racial and ethnic groups without ever empirically testing it. This leads to overgeneralization and the confounding of the mechanisms that may drive racial disparities in health.

Consistently, the second factor that drives the confluence of race and class in the literature is the failure to assess social relationships across the spectrum of the black American experience. Black respondents have traditionally been recruited in lower numbers in large-scale health data sets, making statistical comparison difficult (Brown 2003; Hunt et al. 2000). Furthermore, when blacks are included in research samples, lower class individuals are typically oversampled, neglecting the incomparable experiences of middle and upper classed blacks, and making racial differences in the effects of SES nearly impossible to test (Lacy 2007; Pearson 2008). These issues call into question the very meaning of "race and class effects" on health, and some scholars have even interrogated the use of race and SES variables in work on health

disparities, urging researchers to be more careful in their conceptualization of these constructs (LaVeist 1994; Lillie-Banton and LaVeist 1996). Although the field has largely moved beyond the debate as to whether race *or* class is more significant for health, most studies continue to examine only the main effects of race or SES, rather than incorporating an interaction model, which would allow for tests of the conditional effects of race across class and class across race (Farmer and Ferraro 2005). Such an approach would provide scholars with a more in-depth understanding of the multiple processes by which these factors jointly and independently drive health disparities.

The Significance of Social Class

The significance of social class for explaining disparities in health has been widely established in the literature. Early studies of SES have consistently found differences in health by social class, such that those in lower classes, with less income, education, and occupational prestige tend to have worse health than those with higher class statuses (Pearson 2008). In the now-famous Whitehall study, Michael Marmot (1991) found that there was an SES gradient in its relationship to poor health. Examining British civil service workers, Marmot and colleagues found that health improved in a step-like fashion as the occupational rank of the employees increased. Furthermore, Link and Phelan (1995) introduced fundamental cause theory, asserting that SES is a fundamental cause of illness and disease. They argue that rather than focusing on proximal-level factors known to influence health (e.g. health behaviors such as diet and exercise), we should investigate broad social factors including, SES, which "embodies access to important resources, affect multiple disease outcomes through multiple mechanisms, and consequently maintain an association with disease even when intervening mechanisms change" (p.80).

These studies and others have led to the general acceptance that lower SES leads to worse health and well-being.

There are several associations through which SES and health are related. These are most often expressed in the theoretical hypotheses of social selection and social causation, which drive the question: "Does low SES cause poor health or does poor health cause downward mobility"(Link and Phelan 1995)? The social selection or social drift explanation focuses on changes in the socioeconomic position of the individual after the onset of poor health, while the causation explanation posits that conditions that are associated with lower status positions increase individuals' risk for the occurrence of poor health (Eaton, Muntaner, and Sapag 2010). These encompass very different causal mechanisms, and both have been tested in the literature. One prominent study by Dohrenwend and Dohrenwend (1969) shows evidence for both explanations, depending on the health outcome under investigation. Since then, however, most researchers have focused on the social causation explanation, assessing the impact of social status on health (Aneshensel 1992; Link and Phelan 1995).

Further examining the causal relationship between SES and health, scholars have found that the mechanism through which SES is translated into good health varies by the dimension of SES studied. While higher SES is generally thought to improve health, the literature suggests that the components of SES—income, education, and occupational prestige—each have unique influences on well-being. For example, higher income is associated with the ability to purchase goods such as quality food and health care, while education is associated with knowledge, skills, and training, which may have a positive influence on one's health behaviors. More so, higher occupational prestige is related to more developed skills, authority, wealth, and better working conditions (Eaton, Muntaner, and Sapag 2010). The combination of these three constructs results

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in the traditional measure of SES, and it attempts to capture one's overall access to resources and quality of life, which positively impact health.

Consistent with this paradigm, Wilson (1978) argued that it is class, not race that has become the most significant, defining social factor that determines the life chances of blacks in America. His work in *The Declining Significance of Race* came a decade or so after the Civil Rights Movement, and asserts that with new legislation and policies, as well as the success of groups like the black middle class, there is ample evidence to suggest that one's SES would affect social disparities more so than race. With this argument in mind, many scholars of health set out to explain the persistent black-white differences in health by investigating the role of social class. Although the assumption that racial differences in SES were centrally responsible for black-white variation in health was prominent in the literature (Williams, Yu, and Jackson 1997), inconsistencies in results began to muddy this hypothesis. Although some studies report that racial differences in health disappear when controlling for SES (Krieger et al. 1993; House, Kessler, and Herzog 1990), others have found that differences persist, suggesting that an exclusive focus on SES alone to explain race differences in health is inadequate (Williams, Yu, and Jackson 1997; Farmer and Ferraro 2005).

The Significance of Race

Examining an alternative hypothesis to the declining significance of race perspective, other scholars have focused on uncovering the mechanisms through which race continues to be important, particularly for individuals' health and well-being. Specifically, this literature has emphasized that SES is not just a confounder of the relationship between race and health, but that it acts as part of the causal mechanism (Williams et al, 1997; Cooper and David 1986). That is, black-white differences in SES reflect the effect of historical and contemporary economic

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discrimination and restriction of opportunities for blacks and other racial and ethnic minorities (Williams and Mohammed 2009). Furthermore, as applied to health, research has suggested that blacks face a situation of "diminishing returns," such that they have fewer gains from income and education relative to whites; this would particularly impact blacks at the highest SES levels (Farmer and Ferraro 2005).

This position is consistent with the broader research on the black experience in America. For example, scholars have documented the deleterious effects of racism and discrimination in the lives of blacks, noting a number of negative health outcomes (Williams and Mohammed 2009). Others have documented the continued significance of race, even for those in the black middle class, who have achieved economic success (Cose 1993; Feagin and Sikes 1994; Pattillo-McCoy 1999). In his noted exposition, *The Rage of a Privileged Class,* Cose (1993) documents experiences of discrimination faced by middle class blacks in their places of work, citing instances of blatant racism that included physical attacks, social isolation, and blocked opportunities, such as one man being told that a black person "*could not* be partner" of a law firm where he was an attorney. Other, less obvious instances, such as the expectation of failure by whites, invitations to private clubs that were known to turn blacks away, and feeling like they had to "represent blackness," were mentioned as well. These experiences are examples of "token stress", and have been associated with negative mental health outcomes (Jackson, Thoits, and Taylor 1995). Furthermore, others have found empirical evidence that higher status fails to protect blacks form negative outcomes. Testing the diminishing returns hypothesis, Farmer and Ferraro (2005) find that while higher levels of education are associated with better self-rated health for whites, the slope for blacks is nearly zero, suggesting that there is essentially no relationship between education and health for blacks. Geronimus and colleagues (2006) also find

that larger disparities in health exist among non-poor blacks relative to poor whites. Taken together, these results suggest that although social class plays a major role in health for some, race continues to significantly shape the impact of class for, as well as influence the health and well-being of, black Americans.

Untangling the Underlying Mechanisms of Racial Health Disparities

Despite the vast literature outlining persistent black-white differences in health, the origins of these disparities remain elusive. Scholars have noted the significance of both race and socioeconomic status as primary independent contributors to enduring inequality. However, with continued investigation into these issues, it becomes ever clear that the effects of these factors are widespread and multidimensional. In their review of the literature on discrimination and racial disparities and health, Williams and Mohammed (2009), attempt to clarify these complexities, outlining three major factors that contribute to the poorer health of blacks relative to whites, even after accounting for SES and health behaviors. First, measures of SES are not equivalent across race. This, again, refers to the fact that blacks are more likely to get fewer returns on their income and education. Regardless of income, blacks also are more likely to live in poorer, more segregated neighborhoods with exposure to environmental toxins (Jackson and Williams 2006). Second, racial and ethnic differences in childhood SES and early life psychosocial and economic adversity likely contribute to health disparities in adulthood. Third, researchers have identified a number of mechanisms by which institutional and interpersonal racism adversely affect health, regardless of level of SES. These factors underscore the gap in the literature seeking to explain racial disparities in health. There is a greater need for research in this area to account for these factors, which characterize the lived experience of many black

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Americans. By simply controlling for race, many studies fail to empirically test the mechanisms by which race may be truly impacting health.

The acceptance of SES as the primary fundamental cause of health leaves exceptions to this rule to be cast as "health paradoxes." As Pearson (2008) points out, there are a number of documented paradoxes in the health literature that fail to fit with the standard explanation that says lower SES leads to worse health. For example, college-educated black women have greater risk for negative pregnancy outcomes (i.e. low birthweight, preterm delivery, and infant mortality) than white women with less than a high school diploma (see Jackson and Williams 2006 for a more detailed discussion). Pearson (2008) notes, "although they [the common explanations] help to explain why low-income whites have worse outcomes than higher-income whites, not one of the common theories for explaining racial/ethnic disparities is consistent [with the paradoxes]"(p.36). His comment highlights the state of health research today. Although there is a large literature on the black experience in America (see Feagin and Sikes 1994; Patillo-McCoy 1999; Cose 1993; Lacy 2007; Jackson and Williams 2006) many health scholars have been slow to incorporate these ideas into their research on racial disparities in health.

Fewer still have investigated the significance of gender in explaining black-white differences in health. Despite the large literature on the independent effects of race, class, and gender on health and well-being, few have examined the additive or multiplicative effects of race, class, and gender on health disparities. Previous studies investigating the interaction effects of race and SES have found that examining these factors independently often fails to fully capture the total extent of racial and SES disparities in health (Ailshire and House 2011; Farmer and Ferraro 2005; Hayward, Crimmins, Miles and Yang 2000). Recently, scholars have attempted to incorporate multidimensional perspectives into their investigations of racial and

gender disparities in health. For example, Cummings and Jackson (2008) use the

intersectionality paradigm to investigate the individual and joint effects of race, class, and gender

on self-rated health across three decades, finding that SES accounts for almost all of the black-

white gap in self-rated health for men and but only half of the female gap over time. Similarly,

Ailshire and House (2011) seek to overcome limitations of previous studies of physical health

disparities to investigate the combined impact of gender, race and socioeconomic inequality on

disparities in obesity over time. Examining the multiplicative effects of race, class, and gender

on a sample of black men, Griffith and colleagues (2013) find that, this group seems to be

exposed to more stress due to role strain as a result of the significant challenges they often face

in fulfilling the role of economic provider for their families (Griffith et al. 2013). Consistent with

their findings, a number of studies have suggested that at every level of education, black men

earn lower levels of income than white men, and middle class blacks have lower levels of wealth

and reduced ability to translate income into desirable housing and neighborhood conditions

(Isaacs, Sawhill, and Haskins 2008; Williams 2003). Furthermore, stress resulting from these

circumstances directly and indirectly contributes to higher rates of unhealthy behaviors,

increased diagnoses of chronic diseases, and premature mortality (Williams 2003).

Consequently, due to their dominant positions in the social hierarchy as men, but subordinate

positions as men of color, black men face a number of unique gendered social norms and cultural

expectations that, along with race, SES, and age, may negatively shape their behaviors, health,

and wellbeing (Griffith 2012; Griffith et al. 2011). Regardless of the theoretical perspective

utilized, these studies provide evidence that use of a multidimensional approach to investigate

health provides a more complex picture of disparities across race, class, and gender lines.

The Promise of the Stress Process Model

The stark variations in lived experience and health outcomes across race, class, and gender lines have been best explained by the stress hypothesis. For more than three decades, researchers dedicated to elucidating complex relationships between the social world and group-level differences in health have turned to the stress process model as their guiding framework. The stress paradigm has since emerged as the most prominent perspective for scholars who seek to identity potentially modifiable conditions in mental health (Turner 2010). Originally coined by Pearlin (et al. 1981, 1989, 1999), the model attempts to explain how differential exposure to stressors associated with one's social location "gets under the skin," to shape health outcomes. He and colleagues assembled knowledge from the literatures on stress, coping, and social support to form the basis for the framework used today (Thoits 2006). Originally thought to have three major components—sources of stress, mediators of stress, and the manifestations of stress (Pearlin et al. 1981)—the model has been more recently elaborated to better explain racial/ethnic and socioeconomic differences in health (Turner 2010, 2013). Linking each of these components, the stress process model provides scholars with the necessary framework to begin to understand the complexities of the mechanisms driving persistent disparities in health and well-being.

Despite the promise of the stress model to explain the underlying mechanisms of racial disparities in health, the full model has not been extensively tested among black Americans. Echoing Pearson's (2008) arguments for examining the mechanisms of racial health paradoxes independently, several scholars have called for a more systematic look at differences in the stress processes of blacks and whites. Lincoln, Chatters, and Taylor (2003) note, "the focus on merely accounting for race differences by introducing factors that are thought to "explain away" these

differences tends to overlook the possibility that social and psychological factors may operate *differently* within specific racial and ethnic groups. It is not necessarily the salience of a particular variable that explains how race and ethnicity may be linked to health and well-being, but rather the unique manner with which social and psychological processes operate for distinct racial and ethnic groups" (p. 391). Thus, the examination of variation in the stress process of black Americans promises to enhance our current knowledge of disparities

Consequently, scholars have also expanded their understanding of stressors to include more race-specific forms such as discrimination/unfair treatment and colorism. In their study of the prevalence, distribution and mental health correlates of perceived discrimination, Kessler and colleagues (1999) urge that a failure to consider discrimination could account for inconsistencies in the linkage between stress exposure and psychological distress in lower-status people. Furthermore, perceived discrimination has often been conceptualized as an important secondary stressor associated with major events like the loss of a job or exposure to violence (Wethington, Brown, and Kessler 1995). Results from their study suggest that perceived discrimination is quite common in the total population, but most common among those with disadvantaged social statuses (i.e. women, blacks, and low SES individuals). However, Taylor and Turner (2003) find that although perceived discrimination predicted higher levels of depressive symptoms among young adults, when considered with other forms of stress (e.g. life events, chronic strain, etc.), perceived discrimination fails to fully explain racial differences in depression. Results from other studies may provide an explanation for this finding, suggesting that the variation in the conceptualization and measurement of discrimination may be the reason why it does not explain persistent black-white differences in outcomes (Williams and Mohammed 2009; Perreira et al. 2005). While the most commonly used measures of discrimination capture day-to-day

discrimination and major discrimination throughout one's lifetime, they often focus on a more generalized form of discrimination—unfair treatment, which respondents have the option of attributing to a variety of reasons (e.g. race, gender, age, appearance, etc.). Clearly, further consideration of specific measures of various forms of race-based stress is needed if we intend to better understand disparities. With the examination of variation in these processes among blacks, it becomes possible to more clearly understand the influence of social statuses such as race, class, and gender. Specifically, bridging the existing research on the lived experiences of the black middle class with the stress and health disparities literatures provides a framework within which an empirical investigation of the significance of race-based stress may be situated.

Stress and the Black American Experience

In order to effectively consider the health consequences of stressors most relevant to the lived experience of black Americans, scholars must turn to existing literature, which has examined the daily pressures and strains faced by blacks as they navigate America's racialized society. A growing body of the research on the black experience in this country has focused on the black middle class, suggesting that race continues to be significant for African American women and men regardless of their socioeconomic position. A number of studies have documented their experiences, underscoring the fact that racism and discrimination play major roles in their everyday lives such as choosing which neighborhood to live in (Lacy 2007; Pattillo-McCoy 1999), dealing with issues at work (Cose 1993), or even how to explain racial issues to their children (Winkler 2012). Although this group only makes up a small portion of the overall black population in America, their experiences provide insight into the complexities of race relations as well as the impact that race has on individuals' health and well-being. Specifically, studying the black middle class provides a unique social context for both class and

race relations in the United States, allowing for examination of the subtleties of race and racism, which remain pervasive, despite this group's elevated class status.

Thus, to better understand persistent black-white health disparities, a focus on stratification processes *among* black Americans is needed. The collective experiences of this group shed light on the multiple ways in which race-based stressors may negatively affect the health of black Americans. For example, the black middle class has a social history that differs from the middle class of other ethnic minority groups. Upward mobility for blacks was a much more gradual process, especially compared to white ethnic groups (Wilson 1987; Collins 1983). While others were steadily absorbed into the voluntary labor market, blacks were not—at least not in substantial numbers—until the beginning of the 20th century, following a history of largely paternalistic domination and exploitive systems of sharecropping (Jackson and Stewart 2003). As a result, although many blacks have achieved middle class status, their collective history of wealth is shorter, making their status less stable (Collins 1983). Despite having "middle class identities," members of the black middle class often stand out from their white, middle class counterparts. Seemingly, their collective historical experiences have differentially shaped the meaning of middle class status for many blacks, revealing the incomparability of the status across racial groups. Research on the black middle class has demonstrated their distinctiveness from middle class whites and poor blacks (Hunt and Ray 2012; Lacy 2007), and may further explain the influence of social class dynamics on health for all blacks.

In addition, blacks in this group may face discrimination from both in-group and out-group sources (Jackson and Stewart 2003; Pattillo-McCoy 1999). A commonly cited cost of upward mobility for blacks is that attainment of middle class status can result in a dis-identification or political distancing from the black community (Cole and Omari 2003). Mobility

is often seen as a double-edged sword for blacks who experience racist attitudes from whites, but may also face rejection or feelings of isolation as they may also be unable to fully relate to lower-classed blacks (Higginbotham and Weber 1992; Jackson and Stewart 2003). Several studies have noted the impact of social mobility on the mental health and well-being of blacks, citing the significance of stress and identity processes involved in successfully negotiating the norms and expectations associated with being black *and* being middle/upper class (Sellers 2001; Harris and Marsh 2010). In her examination of middle class blacks and their experiences in predominately black, predominately white, or racially integrated suburban neighborhoods in Washington, D.C., Lacy (2007) presents the theory of strategic assimilation, which describes intentional efforts taken by middle class blacks who often live and work in predominately white spaces. She argues that this group enacts specific strategies in order to maintain social and cultural ties to other blacks. Although the focus of her study is not stress, Lacy's interviews with black middle class residents provide evidence, along with others (Feagin and Sikes 1994; Cose 1995; Benjamin 1991), suggesting that the navigation of racialized spaces requires immense psychological effort and the use of what Lacy refers to as a cultural "toolkit," equipped with many identities that are context-specific. Taken together with the incongruity and sense of inequality felt by middle class blacks due to the mismatch between their achieved statuses and their social realities (Savitz, Dole, and Thorp 2006), the black middle class experience demonstrates the significance of race-based stressors, racialized social contexts, and complex identity processes that characterize the everyday lives of black Americans.

Furthermore, most of the research on the black middle class, their perceptions, and their experiences is largely descriptive (see Benjamin 1991; Feagin and Sikes 1994; Cose 1995; Lacy 2007 for examples), while studies of discrimination and health outcomes tend to be quantitative,

based on large-scale samples, and fail to fully examine multiple stress processes that are likely to contribute to disparities (LaVeist 1994). Although the negative association between discrimination and health has been firmly established in the literature (Shariff-Marco et al. 2011; Williams and Williams Morris 2000; Kessler et al. 1999; Williams, Yu, and Jackson 1997; Brown et al. 2000), there is still much work to be done, as most of the research in this area has been unable to examine the significance of race-based stressors unique to the black American experience. The descriptive literature on the black middle class provides a foundation for a more purposeful effort to truly quantify and assess the pervasive nature and deep impact of racism and discrimination on the lives of black Americans. By systematically investigating the meanings and health consequences of these race-based forms of stress, racialized social contexts, and black identity, we can effectively bridge these two methodologically distinct literatures and further our understanding of the origins of disparities. As a result, the purpose of this dissertation is to examine the role of unique, race-based stressors and racial identity for the mental health and well-being of blacks, using a stress theory framework to consider variations across gender and social class groups.

Project Overview

This dissertation consists of three studies:

Study #1: Dealing with the Ambiguity: The Significance of Ambiguous Discrimination Stress for the Mental Health of Black Americans

Prior research on racial discrimination and health has suggested that the experience of ambiguous discrimination may be more detrimental to well-being relative to more blatantly prejudicial treatment. The goal of this study is to examine the mental health consequences of ambiguous discrimination stress, which characterizes blacks' sense of uncertainty about whether they are being treated differently due to their race. It also considers whether this new dimension of social stress makes a significant independent contribution to variation in mental health among black Americans.

Study #2: Dimensions of Blackness: The Role of Early Life Experiences in the Racial Identity Development and Mental Health of Black Adults

Despite a growing body of evidence highlighting the importance of racial identity for the health and well-being of black Americans, few studies have considered the social origins of black identity. Consequently, the extent to which one's childhood social context may shape their identity and its subsequent effect on health in adulthood remains an important question. As such, this study considers several dimensions of black racial identity (i.e. connectedness to other blacks, racial centrality, and salience of race), investigating how factors such as family socioeconomic status, exposure to early trauma and major discrimination, as well as racial composition of childhood neighborhood and school, may impact racial identity development and mental health in adulthood.

Study #3: The Stress of Representation: Mental Health Consequences of Racial Composition in Work and Neighborhood Contexts

While there is a substantial literature outlining the significance of racial residential segregation for the health of black Americans, and another distinct literature focusing on the psychological effects of being a racial minority in a predominately white work environment, few have considered the health consequences of racial composition across multiple domains of life. In attempt to bridge these areas of research, this study examines the cumulative mental health consequences of variations in racial composition across work and neighborhood contexts, focusing on differences in the experience of stress and utilization of coping resources.

STUDY #1: DEALING WITH THE AMBIGUITY: THE SIGNIFICANCE OF AMBIGUOUS DISCRIMINATION STRESS FOR THE MENTAL HEALTH OF BLACK AMERICANS

There is a large and growing literature outlining the negative mental health effects of perceived race-based discrimination among black Americans (Landrine and Klonoff 1996; Williams, Yu, and Jackson 1997; Kessler et al. 1999; Klonoff et al. 1999; Kessler, Michelson, and Williams 1999; Brown et al. 2000; Schulz et al. 2006; Utsey et al. 2006; Williams and Mohammed 2009). Despite such evidence, there is a growing consensus that there remain crucial aspects of the black stress experience that have yet to be adequately measured. Relative to blatant, overt forms of racism, less is known regarding the significance of more subtle, ambiguous experiences. Major and Crocker (1989) describe such ambiguity as arising when disadvantaged group members (e.g. blacks) receive negative or positive feedback from advantaged group members (e.g. whites), causing them to make a series of attributional judgments, including the possibility that the feedback received was due to discrimination. Thus, greater understanding of the ways in which such ambiguity contributes to the stress context of black Americans may shed light on variation in mental health within this population.

Ambiguous discrimination is pervasive, and it occurs within the context of everyday routines and within a variety of social settings, including neighborhoods, workplaces, or other public spaces such as stores and restaurants (Mellor et al. 2001; Feagin 1991; Essed 1992). Although it often lacks the clear offensiveness of blatant prejudice, ambiguous discrimination may be especially detrimental to health. Some argue that stressors that are ambiguous, negative, and unpredictable may be particularly pathogenic because individuals exposed to such stressors are not easily able to discern whether an incident is due to discrimination, thereby hindering the

coping process and resulting in negative mental health consequences (Ruggiero and Taylor 1995; Major, Quinton, and McCoy 2002; Williams and Mohammed 2009; Bennett et al. 2004; Cater 2007). Despite a growing literature suggesting the significance of more subtle and ambiguous forms of discrimination (see Williams and Mohammed 2009), these less obvious forms of unfair treatment currently represent a largely neglected domain of race-related stressors, the consideration of which may contribute toward a better understanding of differences in mental health risk among black Americans. The goal of the present study is to examine the significance of ambiguous discrimination stress for blacks' mental health, testing the hypothesis that this form of stress importantly amplifies mental health risk with more overt forms of discrimination taken into account.

Background

Ambiguous Discrimination Stress and Health

The sense of uncertainty produced by ambiguous discrimination can often be highly distressing, as it may threaten one's fundamental beliefs about predictability and control (Saenz 1994; Major, Quinton, and McCoy 2002). Because individuals facing these incidents often allot a disproportionate amount of mental energy to ruminating about the situation, ambiguous discrimination may also consume a great deal of cognitive resources, placing a significant burden on those affected (Major, Quinton, and McCoy 2002). The negative psychological effects of exposure to stressors are often triggered by the initial perception of threat, which can occur long before individuals are exposed to stressors (Williams and Mohammed 2009). As such, ambiguous discrimination, relative to overt racist events, can be viewed as having a more chronic, durable effect that may promote extended periods of cognitive processing (Bennett et al. 2004).

Although relatively few studies have examined the mechanisms by which more subtle or ambiguous discrimination affects well-being, the processes that might be involved have been considered within the literature. For example, Essed (1992) argues that blacks determine whether incidents are due to discrimination by asking themselves a series of questions, such as "Is this behavior acceptable?" and "If there are no acceptable excuses, did this behavior occur because I am black?" There is an ongoing debate regarding the extent to which internal versus external attributions may be more damaging for one's self-concept and psychological well-being (Crocker and Majoy 1989; Crocker et al. 1991; Branscombe, Schmitt, and Harvey 1999; Major, Quinton, and McCoy 2002). This type of internal questioning characterizes the additional cognitive work that blacks perform in the context of ambiguous events raising the question of whether the effort to determine the cause of differential treatment and its meaning may have negative implications for health.

Much of the research on the perception of potential discrimination has focused on situational variations in the tendency to positively discern discriminatory events from non-discriminatory occurrences (Crocker et al. 1991; Major, Quinton, and McCoy 1991; Steele, Spencer, and Aronson 2002; Purdie-Vaughns et al. 2008). This research largely conceptualizes such experiences in terms of interactional behavior, rather than as a dimension of the stress universe. This limitation prohibits the systematic evaluation of ambiguous forms of discrimination as distinct stressors that may have a negative impact on health and well-being.

To date, few studies have investigated the health consequences of more subtle forms of discrimination. Bennett and colleagues (2004) found that black men had elevated emotional responses to ambiguous discriminatory scenarios relative to blatantly racist experiences. Using an experimental design, they asked participants to read different scenarios—one that involved

being negatively treated at a store and being called a racial epithet, while the other included negative treatment with no mention of race. Overwhelmingly, the men reported greater negative affect after reading the more ambiguous scenario. The authors concluded that the inability to discern the reason for the treatment during the ambiguous scenario left the men more emotionally disturbed than the obvious experience of racial bias. Similarly, Noh, Kaspar, and Wickrama (2007) assessed the mental health effects of experiencing overt (e.g. being physically assaulted, insulted, or threatened) versus subtle (e.g. being refused service or being ignored) bias among Korean immigrants in Canada. Results showed that the perception of subtle bias led to elevated depressive symptoms and negative affect whereas the overt bias only reduced positive affect.

While findings from these studies highlight the importance of ambiguous events as well as the distinct nature by which overt and more subtle forms of discrimination influence health and well-being, there are also several limitations. Bennett and colleagues' (2004) use of an experimental design prohibits the analysis of broader patterns in the experience of stress due to ambiguity. Although Noh, Kaspar, and Wickrama's (2007) study provides new insight on differences between overt and subtle forms of discrimination, their focus on specific discriminatory events does not capture overall experiences of ambiguity in individuals' lives. There seem good grounds for hypothesizing that among blacks, the experience of ambiguous discrimination may be a more ambient and pervasive form of stress, often occurring in the absence of obvious negative treatment. For example, it has been suggested that this form of stress incorporates several dimensions including not only worrying about ambiguous experiences but also expecting that one may be discriminated against in the future (Williams and Mohammed 2009).

Although there has been much speculation about the degree to which ambiguity contributes to the stress context of black Americans, the question of whether ambiguous discrimination stress represents an important dimension of the black stress experience and the degree to which it has a negative impact on health outcomes remains unanswered. To better understand the significance of ambiguous discrimination for long-standing racial differences in health, as well as variation in health among black Americans, more attention to trends in such experiences across broader social categories is needed. As Pearlin (2005) has emphasized, exposure to stressors is patterned by one's social location, and the socially disadvantaged, in particular, face threat of greater stress exposure and elevated risk for poor health. Thus, examining the variation in exposure to ambiguous discrimination stress among black Americans may provide further insight into the mechanisms by which such pervasive, race-based forms of stress contribute to enduring disparities.

Social Correlates of Ambiguous Discrimination Stress

While anyone may experience feelings of uncertainty during ambiguous situations, past research suggests that some groups face greater uncertainty than others. Crocker and Major (1989) note that ambiguity likely occurs more often for members of highly stigmatized groups, suggesting that blacks, more so than other racial/ethnic groups, may be at particular risk for greater exposure to situations that promote uncertainty. Consistent with this perspective, prior studies find that there are status differences in the tendency to attribute events to discrimination. For example, Branscombe, Schmitt, and Harvey (1999) find that low-status individuals may experience more ambiguous discrimination events. They conclude that dominant group members are more likely to be vigilant in their perceptions of prejudice, judging a wider array of events as

possibly discriminatory, while lower status individuals are more likely to minimize prejudice and be uncertain about the cause of potentially discriminatory events. Thus, men and those with higher SES levels may experience more ambiguous discriminatory situations. Further examination of these experiences among blacks is needed to understand within-race variations across statuses such as social class and gender.

Beyond one's social locations, research has found that ambiguous discrimination stress is more likely to be experienced when one believes that others hold negative attitudes toward one's group. Specifically, some suggest that the more central a group is to an individual's self-conception, the greater the likelihood that he or she will interpret ambiguous situations in terms of discrimination (Major and Crocker 1989). This view is consistent with more recent studies that have demonstrated that blacks with higher levels of racial centrality are more likely to perceive discrimination (Branscombe et al. 1999; Sellers et al. 2003) and attribute ambiguous discriminatory events to racial bias (Shelton and Sellers 2000). Furthermore, racial identity and attributions to discrimination also vary with past experience of racial prejudice; such incidents may cause individuals to be more sensitive to even the most subtle experiences, leading to their attribution of such events to racial discrimination (Feldman-Barret and Swim 1998; Mellor et al. 2001).

Intrinsically linked to these factors is skin color, which has been associated with significant differences in blacks' quality of life and attitudes about race (Hunter 2007; Bowman, Muhammed, and Ifatunji 2004). Evidence suggests that blacks' skin tone is associated with their socioeconomic position (Krieger, Sidney, and Coakley 1998; Keith and Herring 1991), and others find a relationship between attributions of negative stereotypic traits (e.g. drug use, laziness) and darker skin color (Maddox and Gray 2002). Furthermore, racial identity centrality

may also vary with skin tone, although this has been contested in the literature (see Hoschschild and Weaver 2007 for discussion). Some argue that because light-skinned blacks may encounter prejudice from whites as well as a subdued rejection from other blacks, the racial identity formation process of this group may differ from darker-skinned black Americans (Cunningham 1997). Others find that the racial attitudes of blacks of all skin tones are similar (Bowman, Muhammed, and Ifatunji 2004) and the perception of discrimination does not vary by color (Krieger, Sidney, and Coakley 1998; Keith et al. 2010). As such, the extent to which racial identity centrality and past experiences of discrimination vary by skin tone, and the significance of these factors for exposure to ambiguous discrimination stress and its potential health consequences, remains unknown.

Ambiguous Discrimination Stress and Other Stressors

Several studies have examined the significance of individuals' social locations, worldview, and past experiences in shaping African American perceptions of potential discrimination. However, virtually none have empirically examined the effect of such experiences in the context of other forms of stress. Although extant literature suggests that such ambiguous experiences tend to be distressing for individuals, questions of the extent to which ambiguous discrimination stress matters for mental health and whether its effects are independent of other stressors, including unfair treatment, remain to be answered. As Williams and Mohammed (2009) argue, discrimination should be assessed in the larger social context of multiple stressful exposures within which it is embedded. Furthermore, one's ability to manage a new stressor may be reduced by the burden and demands of preexisting stressors. Thus, it may be possible that ambiguous discrimination stress makes a unique contribution toward explaining variations in health. By examining the social distribution of this stressor, as well as its

significance for the mental health and well-being of black Americans, this study attempts to advance our understanding of the significance of pervasive race-based stressors.

Method

Sample

The data for this study are drawn from the Nashville Stress and Health Study, which is aimed toward an improved understanding of black-white and SES health disparities. Data were gathered between April 2011 and January 2014, and the sample is representative of native-born black American and non-Hispanic white residents within the greater Nashville, Tennessee area. A total of 1270 individuals participated in three-hour computer-assisted interviews conducted with trained interviewers of the same race. Analyses were weighted for the probability of non-contact during the household screening phase and non-response during the interviewing phase. Post-stratification weights were also incorporated into the final design weight to allow generalizability of findings to the county population.

This is an ideal data set with which to address the research aims of this study for several reasons. First, it has a large enough sample of black Americans with similar numbers of males and females from various class groups to sufficiently examine gender and social class contrasts. In addition, this study is the first to attempt the explicit measurement of ambiguous discrimination stress, along with major and day-to-day discrimination and several dimensions of general stressors. For the present study, a sample of 626 black Americans was used, with 330 females and 296 males.

Measures

Outcomes. To assess the significance of ambiguous discrimination stress for blacks' mental health, two outcome measures were used: depressive symptoms and anxiety symptoms. To measure *depressive symptoms*, a modified 20-item version of the Center for Epidemiological

Studies for Depression scale (CES-D) (α=.89) was used, asking respondents how often in the last month they had any of the following symptoms. Examples of items include "you were bothered by things that usually don't bother you," "you felt like you could not shake off the blues," and "you had trouble keeping your mind on what you were doing." Items were coded using a "0, 1, 2, 3" scale, corresponding with responses of "not at all," "occasionally," "frequently," and "almost all the time." Respondents' experiences of *anxiety symptoms* were also evaluated with a five-item measure (α=.81). Respondents were asked how true each statement has been for them over the past month. Items included "I felt worried over possible misfortunes," "I felt tense," and "I felt nervous." Each item has five categories: (0) not at all, (1) somewhat, (2) moderately, and (3) very much.

Ambiguous Discrimination Stress. To capture experiences of uncertainty or ambiguity based on race, a four-item measure was used (α=.77). Respondents were asked to report the frequency with which they tend to have each of the following experiences: "In an average week, how often do you expect to be viewed or treated differently because of who you are?", "How often do you wonder whether your race has influenced how you are viewed or treated?", "How often do you feel some regret for not having questioned or challenged the way you or other African Americans were viewed or treated?," "How often do you regret having suggested that, or even wondered, whether racism or discrimination might have occurred or be occurring?" Responses were coded as (0) never, (1) once or twice a week, (2) several times a week, (4) almost every day (Turner and Brown, unpublished) and summed such that higher scores indicate greater perception of ambiguous discrimination stress.

Other Stressors. Several other forms of stress were also assessed. These include day-to-day discrimination, major discrimination, lifetime occurrence of major and potentially traumatic

events, recent life events, and chronic stressors. Individuals' perceptions of unfair treatment were measured using the Everyday Discrimination Scale (Williams et al. 1997). *Daily discrimination* consists of nine items such as "you are treated with less courtesy than other people" and "you receive worse service than other people at restaurants or stores." Respondents were asked to report the frequency with which such events occur: (0) never, (1) rarely, (2) sometimes, (3) often, and (4) almost always. *Major discrimination* was measured with seven items, including "been unfairly fired or denied a promotion," "been unfairly treated by the police," and "unfairly discouraged by a teacher or advisor from pursuing a job/career." For each item, respondents are asked to report whether the event has ever occurred (0=no, 1=yes). For both daily and major discrimination, respondents were asked to list the reasons for their reported discrimination experiences. Examples of potential reasons include ethnicity, race, gender, age, skin tone, and sexual orientation. For this analysis, the mental health effects of discrimination attributed to any reason, as well as actions attributed only to racial bias, were examined. To examine the social distribution of the frequency of discrimination, these measures were trichotomized based on the 25th and 75th percentiles of scores. Scores falling between 0 and the 25th percentile were coded as (0) "sometimes;" those between the 25th and 75th percentiles were coded as (1) "often;" those at and above the 75th percentile were coded as (2) "frequently."

The measure of *major and potentially traumatic events* consisted of 43 items that may occur throughout one's lifetime (0=no, 1=yes). Examples include "did your parents ever divorce or separate," "did either of your parents drink or use drugs so often or so regularly that it caused problems for the family," "did you ever have sexual intercourse when you didn't want to because someone forced you or threatened to harm you if you didn't," and "has anyone close to you ever died." The occurrence of r*ecent life events* was measured by 32 items and asked respondents to

report if each event happened to them or someone close within the past 12 months. Examples include "Did a child die," "Was there a marital separation or divorce," "Did someone have a major financial crisis," and "Was demoted at work or took a pay cut." *Chronic stressors* included 41 items across several domains of life such as employment (e.g. "You want to change jobs but don't feel you can"), relationships (e.g. "You have a lot of conflict with your partner"), children (e.g. "A child's behavior is a source of serious concern for you"), and general strain (e.g. "You're trying to take on too many things at once"). Respondents were asked to the extent to which each item is true, and responses were coded as (0) not true, (2) somewhat true, and (3) very true.

Sociodemographic Characteristics

In addition to individuals' experiences of ambiguous discrimination stress and other stressors, several sociodemographic characteristics were examined. Respondents were asked to report their *gender* (0=female, 1=male), *age* (1=less than 30, 2=30-39, 3=40-49, 4=50-59, 5=60 and older), and *marital status* (0=non-married, 1=married). Individuals' *socioeconomic position (SEP)* was calculated using their education level (number of years of education completed), yearly household income, and occupational prestige level, which was estimated using the NAM scoring system. The three estimates were standardized and sum to create a score. Scores were categorized into tertiles and coded as (1) low, (2) moderate, and (3) high SEP. Respondents' level of *racial identity centrality*, or the importance of race for their sense of self, was assessed using an 11-item scale of racial/ethnic orientation (α=0.78). Items included "You have a strong sense of yourself as a member of your racial/ethnic group," "You identity with other people from your racial/ethnic group," and "your racial/ethnic group had a lot to do with who you are today." Responses ranged from 1 (strongly disagree) to 7(strongly agree), and total scores were

categorized as (0) "low centrality" (25th percentile and below), (1) "moderate centrality" (between 25th percentile and 75 percentile), and (2) "high centrality" (75th percentile and above). Skin tone was measured using interviewer ratings of respondents' skin color. Possible categories included "very dark," "dark," "somewhat dark," "medium," "somewhat light," "light," and "very light." The "dark" and "somewhat dark" as well as the "light" and "somewhat light" categories were combined and skin tone was recoded as (1) very dark, (2) dark, (3) medium, (4) light, and (5) very light.

Results

Descriptives

Consistent with previous research, results from Table 1 indicate gender differences in mental health, with women reporting significantly higher levels of depressive symptoms and anxiety. Women and men have similar levels of exposure to ambiguous discrimination stress with mean scores of 3.22 for women and 3.71 for men. While women report significantly higher levels of recent life events (2.69 vs. 1.66) and chronic stressors (12.92 vs. 10.11), there are no significant gender differences in exposure to daily discrimination, major discrimination, or major and potentially traumatic events.

Table 1. Means and Prorportions of Sample Variables

	All	Women	Men
N	626	330	296
Outcomes			
Depressive Symptoms (0-60)	14.33	16.01**	12.28
Anxiety Symptoms (0-15)	4.17	4.56*	3.71
Ambiguous Discrimination Stress (0-12)	3.44	3.22	3.71
Other Stressors			
Daily Discrimination (0-40)	19.42	19.43	19.40
Major Discrimination (0-7)	1.96	2.02	1.90
Traumatic Events (0-31)	9.48	9.52	9.43
Recent Events (0-15)	2.23	2.69***	1.66
Chronic Stressors (0-40)	11.65	12.92***	10.11
Sociodemographic Characteristics			
Age	43.57	43.77	43.32
Married	0.35	0.26**	0.46
SEP			
low	0.28	0.29	0.27
moderate	0.34	0.30	0.39
high	0.38	0.40	0.34
Racial Identity			
low	0.25	0.28	0.21
moderate	0.52	0.52	0.52
high	0.24	0.22	0.28
Skin tone			
very dark	0.02	0.02	0.02
dark	0.29	0.25	0.34
medium	0.42	0.36*	0.50
light	0.22	0.30***	0.13
very light	0.04	0.07*	0.01

*p<0.05; **p<0.01; ***p<0.001; two-tailed tests

     The average age of the sample is 43 years, and slightly less than one-third is categorized as low SES. Significantly more men compared to women are married, with 46% of men who are married relative to just 26% of women. These striking gender differences in marriage are consistent with studies confirming rapidly declining rates among black women (Crowder and Tolnay 2000). To account for these differences, sampling weights were used during analyses to avoid potential oversampling bias. More than 50% of the sample reports moderate racial identity

centrality, with 25% reporting low and 24% reporting high centrality. There is also substantial variation by skin color, with less than 2% who are very dark, 29% dark, 42% medium, 22% light, and 4% very light.

Table 2. Social Distribution of Ambiguous Discrimination Stress

	<u>All</u>	<u>Women</u>	<u>Men</u>
Age			
less than 30	4.17	3.16	4.84
30-39	3.29	2.97	3.82
40-49	3.30	3.15	3.46
50-59	3.82	3.98	3.63
60+	2.36	2.24	2.51
Married			
married	3.51	3.04	4.29
unmarried	3.33	3.74	3.04*
SEP			
low	2.68	2.42	3.02
moderate	3.49*	3.35	3.63
high	3.97*	3.70*	4.35
Racial Identity			
low	2.28	2.50	1.90
moderate	3.73**	3.43	4.09***
high	4.05***	3.69**	4.37**
Past Discrimination Experience			
Daily Discrimination			
sometimes	2.05	2.12	1.97
often	3.36	3.2	3.59
frequently	5.30***	4.72***	5.87
Major Discrimination			
sometimes	3.12	2.79	3.52
often	3.09	3.28	2.92
frequently	4.11	3.77*	4.57
Skin tone			
very dark	3.06	3.12	2.98
dark	3.72	3.13	4.26
medium	3.48	3.60	3.37
light	3.35	3.09	4.07
very light	1.98	2.18	0.87

Notes: Means of ambiguous discrimination stress for each variable are presented; range of ADS is 0-12.

[a] significant gender difference at p<0.05 level

Social Distribution of Ambiguous Discrimination Stress

To understand variation in the perception of ambiguous discrimination stress among black Americans, the social distribution of this stressor was examined. Findings shown in Table 2 reveal no significant gender differences in exposure to ambiguous discrimination stress across statuses. Overall, those who are younger report the highest levels of stress. Married individuals report slightly higher levels of ambiguous discrimination stress, and among men, there is a significant difference in stress levels, with married men reporting significantly higher exposure than unmarried men (4.29 vs. 3.04). There are also significant differences in ambiguous discrimination stress levels across SEP levels. Ambiguous discrimination stress levels rise with higher levels of SEP, as those with low SEP report average scores of 2.68 relative to an average score of 3.97 among those with high SEP.

A similar pattern emerges across levels of racial identity centrality. Those with high racial identity centrality report significantly greater exposure to ambiguous discrimination stress relative to those with moderate or low centrality (4.05 vs. 2.73 vs. 2.28). In addition, individuals who report having frequently experienced daily discrimination have the highest exposure to ambiguous discrimination stress. Among women, frequent exposure to major discrimination predicts significantly higher exposure to ambiguous discrimination stress as well. Although no significant patterns by skin tone are observed, those who are very light tend to report the lowest levels of ambiguous discrimination stress, while those who are considered dark reported the highest (1.98 vs. 3.72).

Regression Analyses: Depressive Symptoms

Table 3 presents results from OLS regression analyses of depressive symptoms on ambiguous discrimination stress and other stressors with age, race, gender, marital status, SEP, racial identity, and skin tone controlled. In Model 1, the effect of ambiguous discrimination stress is significant, such that higher exposure corresponds with elevated depressive symptomology. In Models 2-6, the effects of other stressors are individually considered in the context of ambiguous discrimination. Daily discrimination, major discrimination, lifetime trauma, and chronic stressors are all significant predictors of depressive symptoms. Ambiguous discrimination stress remains significant, suggesting that this stressor is not redundant with other sources of stress. In the full model (Model 7) with all stress dimensions considered, only daily discrimination and chronic stress remain significant predictors of depressive symptoms. The effect of ambiguous discrimination stress is mediated more than 82% with the consideration of other forms of stress, and the full model explains 44% of the variance in depressive symptoms among black Americans.

Table 3. Depressive Symptoms Regressed on Ambiguous Discrimination Stress and Other Stressors

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Ambiguous Discrimination Stress	0.94***	0.58**	0.81***	0.82***	0.80***	0.46***	0.17
	(0.16)	(0.20)	(0.16)	(0.17)	(0.17)	(0.14)	(0.14)
Daily Discrimination		0.56***					0.40***
		(0.10)					(0.10)
Major Discrimination			1.29***				0.08
			(0.27)				(0.28)
Lifetime Trauma				0.29*			0.04
				(0.12)			(0.11)
Recent Events					0.74*		0.49
					(0.32)		(0.26)
Chronic Stress						0.52***	0.41***
						(0.04)	(0.05)
Constant	24.34***	13.53***	21.22***	20.43***	20.87***	15.99***	6.87
	(3.20)	(3.97)	(3.49)	(4.82)	(3.48)	(2.85)	(3.03)
N	626	626	626	626	626	626	626
R^2	0.22	0.32	0.27	0.25	0.25	0.38	0.44
F	34.94	40.46	32.33	36.61	39.20	62.25	64.89

Note: Age, gender, marital status, SEP, racial identity, and skin tone are included as covariates.

*$p<0.05$; **$p<0.01$; ***$p<0.01$

Tables 3a and 3b show results from the gender-split analyses. Among women (Table 3a), ambiguous discrimination stress is a significant predictor of depressive symptoms, along with daily discrimination, major discrimination, and chronic stress. Lifetime trauma and recent events are not significant. In the full model, ambiguous discrimination stress remains significant along with chronic stressors. The effect of ambiguous discrimination is mediated 53% with the consideration of other stressors. Among men (Table 3b), ambiguous discrimination predicts higher depressive symptoms, but is no longer significant with the consideration of daily discrimination (Model 2), major discrimination (Model 3), or chronic stress (Model 6). In the full model, the effect of ambiguous discrimination has been entirely explained by other stressors, and only daily discrimination and chronic stress remain significant predictors of depressive symptoms for men. Previous research on gender differences in mental health suggests that these distinctive outcomes may be due to the outcomes assessed. Past studies have found that with elevated stress exposure, women tend to report higher levels of internalizing outcomes such as depression and anxiety, whereas men tend to report higher levels of externalizing outcomes such as substance abuse or risk-taking behaviors (Rosenfeld 1980; Nolen-Hoeksema, Larson, and Grayson 1999; Pincinelli and Wilkinson 2000). These differences suggest that there are likely divergent processes by which stress influences the mental health of women and men that may be attributable to gendered societal roles and norms.

Table 3a. Depressive Symptoms Regressed on Ambiguous Discrimination Stress and Other Stressors among Black Women

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Ambiguous Discrimination Stress	1.45***`	1.15***	1.29***	1.28***	1.29***	0.93***	0.68***
	(0.19)	(0.20)	(0.20)	(0.25)	(0.21)	(0.19)	(0.18)
Daily Discrimination		0.45***					0.29
		(0.13)					(0.17)
Major Discrimination			1.35***				0.41
			(0.40)				(0.42)
Lifetime Trauma				0.30			-0.03
				(0.17)			(0.16)
Recent Events					0.50		0.39
					(0.36)		(0.30)
Chronic Stress						0.46***	0.39***
						(0.05)	(0.05)
Constant	25.03***	16.84***	21.15***	21.70***	22.31***	15.09***	8.51*
	(3.00)	(5.20)	(2.92)	(3.72)	(3.53)	(2.23)	(3.64)
N	330	330	330	330	330	330	330
R^2	0.30	0.36	0.35	0.32	0.32	0.42	0.46
F	24.14	27.77	19.85	18.11	19.71	35.28	37.21

Note: Age, gender, marital status, SEP, racial identity, and skin tone are included as covariates.

*$p<0.05$; **$p<0.01$; ***$p<0.01$*

Table 3a. Depressive Symptoms Regressed on Ambiguous Discrimination Stress and Other Stressors among Black Men

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Ambiguous Discrimination Stress	0.61*	0.17	0.52	0.54*	0.52*	0.17	-0.12
	(0.25)	(0.25)	(0.27)	(0.25)	(0.25)	(0.24)	(0.23)
Daily Discrimination		0.65***					0.50***
		(0.12)					(0.09)
Major Discrimination			0.96*				-0.44
			(0.39)				(0.40)
Lifetime Trauma				0.18			0.09
				(0.10)			(0.10)
Recent Events					0.97*		0.57*
					(0.45)		(0.27)
Chronic Stress						0.55***	0.42***
						(0.07)	(0.06)
Constant	19.62***	6.41	17.64***	16.76**	16.80***	16.95***	5.19
	(4.08)	(4.15)	(4.55)	(5.32)	(3.52)	(2.91)	(3.43)
N	296	296	296	296	296	296	296
R^2	0.19	0.33	0.21	0.20	0.22	0.36	0.44
F	44.41	135.16	45.93	44.63	35.48	40.71	44.44

Note: Age, gender, marital status, SEP, racial identity, and skin tone are included as covariates.

*$p<0.05$; **$p<0.01$; ***$p<0.01$*

Supplemental analyses (Appendix A) further underscore these gender differences. To understand the contribution of ambiguous discrimination stress to depressive symptoms independent of past experiences of discrimination, additional analyses were performed. Model 1

shows the independent effect of ambiguous discrimination stress on depressive symptoms. Model 2 adds daily and major discrimination. Results demonstrate that with the consideration of both forms of discrimination, the effect of ambiguous discrimination stress is mediated 23% for women. For men, ambiguous discrimination stress is mediated 74% and becomes non-significant. This suggests that the independent effects of ambiguous discrimination stress on depressive symptomology are much greater among women, while past discriminatory experiences primarily explains variation in symptoms among men.

Regression Analyses: Anxiety

Table 4 presents results from OLS regression analyses of anxiety on ambiguous discrimination and other stressors. Again, age, gender, marital status, SEP, racial identity, and skin tone were controlled. In Model 1, the effect of ambiguous discrimination stress predicts greater anxiety symptoms. In Models 2-6, the effect of ambiguous discrimination and other stressors are considered. Daily discrimination (Model 2), major discrimination (Model 3), and chronic stress (Model 4) each predict greater anxiety symptoms. Lifetime trauma and recent events are not significant. In the full model, only ambiguous discrimination stress and chronic stress remain significant predictors of anxiety symptoms, explaining 31% of the variance in anxiety symptomology among black Americans. With the consideration of other forms of stress, the effect of ambiguous discrimination stress is mediated 45%.

Table 4. Anxiety Symptoms Regressed on Ambiguous Discrimination Stress and Other Stressors

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Ambiguous Discrimination Stress	0.40***	0.34***	0.38***	0.36***	0.37***	0.26***	0.22***
	(0.05)	(0.06)	(0.05)	(0.05)	(0.04)	(0.05)	(0.05)
Daily Discrimination		0.10***					0.06
		(0.03)					(0.04)
Major Discrimination			0.22*				-0.08
			(0.11)				(0.18)
Lifetime Trauma				0.09			0.04
				(0.05)			(0.06)
Recent Events					0.15		0.06
					(0.10)		(0.10)
Chronic Stress						0.15***	0.13***
						(0.02)	(0.02)
Constant	7.32***	5.44***	6.79***	6.08***	6.61***	4.95***	3.41*
	(1.01)	(1.38)	(1.01)	(1.69)	(1.20)	(0.83)	(1.56)
N	626	626	626	626	626	626	626
R^2	0.21	0.23	0.22	0.23	0.22	0.3	0.31
F	28.40	29.50	31.84	40.47	35.05	36.59	60.69

Note: Age, gender, marital status, SEP, racial identity, and skin tone are included as covariates.
*$p<0.05$; **$p<0.01$; ***$p<0.01$*

Examination of the gender-split models in Tables 4a and 4b reveal distinct patterns. Among women (Table 4a), only ambiguous discrimination stress and chronic stress are significant predictors of anxiety. The effect of ambiguous discrimination stress remains significant with the consideration of all other forms of stress, and in the full model its effect is mediated 37%. Among men (Table 4b), ambiguous discrimination, daily discrimination, lifetime trauma, and chronic stress all predict greater anxiety symptoms. In the full model, only lifetime trauma and chronic stress remain significant. The effect of ambiguous discrimination stress is mediated 44% and is no longer significant.

Table 4a. Anxiety Symptoms Regressed on Ambiguous Discrimination Stress and Other Stressors among Black Women

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Ambiguous Discrimination Stress	0.49***	0.45***	0.46***	0.45***	0.43***	0.36***	0.31***
	(0.08)	-0.09	(0.08)	(0.12)	(0.09)	(0.07)	(0.08)
Daily Discrimination		0.06					0.03
		(0.05)					(0.07)
Major Discrimination			0.22				0.04
			(0.13)				(0.21)
Lifetime Trauma				0.07			-0.01
				(0.08)			(0.09)
Recent Events					0.17		0.14
					(0.12)		(0.13)
Chronic Stress						0.11***	0.10*
						(0.03)	(0.04)
Constant	8.05***	6.95***	7.43***	7.27***	7.11***	5.63***	4.52***
	(1.35)	(2.07)	(1.29)	(1.75)	(1.41)	(1.18)	(1.69)
N	330	330	330	330	330	330	330
R^2	0.24	0.24	0.24	0.24	0.25	0.29	0.30
F	27.55	20.91	22.49	31.48	24.98	27.45	27.1

Note: Age, gender, marital status, SEP, racial identity, and skin tone are included as covariates.
*$p<0.05$; **$p<0.01$; ***$p<0.01$*

Table 4b. Anxiety Symptoms Regressed on Ambiguous Discrimination Stress and Other Stressors among Black Men

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Ambiguous Discrimination Stress	0.27***	0.27***	0.33***	0.31***	0.35***	0.21**	0.15
	(0.08)	(0.09)	(0.08)	(0.07)	(0.08)	(0.08)	(0.08)
Daily Discrimination		0.13**					0.08
		(0.04)					(0.04)
Major Discrimination			0.26				-0.17
			(0.20)				(0.26)
Lifetime Trauma				0.12***			0.12**
				(0.04)			(0.04)
Recent Events					0.10		-0.10
					(0.11)		(0.07)
Chronic Stress						0.19***	0.17***
						(0.02)	(0.03)
Constant	5.10***	2.46	4.57***	3.17	4.80***	4.19***	1.44
	(1.29)	(1.49)	(1.26)	(1.71)	(1.38)	(1.12)	(1.76)
N	296	296	296	296	296	296	296
R^2	0.24	0.28	0.25	0.27	0.24	0.37	0.41
F	35.99	59.40	32.56	29.95	28.17	21.64	33.24

Note: Age, gender, marital status, SEP, racial identity, and skin tone are included as covariates.
*$p<0.05$; **$p<0.01$; ***$p<0.01$*

Additional analyses shown in Appendix B further illustrate the effects of ambiguous discrimination stress with only past experiences with discrimination considered. For women, consideration of past discrimination experiences only mediates the effect of ambiguous discrimination stress by 10%, compared to more than 25% for men. This suggests that ambiguous discrimination stress explains variation in anxiety symptoms largely independent of past discrimination among women. Among men, prior discrimination experiences explain more of the ambiguous stress-anxiety symptomology association.

Interaction Analyses

To better understand the relationships among ambiguous discrimination stress, racial identity, and skin tone among men and women, interaction analyses were conducted. Results show that the effects of ambiguous discrimination vary significantly by gender, such that at higher levels of stress, women have elevated levels of depressive symptomology compared to men (Figure 1).

Figure 1. Effect of Ambiguous Discrimination Stress on Depressive Symptoms by Gender
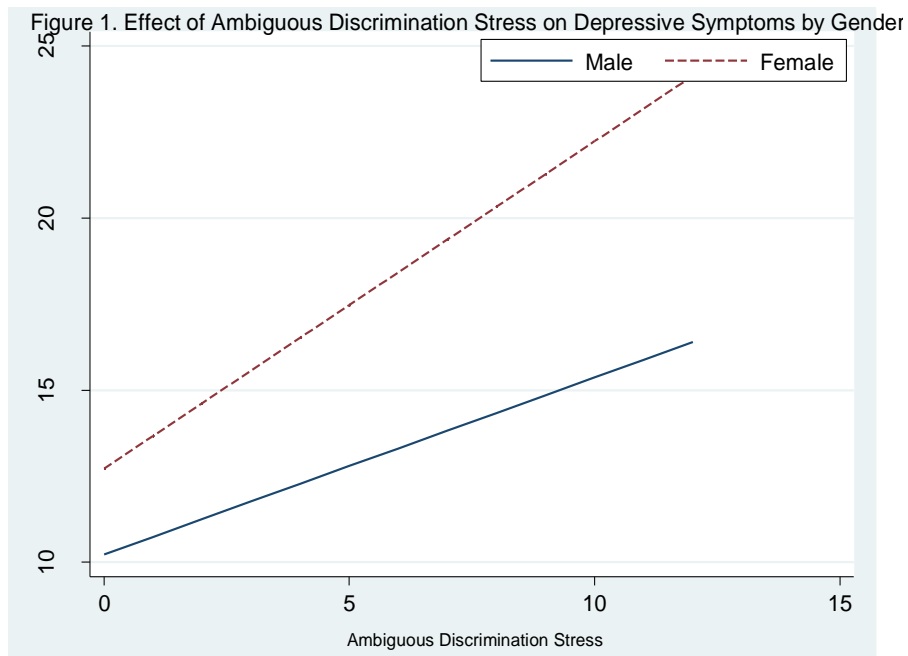
The effects of ambiguous discrimination stress also vary by levels of racial identity centrality. As shown in Figure 2, those with low racial centrality report significantly greater depressive symptoms at higher levels of ambiguous discrimination stress. There is a minimal effect on those with moderate centrality, but among those with high racial identity centrality, there is actually a significant decrease in depressive symptoms, such that at high levels of stress, those with high centrality have the lowest levels of depressive symptoms.

Figure 2. Effect of Ambiguous Discrimination Stress on Depressive Symptoms by Levels of Racial Identity Centrality
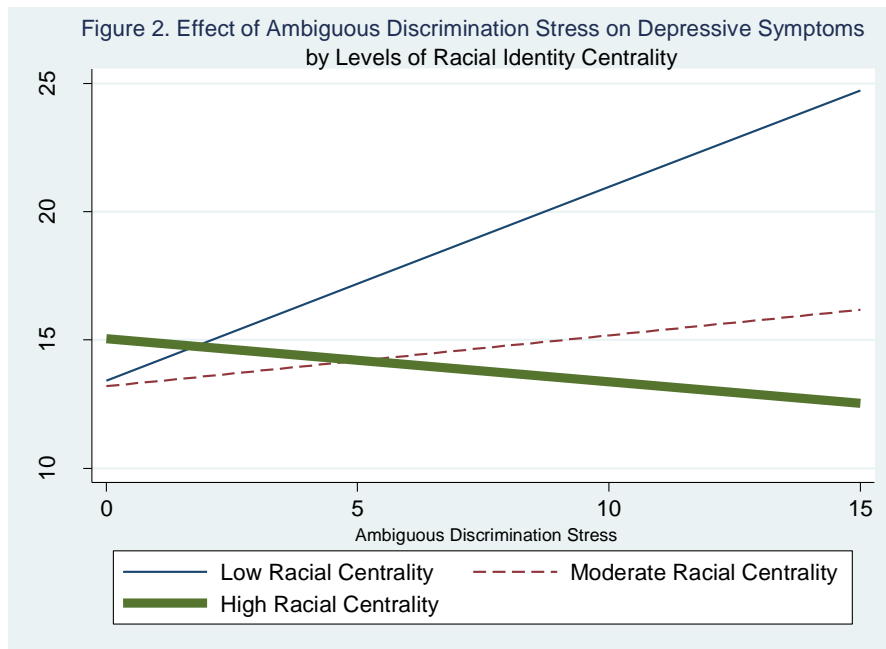
The significant interaction between ambiguous discrimination stress and past discrimination among women is depicted in Figure 3. While there are no significant differences observed among men, for women who reported frequent experience with daily discrimination, exposure to greater levels of ambiguous discrimination stress does little to their level of depressive symptoms. For women with less experience with past daily discrimination, however, a different pattern emerges. At low levels of ambiguous discrimination stress, they report relatively few symptoms. But as their exposure to the stressor increases, there is a sharp increase in depressive symptoms. This suggests that for those with more frequent experience with

negative treatment, stress due to ambiguous situations has relatively little impact on their mental health, while the health consequences of ambiguous discrimination stress are much greater for those with less experience of negative treatment.

Figure 3. Effect of Ambiguous Discrimination Stress on Depressive Symptoms by Past Daily Discrimination Experience among Women
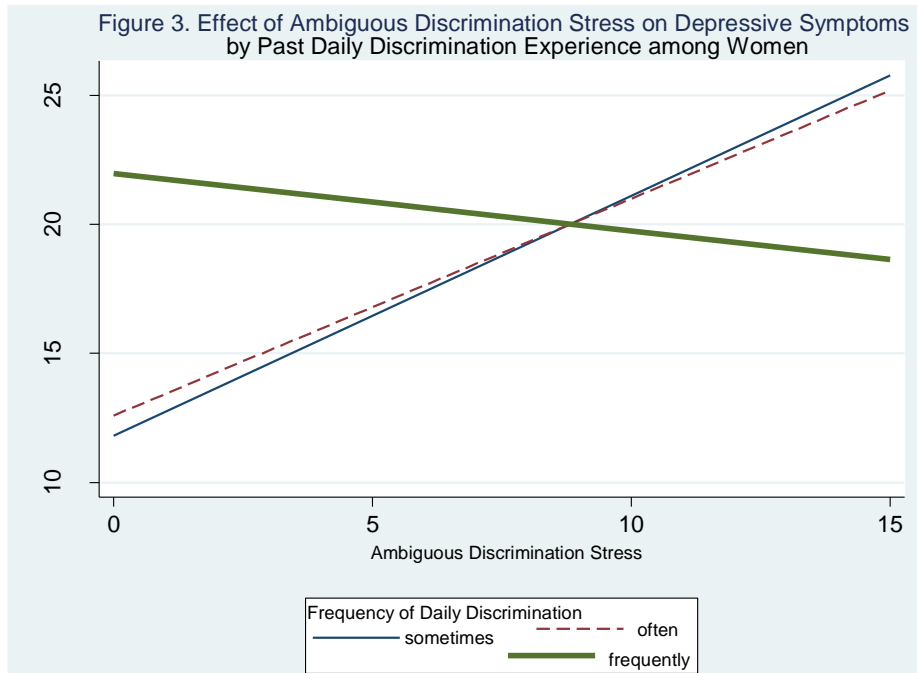
Figures 4 and 5 illustrate differences in the effects of ambiguous discrimination stress by skin tone. Among those with medium skin tone, there is a significant increase in depressive symptoms with increasing levels of ambiguous discrimination stress. This effect is greatly amplified among those classified as very light. For all others, there are no significant differences (see Figure 4). In Figure 5, the effects of ambiguous discrimination stress on anxiety symptoms also vary by skin tone. Specifically, for those considered medium brown, increasing levels of ambiguous discrimination stress significantly predicts higher levels of anxiety symptoms. There is not a significant difference among those of other skin tones.
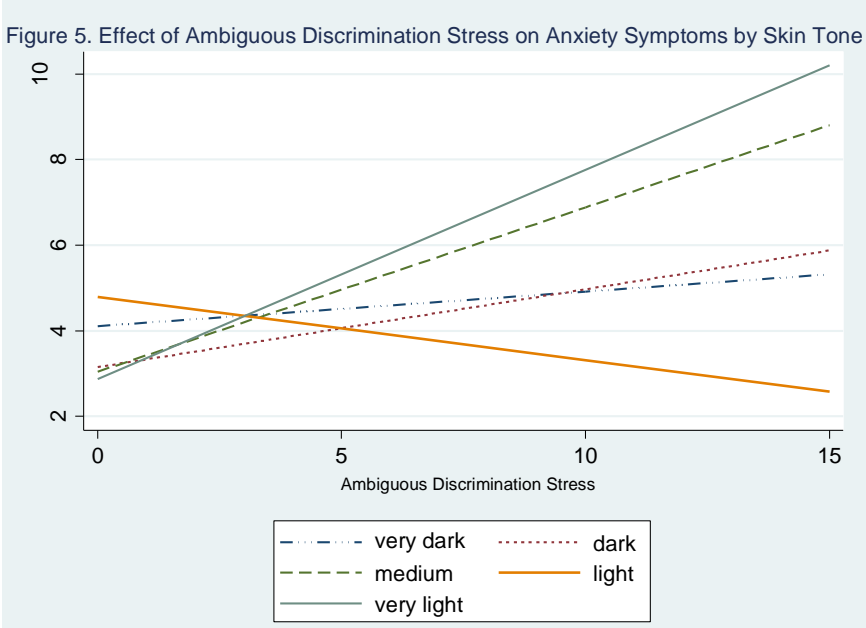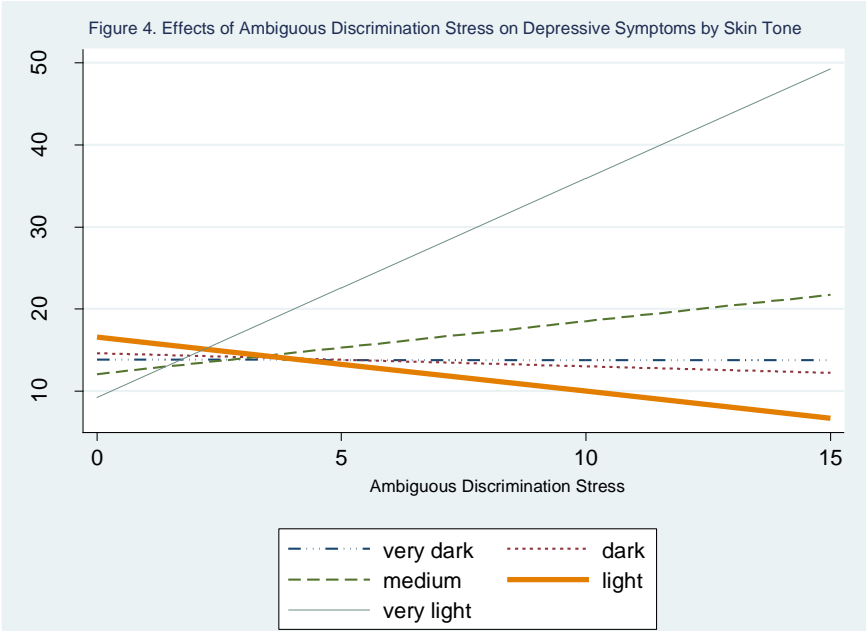
Figure 4. Effects of Ambiguous Discrimination Stress on Depressive Symptoms by Skin Tone

Figure 5. Effect of Ambiguous Discrimination Stress on Anxiety Symptoms by Skin Tone

Discussion

The purpose of this study was to examine the significance of ambiguous discrimination stress for the mental health of black Americans, exploring its social distribution and consequences for depressive and anxiety symptoms. Results demonstrate that overall, exposure to ambiguous discrimination stress is detrimental to blacks' mental health. However, there are status differences in the prevalence of this stressor, as well as variation in its health effects.

Although women and men do not report significantly different levels of ambiguous discrimination stress, there are other status differences in the experience of this stressor. For example, those with higher SEP levels, more central racial identities, and more frequent prior experience with discrimination report the greatest exposure to ambiguous discrimination stress. These findings are consistent with prior research, which has suggested that advantaged blacks encounter ambiguous discriminatory situations more frequently than other blacks as a result of their increased interactions with whites (Thomas forthcoming; Lacy 2007; Lee 2000). In addition, others have noted the potential link between racial centrality and awareness of ambiguous discriminatory events (Major and Crocker 1989), positing that blacks with higher levels of racial centrality are more likely to perceive unfair treatment (Shelton and Sellers 2000; Sellers et al. 2003).

Results from regression analyses demonstrate the importance of ambiguous discrimination stress for blacks' mental health, revealing divergent processes across outcomes and among women and men. Study findings suggest that ambiguous discrimination stress explains a greater amount of the variance in depressive symptoms compared to anxiety symptoms. Furthermore, women generally report higher levels of depressive and anxiety symptoms, and the significance of stress for these outcomes vary by gender. For example,

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ambiguous discrimination stress remains a consistent predictor of worse mental health among women, but not for men. With the consideration of several other forms of stress—daily discrimination, major discrimination, lifetime trauma, recent events, and chronic stressors— ambiguous discrimination fails to predict depressive or anxiety symptoms among men. A significant interaction between gender and ambiguous discrimination distress further underscores that the health consequences of this stressor are much greater for women compared to men.

Findings also indicate that several race-related factors also significantly moderate the ambiguous discrimination stress-mental health association. For instance, having a more central racial identity seems to be protective against the negative effects of ambiguous discrimination stress on depressive symptoms. This is consistent with prior studies of racial identity and health that found that although a central racial identity makes blacks more likely to perceive discrimination, it also buffers its deleterious mental health effects (Sellers et al. 2003). Surprisingly, results from the present study also show that exposure to ambiguous discrimination stress has little effect on those with experience of frequent daily discrimination. As previous research has suggested that those with past experience of discrimination may be more apt to attribute ambiguous events to discrimination (Branscombe et al. 1999; Major and Crocker 1989), perhaps individuals in this group are able to make definitive attributions, which lead to effective resolution of the stressful event. Among those with less experience, more rumination is likely, which may explain their elevated rates of depressive symptoms at the highest ambiguous discrimination stress levels.

Individuals' skin tone also influenced the effect of ambiguous discrimination stress on their mental health, although not in expected ways. For instance, among those who are considered medium and very light, the impact of ambiguous discrimination stress on depressive

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symptoms is amplified compared to those of other skin tones. In addition, the effect of

ambiguous discrimination on anxiety is greater among those who are considered medium-toned.

This suggests that although skin color does not significantly predict individuals' perception of

ambiguous discrimination stress, it does influence the extent to which this stressor affects their

mental health. Furthermore, these differences are not monotonic in nature. That is, the effect of

ambiguous discrimination stress does not increase or decrease evenly across the skin color

gradient. As previous research has suggested, there may be complex associations among skin

tone and racial identity in the perception of discrimination (Bowman, Muhammed, and Ifatunji

2004; Hoschschild and Weaver 2007) that may underlie these distinct patterns in mental health.

To better understand these potential relationships, an interaction between skin tone, racial

identity centrality, and ambiguous discrimination stress was tested. These results (not shown)

demonstrate a significant three-way interaction, such that those with dark skin and low racial

centrality, those with medium-toned skin and low centrality, and the very light at all levels of

centrality report the highest levels of depressive symptoms at elevated levels of ambiguous

discrimination stress. These findings suggest that skin tone and racial identity centrality have

synergistic effects, contributing to increased symptomology among certain subgroups of the

black population. Further research is needed to untangle the complex mechanisms by which

these factors contribute to differences in health.

In addition to understanding the social distribution and mental health consequences of

ambiguous discrimination stress, another important aim of this study was to investigate the

extent to which the perception of ambiguous discrimination stress matters for mental health

independent of other more overt forms of stress such as major and daily discrimination. As some

have posited that attributional ambiguity can hinder the coping process, thereby amplifying

negative health outcomes (Major, Quinton, and McCoy 2002; Williams and Mohammed 2009; Bennett et al. 2004), the present study sought to examine the mental health effect of ambiguous discrimination stress independent of discrimination and other forms of stress. Results indeed suggest that ambiguous discrimination stress makes an independent contribution, distinct from perceived major and daily discrimination, and for women, it makes an additional significant contribution to both depressive and anxiety symptoms.

In addition, the consideration of ambiguous discrimination stress results in a substantial increase in the explanation of variation in mental health. With the examination of only sociodemographic variables, the amount of variance explained is about 13% for depressive symptoms and 8% for anxiety symptoms. However, once ambiguous discrimination stress is added to the model, more than 21% is explained for both outcomes. With all stress dimensions considered, these values double. These findings have implications for research on discrimination and health, suggesting that ambiguous discrimination stress adds to the ability to assess variation in mental health among black Americans. Future research should examine the mechanisms by which less obvious forms of discrimination such as ambiguous discrimination stress contribute to health and well-being, considering the role of psychosocial factors such as rumination and increased vigilance in the ambiguous discrimination stress-health association.

This paper contributes to the existing stress and health literature in several ways. Primarily, it is the first to consider the social distribution and health significance of ambiguous discrimination stress. The present article shows that this additional stress dimension, which has been hypothesized to negatively impact health by hindering the coping response (Quinton and McCoy 2002; Bennett et al. 2004; Williams and Mohammed 2009), varies across social statuses and indeed has a negative effect on mental health among black Americans. Second, effects of

ambiguous discrimination within the context of other stressors are considered. Using an approach similar to Taylor and Turner (2003), the present study finds that while ambiguous discrimination stress negatively impacts health for blacks generally, it only makes an independent contribution to mental health among black women. Third, this paper also examines the significance of race-related factors such as racial identity centrality and skin tone, which have been often neglected from much of the health literature (Shelton and Sellers 2003). These factors significantly contribute to differences in the effects of ambiguous discrimination on mental health, underscoring the often nuanced relationship between stress and health among black Americans.

Finally, this article addresses the question of whether ambiguous discrimination stress makes an independent contribution to variations in mental health among blacks that is distinct from the effects of more overt forms of stress such as major and daily discrimination. Study results demonstrate that for women, elevated levels of ambiguous discrimination stress predict significantly higher levels of depressive and anxiety symptoms, independent of other stressors. Other forms of stress (i.e. daily discrimination, lifetime trauma, and chronic strain) seemed to take a greater toll on black men's mental health. The stark gender differences depressive and anxiety symptoms as well as differences the in stressors that matter for health among the black population highlight a growing need for more research on stressors that differentially impact women and men. Although women's elevated levels of depressive and anxiety symptoms are consistent with prior studies, less research has examined differences in stressors among black men and women specifically. Recent studies have suggested that black men in particular, experience unique stress contexts that produce poor health (Griffith 2012; Griffith et al. 2013; Griffith, Metzl, and Gunter 2011), while other research suggests that black women and men

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differ significantly in the way that they cope with the stress of perceived discrimination and unfair treatment (Nuru-Jeter et al. 2009; Keith et al. 2010; Matthews et al. 2012) and that the availability of social support and other psychosocial resources varies among black men and women (Umberson et al. 2014; Thomas and Turner 2014). Future research should consider the significance of differential coping behaviors to explain gender differences in the effect of ambiguous discrimination stress on health.

Although this article enhances our current knowledge on stress and health among the black population, there are a few limitations. First, the analysis utilizes cross-sectional data, making causal attributions about the association between ambiguous discrimination and depressive or anxiety symptoms impossible. Nevertheless, prior research has demonstrated that the experience of discrimination predicts poor health, but one's health status does not predict later reports of discrimination (Brown et al. 2000; Williams and Mohammed 2009). In addition, this study only considers the significance of ambiguous discrimination stress for mental health outcomes, although there is a growing interest in the role of such stressors for physical health (see Williams and Mohammed 2009 for a review).

Despite these limitations, the present article presents the first examination of ambiguous discrimination stress, finding that it has a negative association with health among black Americans. It represents a fundamental step in understanding how covert and ambiguous discrimination contributes to the stress context and health outcomes of blacks. As argued by Turner and colleagues (Taylor and Turner 2003; Turner 2010; Turner 2013), exposure to racism includes greater exposure to a host of other stressors and a significant portion of health inequity arises from blacks' elevated exposure to this stress. Furthermore, failure to consider all aspects of relevant social stressors results in a serious underestimation of their significance for continued

racial disparities. Consequently, more adequate and comprehensive measurement of stressors such as ambiguous discrimination stress and other forms of race-related stress, as well as consideration of their health effects in the context of other more commonly assessed stressors is needed.

Appendix A. Effects of Ambiguous Discrimination Stress (ADS) and Other Discrimination on Depressive Symptoms

	All (N=626)		Women (N=330)		Men (N=296)	
	b	SE	b	SE	b	SE
Model 1						
ADS	0.94***	0.16	1.45***	0.19	0.61*	0.25
Model 2						
ADS	0.56***	0.19	1.12***	0.21	0.16	0.26
Daily Discrimination	0.50***	0.11	0.35*	0.17	0.63***	0.11
Major Discrimination	0.61*	0.26	0.82	0.47	0.16	0.32

Note: Age, marital status, SEP, racial identity, and skin tone are included as covariates.

*$p<0.05$; **$p<0.01$; ***$p<0.01$

Appendix B. Effects of Ambiguous Discrimination Stress (ADS) and Other Discrimination on Anxiety Symptoms

	All (N=626)		Women (N=330)		Men (N=296)	
	b	SE	b	SE	b	SE
Model 1						
ADS	0.40***	0.05	0.49***	0.08	0.36***	0.08
Model 2						
ADS	0.34***	0.06	0.44***	0.09	0.27**	0.09
Daily Discrimination	0.09*	0.04	0.04	0.07	0.12*	0.05
Major Discrimination	0.10	0.12	0.15	0.18	0.11	0.22

Note: Age, marital status, SEP, racial identity, and skin tone are included as covariates.

*$p<0.05$; **$p<0.01$; ***$p<0.01$

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STUDY #2: DIMENSIONS OF BLACKNESS: THE ROLE OF EARLY LIFE EXPERIENCES IN THE RACIAL IDENTITY DEVELOPMENT AND MENTAL HEALTH OF BLACK AMERICANS

Research on health and well-being has identified race as a fundamental determinant of individuals' life chances, structuring one's access to resources and opportunities that ensure good health. The mental health literature generally finds that blacks report higher levels of psychological distress and worse self-rated mental health relative to whites (Williams, Yu, and Jackson 1997; Brown 2003; Mouzon 2013), although explanations for these disparities have been varied. While early health disparities research focused almost exclusively on structural factors such as socioeconomic status to explain racial differences in health (Kessler and Neighbors 1986; Williams 1990; Williams and Collins 1995), more recently, scholars have turned to examining social psychological factors beyond structured inequality and disadvantage as potential determinants of the differential health outcomes of black and white Americans.

A prominent explanation for persistent racial disparities in psychological well-being is blacks' disproportionate exposure to stressors and unfair treatment (Kessler, Michelson, and Williams 1999; Brown et al. 2000; Taylor and Turner 2003; Williams and Mohammed 2009). There is a vast literature outlining the significance of social stress for group differences in health, arguing that exposure to stressors is differentially patterned by individuals' social statuses (e.g. race, gender, and social class), that disadvantaged groups are generally exposed to greater stress, and that elevated exposure to stressors can lead to increased psychological strain and distress (Pearlin et al. 1981; Pearlin 1989; Aneshensel 1992; Turner and Avison 2003; Turner 2013). Perceived discrimination, in particular, can be an especially damaging source of stress because it can challenge individuals' sense of self (Grollman 2012). Stress theory further argues that the

negative mental health consequences of stress exposure may be mediated and/or moderated by various psychosocial factors, such as social support, self-esteem, and self-efficacy (Turner and Roszell 1994; Turner and Frankel 1983; Turner, Taylor, and Van Gundy 2004). Thus, understanding the role of these psychosocial resources, as well as status differences in their availability, may elucidate potentially modifiable points of intervention to reduce poor health among disadvantaged groups.

Of particular interest to scholars whose work addresses variations in health among black Americans has been the role of racial identity as a psychosocial resource that shapes blacks' lived experiences and mental health. Drawing from early identity research, studies in this area are largely based on the assumption that being black in American society means occupying a racially defined status that is productive of a black group identity, the intensity of which varies with the nature of the individual's role experiences (Demo and Hughes 1990). It has been argued that black racial identity, generally referring to the qualitative meanings of being a member of the black racial group (Sellers et al. 1998; Shelton and Sellers 2000; Sellers and Shelton 2003), provides insight into the mechanisms underlying within-group differences in health that go beyond group membership itself. For example, studies have observed associations among identity, racial discrimination, and depressive symptoms, with racial identity acting as both a mediating and moderating factor in the perceived discrimination-mental health association among blacks (Sellers et al. 2003; Sellers et al. 2006).

Although prior research has implicated racial identity as an important psychosocial resource with potential stress-buffering effects among black Americans, much less is known regarding the origins of racial identity or about the extent to which conditions during adulthood may also contribute toward its development. In an effort to understand the relative significance

of socioeconomic characteristics and of changes in black culture for explaining personality development among black Americans, several early studies examined the basic demographic determinants of black identity attitudes (Carter and Helms 1988; Allen, Dawson, and Brown 1989; Broman, Neighbors, and Jackson 1988). Their results suggested that, while variations in structural factors such as income, education, and region differentially predict identity, individuals' interpretation of their socialization experiences and personal development may play a greater role. Building upon this research, Demo and Hughes (1990) investigated the impact of early life socialization in shaping racial identity in adulthood, a departure from prior work that focused almost exclusively on identities held during childhood and adolescence. They found that not only do childhood factors significantly contribute to adults' racial identity, but that one's circumstances in adulthood may also mediate those effects. Their study highlights the importance of understanding identity processes across the life course. Specifically, it suggests that racial identity is substantially shaped by one's social context and that changes in that context over time may have important implications for identity development and maintenance. Given that there is compelling evidence that racial identity matters for blacks' psychological well-being, the extent to which childhood circumstances shapes identity and its subsequent mental health effects in adulthood remains an important question.

The central goal of the present study is to investigate the impact of childhood and adult circumstances on the racial identity and mental health of black adults. Specifically, three main research questions are considered: 1) To what extent does childhood social context (e.g. family socioeconomic position, racial composition of school and neighborhood, and early stress experiences) predict one's racial identity in adulthood? 2) What role do adult circumstances play

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in the childhood context-racial identity association? 3) To what extent do childhood and adult social factors explain the identity-mental health association?

This research attempts to bridge two areas of the racial identity literature—research on the social antecedents of identity and studies of racial identity and mental health. While examining the role of childhood factors in adults' identity development, this study also takes a life course perspective, by considering whether an identity can be substantially shaped by one's adult experiences independent of childhood (Elder 1981; Gecas and Mortimer 1987; Demo and Hughes 1990). Most importantly, however, is the question of how one's social context over the life course and their racial identity interact to shape mental health in adulthood. By examining the significance of these social factors in a representative community sample of black women and men, this study addresses these issues and aims to enhance our current understanding of the extent to which differences in psychosocial resources contribute to variations in mental health among black Americans.

Background

There is a growing literature outlining the significance of racial identity for blacks' psychological health and well-being. Early black identity research can be categorized into two main theoretical approaches: the *mainstream* approach and the *underground* approach (see Sellers et al. 1998 for a detailed review). The mainstream approach often utilized a more traditional perspective, focusing on black racial identity in the context of other identities individuals may possess. Examples include Phinney's (1992) Multi-Group Ethnic Identity measure, which distinguished between the significance of race to individuals' self-concept relative to their views toward their racial group throughout the developmental stages. Conversely, the underground approach provided a framework for studying the cultural and

experiential influences that comprise the qualitative aspects of black identity (Sellers et al. 1998).

Examples of research utilizing this perspective includes Cross' model of Nigrescence (Cross

1971, 1991), which was the most widely used model of black racial identity. This model also

focused on the developmental process of black racial identity from adolescence to adulthood, but

conceptualized identity on a continuum of pro-white to pro-black attitudes; it was later

operationalized by Parham and Helms (1981) with the Racial Identity Attitudes Scale (RIAS).

Incorporating the two approaches, Sellers and colleagues (1998) developed the

Multidimensional Model of Racial Identity (MMRI), considering two main questions—how

important race is to an individual's perception of self and what does it mean to be a member of

their racial group. They contended that black identity is multidimensional, and rather than

focusing on developmental stages, they operationalized several dimensions of identity, including

salience, centrality, and racial regard. Salience refers to the extent to which one's race is a

relevant part of one's self-concept in a particular moment or situation, and it may be understood

as the general importance of race to someone in social settings and interactions. Centrality deals

with the extent to which a person normatively defines himself or herself with regard to race, and

it is relatively stable across situations. Racial regard captures the degree to which individuals feel

positively about their race. While these dimensions are widely used in the literature today, they

are not all-inclusive. Scholars in this area have also considered others that vary in their

similarity, such as closeness to other blacks, black ideology or separatism, and racial group

evaluation (Demo and Hughes 1980; Cross 1985; Allen et al. 1989). Consistent across constructs

is the notion that these dimensions make up the cognitive schemata of the black American racial

belief system and that these are interrelated but distinctive cognitive constructs that vary across

individuals in their degree of intensity (Allen et al. 1989; Sellers et al. 1998).

Black Racial Identity and Health

Variation in the meaning and significance that blacks' assign to their race and racial group membership has been associated with a number of outcomes including demographic background (Parham and Williams 1993), attitudes regarding utilization of counseling services (Austin et al. 1990; Helms 1989; Parham and Helms 1985), educational attainment and confidence in school (Carter and Helms 1988; Harris and Marsh 2010), and self-esteem (Hughes and Demo 1989). More recently, scholars have turned to the impact of racial identity on blacks' mental health, finding that positive racial identity (i.e. positive feelings about being black) is associated with improved mental health and psychological well-being among black adolescents (Belgrave et al. 1994; Pinney 1990; Stevenson 1998; Caldwell et al. 2002).

To better understand the mechanisms by which identity influences health, studies have considered its effect in the context of blacks' lived experiences, particularly how it relates to the consequences of perceived stress and discrimination. Landrine and Klonoff (1996) note that one's racial identity influences the ways in which they perceive or interpret their experiences, including those of discrimination, which negatively influences health. Individuals' identities impact their appraisal process, affecting the degree to which they perceive discriminatory treatment as threatening to their sense of self (Caldwell et al. 2002). This is consistent with findings from other studies. For example, Shelton and Sellers (2000) observed that blacks for whom race was a central component of their identity were more likely to attribute an ambiguous discriminatory event to racial bias compared to blacks for whom race was a less central component of identity. This suggests that racial identity may act as a mediator in the stress-mental health association, as those with more salient identities face increased risk of poor mental health because they perceive greater stress.

However, there is also evidence that racial identity can act as a buffer against the negative effects of stress on health. Cross, Parham, and Helms (1998) argued that a primary function of an internalized racial identity is to protect blacks from the psychological harm that may result from daily existence in a racist society. Considering this possibility, scholars began to assess the potential moderating effects of racial identity in the stress-mental health association, finding that although those with more central racial identities tend to perceive more stress in their lives, a central identity also acts as a buffer, such that elevated exposure to stress and discrimination was only associated with poor mental health outcomes for those with a less central black identity (Sellers et al. 2003; Shelton and Sellers 2000; Caldwell et al. 2002; Neblett et al. 2004). Essentially, only individuals with less central black identities faced the negative mental health consequences of perceived discrimination. These findings suggest that these distinct mechanisms likely occur simultaneously, further underscoring the complexity of racial identity processes and their implications for health.

Another issue for consideration is the possibility that various dimensions of black racial identity may have different effects on health and well-being. For example, Rowley and colleagues (1998) found that centrality and regard were distinctly related to self-esteem. While private regard (i.e. the extent to which individuals feel positively or negatively towards other blacks as well as how they feel about being black) had a direct positive association with self-esteem, centrality did not. However, centrality moderated the relationship between private regard and self-esteem, such that the association only held for those with a central black identity. In other words, how individuals felt about being black only impacted their self-esteem if being black was central to their self-concept. These results suggest that although various dimensions of black identity may be related, they likely have very different effects on psychological well-being.

Further research is needed to consider the ways in which different dimensions vary in their mental health consequences.

Although the literature examining black racial identity and health has been growing, there is a need for continued research. Many of the existing studies have focused almost exclusively on children and adolescents, limiting our understanding of how racial identity influences the health of adults. Particularly because prior research has found that black identity differs across stages of the life course (Cross 1971, 1991), it is important to examine how racial identity in adulthood contributes to variations in blacks' mental health. Furthermore, additional consideration of how these processes may be distinct across various dimensions of identity is needed.

Social Antecedents of Black Racial Identity

To gain insight into the nature and significance of racial identity for the mental health of black American adults, the social origins of black identity should be considered. A few early studies within the black racial identity literature examined the social antecedents of identity, with the main goal of understanding the extent to which black identity is shaped primarily by structural factors such as socioeconomic status or whether individuals' socialization experiences play a more dominant role. Addressing this question, Carter and Helms (1988) examined the social determinants of blacks' college students' racial identity attitudes, finding that socioeconomic variables such as parents' education, occupation, and perceived social status failed to predict the young adults' identity attitudes. While others observed differences' in adults' racial identities by education level such that the less educated reported more closeness to other blacks (Broman, Neighbors, and Jackson 1988; Allen et al. 1989), research in this area generally concludes that individuals' socialization experiences may elucidate more nuanced differences in racial identity development.

Demo and Hughes (1990) considered these issues in their study of socialization and racial identity among black adults. They argued that due to the focus of early research on adolescent experiences, little still, was known about the racial identity of adults and even less about how childhood experiences shape identity in adulthood. By examining one's childhood context, as well as the potential mediating effects of their adult circumstances on adult identity, their study demonstrated that socialization experiences such as interracial contact and parents' messages about race, in addition to structural factors like family socioeconomic status, each play important roles in shaping one's identity as an adult. The present study also considers the role of childhood and adult social contexts, but further advances this research by examining the significance of these factors for variations in blacks' mental health.

The literature in this area has identified several important factors that may shape racial identity in adulthood:

Childhood Factors

Examining the significance of one's social context during childhood may be crucial for understanding identity development in adulthood. Scholars have long noted that the adaptive responses to social, economic, and political barriers characterize the socialization experiences of black children and therefore, may play a role in the meanings they give to being black in society (Harrison et al. 1990; Thompson 1994). While there is currently a substantial literature outlining the nature of black parents' socialization messages to their children and the extent to which they influence children's racial identity development (Thompson et al. 1994; Marshall 1995; Stevenson 1995; Lesane-Brown 2006), it is also important to consider how the social context of children's lives more broadly, may impact their black group identity in adulthood.

For example, *childhood socioeconomic status (SES)* is the most commonly assessed determinant of racial identity. Early scholars believed that the social class of the family of origin may be particularly important in shaping individuals' identity because it structures opportunities and resources for children such as the types of schools they attend, friends they make, and the values and attitudes to which they are exposed (Gacas 1979; Demo and Hughes 1990). Furthermore, as blacks gained more economic opportunity following the social movements of the 1950s and 1960s, some felt that black identity might diminish and become less salient relative to a class identity (Wilson 1979; Steele and Davis 1984; Cater and Helms 1988). Others contended that black identity is shaped more so by cultural group experiences that are not solely dependent on class (Boykins and Cross 1978; Cross 1971, 1991). Studies examining class variation in black racial identity have produced mixed findings, with some observing that higher SES levels predict less salient racial identities (Allen et al. 1989; Broman et al. 1988) while others find no significant association between SES and racial identity at all (Carter and Helms 1988). Additional research is needed to better understand the relationship between childhood socioeconomic position and black racial identity in adulthood.

Another important factor that is indicative of children's social context and may have implications for their racial identity in adulthood is the *racial composition of their childhood neighborhood and school.* Although considered less frequently, scholars have suggested that the racial composition of spaces, or one's level of interracial contact, may play a role in black group identity development (Rivas-Drake and Witherspoon 2013; Winkler 2012; Tatum 1999, 2003; Brown 2001). Classic studies argued that as blacks moved out of racially segregated environments and interacted more frequently with whites and members of other groups, they may become more detached from traditional black culture and group identification may weaken

(Rosenberg and Simmons 1972; Rosenberg 1979; Demo and Hughes 1990). However, more recent research posits that when blacks inhabit predominately white spaces, they may develop new strategies to maintain ties with other blacks and bolster group identity (Lacy 2007; Patillo-McCoy 1999). Thus, it may be possible that individuals may maintain a salient black identity even in contexts in which there are fewer blacks. Furthermore, it is likely that inhabiting predominately black spaces may be particularly conducive to developing a strong black identity, especially for young children. For example, Stevenson and Arrington (2009)'s study found that black adolescents living in predominately black neighborhoods viewed being black as more central to their sense of self. This may be due to increased positive socialization messages or protection from negative interracial contact.

Beyond an individual's socioeconomic circumstances or the racial composition of one's surroundings, a major portion of one's childhood social context consists of their exposure to stressors and potentially traumatic events. As stress theory has underscored the significance of early life stress and adversity in shaping social development and well-being throughout the life course (Umberson et al. 2014; Repetti, Taylor, and Seeman 2002; Miller, Chen, and Parker 2011), understanding the role these negative experiences may play in shaping racial identity in adulthood remains a largely unanswered question. A few studies have considered the significance of *childhood discrimination experiences* for identity, finding that the perception of discrimination and racial identity are associated, such that prior experiences with discrimination predicts a more positive racial identity (Shelton and Sellers 2000; Stevenson and Arrington 2009; Sellers and Shelton 2003). Fewer though, have considered the role of more generalized stressors and *traumatic events in early childhood* on the development of racial identity in adulthood. Miller, Chen, and Parker (2011) hypothesize that early life adversity negatively shapes

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individuals' socialization experiences during childhood and can impact the way they interact socially as adults. Furthermore, because many of these negative events may be racialized and classed (e.g. likelihood of witnessing violent crime higher among poor blacks) greater exposure to major and potentially traumatic events may be differentially tied to racial identity development for individuals within the black population.

Adult Factors

Previous research strongly suggests that one's social context during childhood has implications for their adult racial identity. However, studies on life course development have also noted the crucial impact of adult roles on personality (Elder 1981; Gacas and Mortimer 1987; Suls and Mullen 1982; Demo and Hughes 1990). Thus, an important question that remains is one of the degree to which adult social context and social experiences affect black identity independent of childhood background and socialization? Specifically, do adult social factors mediate and/or moderate the relationship between childhood social context and adult racial identity? This study addresses these questions with consideration of the following adult social context variables: *Adult SES, perceived discrimination, and social support.*

Similar to childhood SES, *adult SES* may be closely tied to racial identity. Prior research has suggested that as blacks move up the social ladder, they may feel less close with the masses of poor and working class black people (Kilson 1983; Allen et al. 1989). In particular, upward mobility or changes from childhood to adult socioeconomic position may influence racial identity in adulthood. Thus, examining the effects of adult SES on identity, independent of childhood SES, is an important goal of this paper. Furthermore, early studies also found variations in the role of SES on identity such that SES was negatively related to feelings of

closeness to other blacks but positively related to evaluations of blacks as a group. This suggests that higher SES may be more predictive of some identity dimensions than others (Shingles 1979; Allen et al. 1989; Broman et al. 1988). As such, this study also considers differences in the significance of adult SES across various dimensions of black racial identity.

Another important component of adult social conditions that may influence racial identity is *perceived discrimination*. Although many of the studies demonstrating a relationship between discrimination experiences and racial identity were among adolescents (e.g. Sellers et al. 2003; Caldwell et al. 2002; Sellers and Shelton 2003), it is also plausible that discrimination during adulthood may play an important role. For example, Sellers and Shelton's (2003) longitudinal analysis of perceived discrimination and black racial identity found that prior experiences of discrimination significantly predicted one's later perceptions of unfair treatment, all of which influenced racial identity attitudes. Given the significance of discrimination experiences throughout the life course for the black lived experience, this study also examines adult perceived discrimination as a potential mediating factor.

Finally, the nature of individuals' social relationships is considered. As the formation of attitudes toward self and others is largely shaped by interpersonal relations with others (Demo et al. 1987), individuals' levels of perceived *social support* from family and friends represents another important dimension of the adult social context that may influence black racial identity. Past research suggests close social networks may impact identity through their role as an enduring socializing environment (Caldwell et al. 2002). Several studies support this hypothesis. For example, Hughes and Demo (1989) found that higher quality social relationships with family and friends predict higher levels of self-esteem and racial group evaluation in black adults. Similarly, Caldwell and colleagues (2002) found that support was associated with higher levels

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of a more central racial identity and having more positive views towards other blacks. Given

these findings, it is plausible that support may also act as an important mediator between one's

childhood circumstances and identity during adulthood.

The Present Study

The overall purpose of this study is to examine the significance of individuals' childhood

social context for racial identity and mental health in adulthood. Specifically, this study

considers the extent to which these childhood social factors predict adult identity as well as the

degree to which identity explains variations in mental health among black Americans. Prior

research has provided good grounds to suggest that racial identity represents an important

dimension of the black lived experience, with significant implications for mental health and well-

being. As such, understanding the social origins of identity as well as its impact on individuals'

mental health remains a crucial concern.

To this end, the present study addresses three main research questions:

1) *To what extent does childhood social context (e.g. family socioeconomic position, racial*

   composition of school and neighborhood, and early stress experiences) predict one's

   racial identity in adulthood? While prior research has demonstrated associations

   between identity and structural factors such as childhood socioeconomic status, fewer

   have examined the effect of broader contextual factors such as racial composition and

   stressful experiences. As these factors make up a substantial portion of the socialization

   environment for many black children, they may have a significant impact on the various

   dimensions of black racial identity in adulthood.

2) *What role do adult circumstances play in the childhood context-racial identity association?*

Although some studies considered the role of childhood factors in shaping adult identity, fewer have investigated the impact of the adult social context in modifying this association. The present study examines the potential mediating effects of adult social factors including adult SES, perceived discrimination, and social support, as they may partially explain the link between childhood circumstances and adult identity.

3) *To what extent do childhood and adult social factors explain the identity-mental health association?*

The final goal of the study is to understand the significance of childhood and adult factors for the relationship between black racial identity and mental health. Several studies have examined the effect of identity on blacks' psychological well-being, finding that identity can act as a mediator and moderator in the perceived discrimination-mental health association. While this research highlights the importance of identity for health, the present study takes a different approach. Specifically, this study considers the extent to which adult racial identity acts as a mediator and/or moderator in the childhood context-mental health association. This approach may provide new insight into the ways in which racial identity acts as an important vehicle by which one's childhood social context gets translated into their mental health in adulthood.

As Sellers and colleagues (1998) noted, a critique of the black identity literature is that, while much of the scholarship in this area has produced relatively strong evidence that the meaning that blacks hold for their racial identity plays an important role in their lives, it has

provided relatively little empirical evidence that supports the existence of the internal processes and structures proposed in their conceptual models. In addition, there have only been a handful of studies dedicated to understanding the significance of racial identity for blacks' mental health. This study attempts to overcome the limitations of prior research and contribute to the black racial identity literature by considering the role of one's social context across the life course in ultimately shaping their black identity and mental health.

Method

Sample

The sample for this study comes from the Nashville Stress and Health Study, which is aimed toward an improved understanding of black-white and socioeconomic health disparities. The data collection period lasted from April 2011 to January 2014, and the sample is representative of native-born, non-Hispanic black and white adults in the Nashville, Tennessee metro area. A total of 1270 individuals participated in three-hour computer assisted interviews that were conducted with trained interviewers of the same race. Analyses were weighted for the probability of non-contact during the household screening phase and non-response during the interviewing phase. Post-stratification weights were also incorporated into the final design weight to allow generalizability of findings to the county population.

These data are optimal to address the research aims of this study for several reasons. First, it has a large enough sample of black Americans with similar numbers of males and females from various class groups to sufficiently examine gender and social class contrasts. In addition, it includes adequate measures of early life and adult circumstances that may impact adult identity and mental health processes.

For the present study, a sample of 611 black Americans was used, with 319 females and 292 males.

<div align="center">***Measures***</div>

Mental Health. To assess the health significance of individuals' childhood circumstances on their racial identity and health in adulthood, a single health outcome measure was used: *depressive symptoms*. A modified 20-item version of the Center for Epidemiological Studies for Depression (CES-D) scale ($\alpha=.89$) was used. This measure asks respondents how often in the last month they had any of the following symptoms, including "you were bothered by things that usually don't bother you," "you felt like you could not shake off the blues," and "you had trouble keeping your mind on what you were doing." Items were coded using a "0,1,2,3" scale, which corresponds with responses of "not at all," "occasionally," "frequently," and "almost all the time."

Racial Identity. An original scale (Turner and Brown unpublished) was utilized to assess individuals' racial/ethnic orientation or the extent to which they identify with their racial heritage. Examples of items include "you have a strong sense of yourself as a member of your racial/ethnic group," "most of your close friends are from your own racial/ethnic group," and "your racial/ethnic group had a lot to do with who you are today." The results of a factor analysis using a varimax rotation demonstrate that the ten items load onto three distinct factors, most closely aligned with the constructs of connectedness to other blacks, centrality, and salience (See Appendix A). *Connectedness to other blacks* ($\alpha=.72$) includes four items such as "you are more comfortable in social situations where others are present from your racial/ethnic group" and "your values, attitudes, and behaviors are shared by most members of your racial/ethnic group." Individuals' level of centrality ($\alpha=.72$) is assessed using four items including "you identify with other people from your racial/ethnic group" and "you are proud of your racial/ethnic heritage."

<div align="center">75</div>

Salience (α=. 67) is measured using two items including "your racial/ethnic background plays a big part in how you interact with others."

Childhood Factors. To understand the role of early life experiences in shaping blacks' racial identity and health in adulthood, several childhood factors were considered.

Childhood SES, or socioeconomic status, was measured using a composite score of respondents' parents' education levels and occupational prestige, as well as the family's level of economic hardship while the respondent was growing up. To measure education, respondents reported the highest level of education attained by a parent. They also reported that same parent's primary occupation while growing up and prestige scores were measured using the Nam-Boyd scoring system (Nam and Boyd 2004). Finally, the family's level of economic hardship was assessed with a single item, which asked, "Which of these statements best describes your family's financial situation most of the time while you were growing up?" Possible responses ranged from "could not afford to pay for food, clothing, and shelter" to "could easily afford food, clothing, shelter, and lots of extras." Education, occupation, and hardship values were standardized and summed, with higher scores corresponding with higher SES.

The *racial composition* of individual's high school and childhood neighborhood was measured using two items. Respondents were asked to think about the places where they have lived and gone to school and to consider the racial composition there. Each item was scaled using a 0 "mostly black," 1 "about half blacks/ half whites," and 2 "mostly white" coding scheme.

Early trauma was assessed by asking respondents about their experiences with major and potentially traumatic events occurring up through age 18 (0=no, 1=yes). This measure

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included 32 items that may occur during childhood such as parental abuse or neglect and witnessing or experiencing violence or sexual abuse. Examples include "did you parents ever divorce or separate," "did either of your parents drink or use drugs so often or so regularly that it caused problems for the family," and "did you ever have sexual intercourse when you didn't want to because someone forced your or threatened to harm you if you didn't."

Early discrimination experiences were measured using a single item, which asked respondents to report if they had ever had a discrimination or racism experience that bothered them a great deal. If respondents noted that they had such an experience and it occurred up through age 18, then they were coded as 1. Those with no such events occurring before age 19 were coded as 0.

Adult Factors. To understand how the association between childhood circumstances and adult identity and health may be influenced by one's adult experiences, several adult factors were also considered.

Similar to childhood SES, *adult SES* was also measured by income, education, and occupational prestige. Respondents were asked to report their annual household income, highest level of education attained, and most recent occupation. Values were standardized and summed, with higher scores corresponding with high SES.

Perceived discrimination was assessed using items from the Everyday Discrimination Scale (Williams et al. 1997). Daily discrimination consists of nine items such as "you are treated with less courtesy than other people" and "you receive worse service than other people at restaurants or stores." Respondents were asked to report the frequency with

which such events occur: (0) never, (1) rarely, (2) sometimes, (3) often, and (4) almost

always. Major discrimination was measured with seven items, including "been unfairly

fired or denied a promotion," "been unfairly treated by the police," and "unfairly

discouraged by a teacher or advisor from pursuing a job/career." For each item,

respondents were asked to report whether the event has ever occurred (0=no, 1=yes).

Major and daily discrimination scores were standardized and summed to create a

composite discrimination score. Higher values correspond to higher levels of perceived

discrimination.

Controls. Gender, age, and skin tone also were included as controls in the analysis. Gender and

age have long been associated with differences in both racial identity development and

depressive symptoms (Broman et al. 1988; Pyant and Yanico 1991; Yap et al. 2011;), and several

studies suggest that skin tone is an important factor when examining within-race variation among

the black population (Hoschschild and Weaver 2007). In addition, others (Cunningham 1997;

Bowman, Muhammed, and Ifatunji 2004;Thomas under review) have noted the significance of

skin tone in racial identity processes, which may also contribute to variation in mental health

among black Americans.

Results

Table 1. Correlations of Selected Study Variables

	(1)	(2)	(3)	(4)
1. CES-D	1.00			
2. Connectedness to Other Blacks	-0.01	1.00		
3. Centrality	-0.17***	0.40***	1.00	
4. Salience	-0.01	0.52***	0.40***	1.00

*$p<0.05$; **$p<0.01$; ***$p<0.001$*

To gain a preliminary understanding of the relationships between the individual dimensions of black identity considered here (i.e. connectedness to other blacks, centrality, and salience), as well as their associations with depressive symptomatology, the correlations of study variables were examined first. Table 1 shows strong positive associations among the three racial identity dimensions. This is consistent with prior research, which emphasizes the interrelations among distinct identity dimensions (Allen et al. 1989; Sellers et al. 1998). Results also suggest that while the dimensions of black identity are closely related to each other, only one, centrality, appears to have a significant association with depressive symptoms. The -0.17 correlation between centrality and CES-D scores suggests that higher levels of racial centrality, or having a more central racial identity, is associated with lower levels of depressive symptoms. This is also consistent with previous studies, which have found that only some identity dimensions have direct associations with well-being, while others may have more indirect effects (Sellers and Shelton 2003; Caldwell et al. 2002).

With the goal of assessing the significance of early life and adult social factors on racial identity in adulthood, OLS regression analyses were performed with each racial identity dimension individually regressed on relevant childhood and adult social factors. Table 2 presents these results.

Table 2. Dimensions of Racial Identity Regressed on Childhood and Adult Social Factors

	Connectedness to Other Blacks			Centrality			Salience		
	(1A)	(1B)	(1C)	(2A)	(2B)	(2C)	(3A)	(3B)	(3C)
	Childhood Factors	Adult Factors	All Factors	Childhood Factors	Adult Factors	All Factors	Childhood Factors	Adult Factors	All Factors
Age	0.04 (0.02)*	0.07 (0.02)***	0.04 (0.02)*	0.005 (0.01)	0.01 (0.01)	0.007 (0.01)	0.03 (0.01)**	0.04 (0.01)**	0.03 (0.01)**
Gender (Male =1)	0.44 (0.40)	0.55 (0.41)	0.49 (0.40)	0.19 (0.23)	0.21 (0.23)	0.17 (0.23)	0.14 (0.22)	0.16 (0.21)	0.17 (0.22)
Skin Tone	0.21 (0.25)	0.30 (0.25)	0.31 (0.25)	-0.14 (0.14)	-0.15 (0.14)	-0.14 (0.14)	0.15 (0.13)	0.22 (0.13)Ⱶ	0.21 (0.13)
Childhood Factors									
Childhood SES	-0.29 (0.29)		-0.12 (0.30)	0.15 (0.14)		0.08 (0.15)	-0.12 (0.14)		-0.03 (0.16)
High School Racial Composition	-0.45 (0.24)Ⱶ		-0.42 (0.25)Ⱶ	-0.06 (0.15)		-0.07 (0.15)	0.006 (0.18)		0.02 (0.17)
Neighborhood Racial Composition	-0.71 (0.33) *		-0.72 (0.32)**	-0.25 (0.20)		-0.21 (0.19)	0.16 (0.18)		0.15 (0.23)
Early Trauma	-0.16 (0.06)**		-0.18 (0.06)***	-0.07 (0.03)*		-0.04 (0.03)	-0.01 (0.03)		-0.02 (0.04)
Early Discrimination Experience	0.85 (0.48)Ⱶ		0.75 (0.48)	0.82 (0.22)***		0.83 (0.22)***	0.11 (0.24)		0.08 (0.04)
Adult Factors									
Adult SES		-0.80 (0.26)**	-0.75 (0.27)**		0.01 (0.16)	-0.05 (0.16)		-0.49 (0.16)**	-0.49 (0.17) **
Perceived Discrimination		0.21 (0.13)Ⱶ	0.30 (0.14)*		-0.003 (0.07)	-0.02 (0.07)		0.16 (0.08)*	0.17 (0.08)*
Social Support		0.05 (0.02)*	0.04 (0.02)Ⱶ		0.05 (0.01)***	0.05 (0.01)***		0.04 (0.01)**	0.03 (0.01)**
R^2	0.06	0.05	0.08	0.03	0.04	0.06	0.03	0.06	0.06
F	4.74	4.36	4.82	2.79	3.87	3.65	1.54	5.52	3.12
N	611	611	611	611	611	611	611	611	611

Ⱶ $p<0.10$; *$p<0.05$; **$p<0.01$; *$p<0.001$

Notes: Factor A range=4-28, Factor B range=5-28; Factor C range=2-14

Standard errors in included in parentheses

The Social Antecedents of Black Racial Identity

Connectedness to Other Blacks. Findings indicate that neighborhood racial composition and early trauma are significant predictors of one's level of connectedness to other blacks (see Model 1a). Specifically, greater numbers of whites in one's childhood neighborhood are associated with lower levels of connectedness to blacks in adulthood. In addition, elevated exposure to major and potentially traumatic events during childhood also corresponds with less connectedness. Furthermore, although the reliability of the coefficients is less clear, both high school racial composition and early discrimination experience are also predictors of connectedness in adulthood. The experience of a bothersome discrimination event during childhood predicts higher connectedness to other blacks while having attended a high school with more whites is associated with less connectedness to other blacks.

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In addition, results also demonstrate that childhood SES is not a significant predictor of connectedness in adulthood. Nevertheless, Model 1b shows that adult SES is associated with connectedness, such that higher SES levels predict higher levels of connectedness to other blacks. Perceived discrimination and social support in adulthood are also associated with connectedness, as elevated exposure to discrimination and greater support from family and friends correspond with higher connectedness scores.

With the consideration of both childhood and adult social context variables in Model 1c, results further suggest that adult circumstances do not meaningfully mediate the association between one's childhood social context and levels of connectedness in adulthood. The greatest effect seems to be on early trauma, which is increased by more than 13 percent with the addition of the adult factors to the model, suggesting that the association between one's exposure to trauma in childhood and their level of connectedness to other blacks in adulthood is partially explained by their adult circumstances. Additional interaction analyses further suggest that there are no significant interactive effects between childhood and adult social factors that influence one's connectedness to other blacks in adulthood.

Centrality. Consideration of the role of childhood and adult social contexts for centrality in adulthood reveals some contrasting findings. Specifically, only two of the childhood variables significantly predict adult centrality—early trauma and early discrimination experiences (see Model 2a). As levels of childhood trauma increase, levels of centrality decrease, while the experience of discrimination during childhood predicts higher centrality. Only social support during adulthood is significantly associated with higher racial centrality (Model 2b), and in the final model (2c), only early discrimination and adult social support significantly predict centrality. The effect of early trauma is reduced to non-significance and diminished by nearly 43

percent with the consideration of adult factors, further suggesting that the early trauma-centrality association is mediated by one's adult circumstances.

Interaction analyses also indicate synergistic effects between childhood and adult factors that influence one's level of racial centrality. For example, adult discrimination significantly moderates the association between centrality and high school racial composition (b=0.36, SE-0.17, p=0.03), childhood neighborhood composition (b=0.46, SE=0.17, p=0.008), and early discrimination (b=0.23, SE=0.11, p=0.04), respectively. Centrality levels are similar among those who attended a predominately black high school, no matter what levels of discrimination they perceive as adults. However, for those who attended predominately white high schools, a different pattern emerges--those with moderate to high levels of perceived discrimination have the highest centrality levels. This suggests that the nature of the association between high school racial composition and level of racial centrality is dependent on one's exposure to discrimination as an adult. Similarly, there are no significant differences in centrality among those who lived in a predominately black neighborhood while growing up, but for those who lived in predominately white areas, having low levels of perceived discrimination predicts lower levels of identity centrality while those perceiving moderate to high levels of discrimination have the highest centrality levels.

Level of adult discrimination also moderates the association between early discrimination experiences and centrality, as those with early discrimination experiences and low adult discrimination report the highest racial centrality and those with no early discrimination experiences and high adult discrimination reporting the lowest centrality. This suggests that early discrimination experiences are important for shaping centrality levels in adulthood and that centrality is further amplified by having fewer discrimination experiences as an adult. In this

case, perhaps individuals who were exposed these early negative experiences find it easier to maintain a central racial identity as adults when they encounter fewer discriminatory events, while the centrality of those who face discrimination as children and adults may diminish.

Adult SES also acts as a moderating factor, influencing the centrality levels of particular subgroups. Specifically, adult SES moderates the association between centrality and early trauma (b=-0.10, SE=0.04, p=0.009) and centrality and early discrimination experiences (b=-0.53, SE=0.25, p=0.04). Among those with low exposure to major and potentially traumatic events as children, those with low adult SES have significantly lower levels of racial centrality relative to those with high adult SES. The opposite relationship is observed among those with high early trauma exposure. This suggests that in the face of high childhood trauma, high adult SES produces a less central black identity. Adult SES influences the effect of early discrimination as well. Overall, centrality levels are higher among those with early discrimination experiences relative to no childhood discrimination experiences. However, among those who experienced this early negative treatment, those with low to moderate adult SES report the greatest levels of racial centrality relative to those with high adult SES. This suggests that despite the overall centrality-producing experience of early discrimination in childhood, those who achieve higher SES levels as adults may develop less central racial identities.

Finally, study findings also provide evidence of a moderating effect of adult social support in the early trauma-centrality association (b=-0.006, SE=0.002, p=0.01). Overall, the experience of childhood trauma is associated with lower racial centrality as an adult. However, at low levels of childhood trauma, those with high social support from family and friends as adults have significantly higher levels of black identity centrality relative to those with low support. As levels of trauma increases, centrality levels converge, but at the highest levels of childhood

trauma, differences in centrality widen substantially, with those with high support again having the highest levels of centrality. This suggests that family and friend support during adulthood can significantly modify the effects of trauma on centrality, such that those with high support may have highly central racial identities even if they faced a great deal of childhood adversity.

Salience. In the examination of early life factors and salience in adulthood, results indicate that surprisingly, none of the childhood social factors considered are significant predictors of adult racial salience (Model 3a). However, each of the adult factors is associated with salience levels. Higher SES levels are predictive of lower racial salience, while increased exposure to discrimination and social support in adulthood are predictive of higher racial salience (Model 3b). In the final model (Model 3c) with both childhood and adult factors considered simultaneously, only the adult factors remain significant predictors of salience.

Although results suggest that the childhood factors considered do not directly influence individuals' racial salience as adults, additional interaction analyses indicate that there may be more synergistic associations between childhood and adult circumstances that shape salience. For example, there is a significant interaction effect between early discrimination experience and adult perceived discrimination (b=0.27, SE=0.13, p=0.04). Generally, racial salience is highest among those with no discrimination experiences and high levels of support from family and friends. However, those who experienced discrimination as a child and who have low social support as an adult have higher salience levels relative to those who experienced childhood discrimination and have high support from family and friends. This suggests that while social support during adulthood generally increases racial salience, it has a diminished effect on those who experienced early discrimination.

In addition, there is a significant interaction between early discrimination and adult perceived discrimination that is associated with individuals' levels of racial salience in adulthood (b=-0.05, SE=0.02, p=0.04). Greater experience with discrimination during adulthood is associated with higher levels of racial salience and this effect is amplified among those with early discrimination experiences. Furthermore, those with early discrimination experience and low levels of perceived discrimination during adulthood report the lowest levels of racial salience. These results suggest that racial salience is importantly shaped by discrimination experiences throughout the life course, and that individuals may perceive race as more important to them when they have discrimination experiences during childhood and adulthood, while just having early experiences alone may not promote salience during adulthood.

Racial Identity and Depressive Symptoms

To also assess the significance of individuals' early life and adult circumstances in the racial identity-mental health association, OLS regression analyses were conducted, with depressive symptoms regressed on racial identity dimension, childhood factors, and adult factors in stepwise models (see Table 3). Model 1 first considers the significance of childhood factors on depressive symptoms, finding that childhood SES and early trauma are significant predictors of depressive symptoms. Specifically, higher SES during childhood is associated with lower depressive symptomatology as an adult while elevated exposure to major and potentially traumatic events as a child predicts higher symptom levels.

Table 3. CES-D Regressed on Racial Identity Dimensions, Childhood Factors, and Adult Factors

	(1)	(2)	(3)
Age	-0.10**	-0.11**	-0.12***
	(0.04)	(0.04)	(0.03)
Gender	-3.86***	-3.84***	-3.58***
	(0.78)	(0.76)	(0.67)
Skin Tone	-0.27	-0.44	0.004
	(0.46)	(0.45)	(0.41)
Childhood Factors			
Childhood SES	-1.15*	-0.96ꝉ	0.08
	(0.57)	(0.56)	(0.50)
High School Racial Composition	0.36	0.41	0.68ꝉ
	(0.45)	(0.45)	(0.38)
Neighborhood Racial Composition	-0.38	-0.47	-0.80
	(0.69)	(0.70)	(0.63)
Early Trauma	0.51***	0.50***	0.12
	(0.12)	(0.12)	(0.11)
Early Discrimination Experience	-0.16	0.25	-0.53
	(1.10)	(1.06)	(0.90)
Racial Identity Dimensions			
Connectedness to Other Blacks		0.19*	0.12
		(0.10)	(0.09)
Centrality		-0.73***	-0.42*
		(0.18)	(0.17)
Salience		0.23	0.15
		(0.16)	(0.15)
Adult Factors			
Adult SES			-2.09***
			(0.47)
Perceived Discrimination			1.47***
			(0.20)
Social Support			-0.31***
			(0.04)
Intercept	19.03***	32.06***	43..33***
	(2.47)	(4.64)	(4.70)
R^2	0.12	0.15	0.35
F	9.00	9.11	20.29
N	611	611	611

ꝉ*p<.0.10; *p<0.05; **p<0.01; ***p<0.001*

Adding the three racial identity dimensions, Model 2 considers their direct effects on depressive symptoms as well as potential mediating effects of identity in the childhood context-mental health association. While salience is non-significant, both connectedness to other blacks and centrality are significant predictors of depressive symptoms. Higher levels of connectedness are associated with higher depressive symptoms while higher centrality levels are predictive of lower depressive symptoms. This suggests that connectedness to other blacks may be detrimental to well-being although having a more central racial identity may be protective. In addition, with the consideration of racial identity factors, the effect of childhood SES is reduced by more than 17 percent, which suggests that not only may identity dimensions have a direct impact on depressive symptoms, but that they may partially explain the relationship between childhood SES and depressive symptoms in adulthood.

In the final model (Model 3), childhood factors, racial identity, and adult factors are considered simultaneously. Each of the adult social factors—adult SES, perceived discrimination, and social support—are significant predictors of depressive symptoms. Specifically, higher levels of SES and social support correspond with lower depressive symptoms while elevated exposure to discrimination is associated with higher symptom levels. With the consideration of these adult factors, the effects of racial identity are reduced. For example, the effect of connectedness to other blacks on depressive symptoms is reduced more than 39 percent and the effect of centrality is reduced nearly 42 percent. Thus, a non-trivial portion of the association between racial identity and depressive symptoms is explained by one's adult social circumstances.

In addition, several of the childhood circumstances are further affected by the consideration of adult factors. The effect of childhood SES is reduced to non-significance and

diminished by more than 93 percent of its initial effect in Model 1. Early trauma is also reduced to non-significance and its impact is diminished by nearly 76 percent from its original effect. These substantial changes in the effects of the childhood factors suggest that the association between one's childhood social context and depressive symptomatology in adulthood is largely explained by one's adult social context. Overall, these findings highlight the importance of social factors and racial identity for shaping health and well-being. Particularly, they contribute a great deal toward understanding variation in blacks' mental health, as more than 35 percent of the variance in depressive symptoms is explained by these factors.

Results from interaction analyses further underscore the significance of one's social context over the life course, demonstrating synergistic relationships between social factors, racial identity, and depressive symptoms. Figure 1 shows the significant interaction between childhood SES and connectedness to other blacks (b=-0.19, SE=0.08, p=0.02). Connectedness moderates the association between childhood SES and depressive symptoms such that at low levels of childhood SES, there are no significant differences in individuals' levels of depressive symptoms. As SES levels increase, those with high connectedness report higher depressive symptoms. At the highest SES levels, connectedness to other blacks predicts lower depressive symptoms relative to those with low connectedness. This suggests that while those with moderate childhood socioeconomic circumstances may have higher depressive symptoms as a result of feeling more connected to other blacks, feelings of connectedness may be protective for those with the highest SES levels.

Figure 1. Childhood SES * Connectedness to Other Blacks
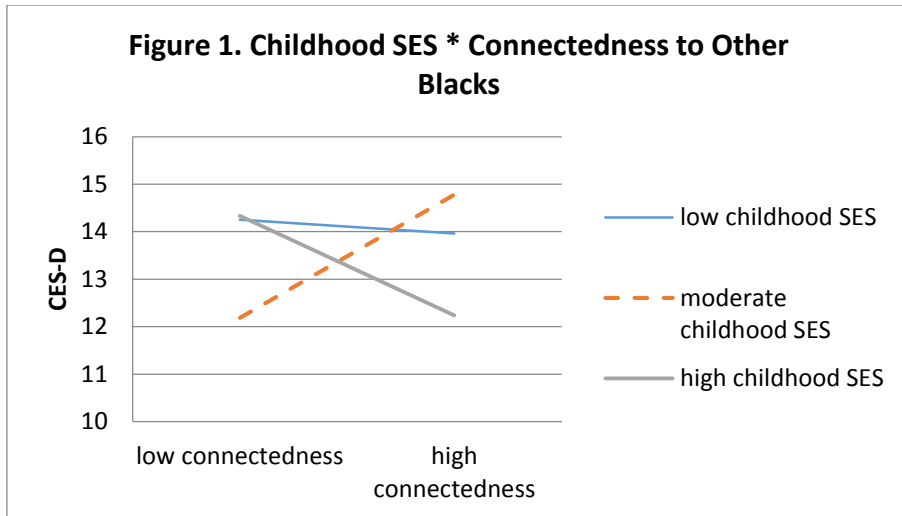
There is also a significant interaction between centrality and adult social support (b=-0.03, SE=0.01, p=0.04; see Figure 2). Overall, those with low support from family and friends have the worst mental health. At low levels of centrality, there is little difference in the level of depressive symptoms across levels of social support, but as centrality increases, symptom levels diverge, such that those with high support report significantly fewer symptoms relative to those with low or moderate social support. This suggests that high social support from family and friends significantly amplifies the effect of centrality on depressive symptoms, acting as a protective effect

Figure 2. Centrality * Adult Social Support
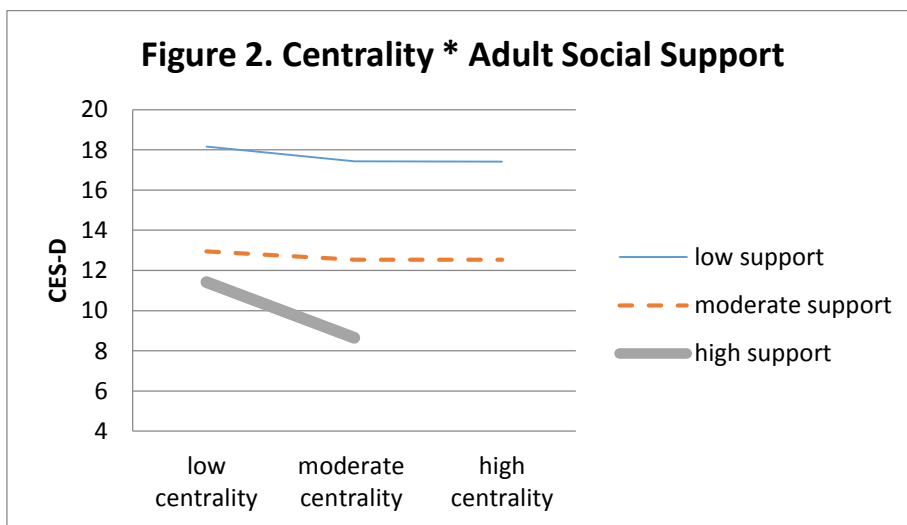
Discussion

The central goal of this study was to examine the significance of early life and adult social factors for blacks' racial identity and mental health in adulthood. Although prior research has suggested that individuals' social context may importantly shape their identities and that identity is meaningful for psychological well-being, the degree to which individuals' childhood social context influences their racial identity as adults, the role of adult social factors, and the extent to which identity explains variation in blacks' mental health during adulthood all remained important questions.

Findings from the present study indicate that while individuals' social circumstances during childhood matter for their racial identity in adulthood, these associations vary substantially across racial identity dimensions. For example, the racial composition of one's childhood neighborhood significantly predicts their level of connectedness to other blacks in adulthood, but not their centrality or salience scores. Similarly, early discrimination experiences predict higher levels of adult centrality but not connectedness or salience. These very distinct patterns in the childhood social context-adult racial identity association underscore the distinctiveness of individual dimensions of black racial identity. Specifically, it suggests that certain childhood factors may matter more for particular dimensions of identity. For example, none of the childhood social context variables are significant predictors of adult salience. Given the nature of racial salience—which captures the relative importance of race for individuals in their social interactions—it is not very surprising that one's social experiences as an adult may matter more. In other words, more proximal experiences, rather than those during childhood may matter more for adult racial salience, which focuses on the current importance of race to an individual.

While there are differences in the significance of various childhood social factors for the dimensions of racial identity in adulthood, there was one factor that acted consistently across the constructs. Childhood SES was not a significant predictor of any of the adult identity dimensions. This was surprising given the number of studies that have found some association between family socioeconomic status and identity among adolescents. Results from the present study are more consistent with prior research that suggested that blacks' racial identity may be importantly shaped by factors other than class (Boykins and Cross 1978; Cross 1971, 1991; Carter and Helms 1988). Further support for this hypothesis comes from the significant associations between childhood experiences with traumatic and discriminatory events. Although these variables differentially affected the racial identity dimensions, the present study contributes to the racial identity literature by demonstrating that the stress context of childhood may be particularly significant for shaping individuals' identities in adulthood. Generally, results indicate that they have opposite effects, with discrimination experiences resulting in higher centrality while early trauma predicts less connectedness and centrality. Although both of these experiences represent major stressful events, these findings suggest that such experiences are qualitatively different with one promoting more race-central identities while the other distances individuals' from racial identification. Continued research is needed to further understand the significance of stress exposure during childhood for shaping racial identity in adulthood.

Study results also demonstrate the importance of adult social factors for shaping black racial identity. Along with understanding the role of childhood social conditions for adults' identity, an additional goal of the present study was to examine the impact of adult social factors on identity. Previous research suggested that both childhood and adult factors matter independently for adult identity processes (Demo and Hughes 1990), but less was known about

how these factors may interact to produce distinct patterns in identity for black adults. Results from this study indicate that both childhood and adult factors significantly and independently predict identity, but there is only slight evidence of mediating effects. In other words, both childhood and adult social factors matter for blacks' racial identity in adulthood and there are only a few instances in which adult circumstances explain the relationship between childhood factors and adult identity. One such relationship is with early trauma and racial centrality. Early trauma is negatively associated with racial centrality in adulthood, but once adult factors are considered, its effect is reduced nearly 43 percent, suggesting that this associated is at least partially explained by adult circumstances. This underscores the explanatory importance of factors beyond childhood experiences for differences in black racial identity in adulthood.

Conversely, results also suggest that many adult social factors may act as moderators, altering the association between individuals' childhood social context and their identities in adulthood. For example, while childhood SES did not appear to influence adult identity, adult SES did, acting as a moderating factor to influence the effects of early trauma and early discrimination on racial centrality. Despite opposite direct effects on centrality, once adult SES is considered, early trauma and discrimination have similar effects on identity, predicting less central black identities. Again, this finding emphasizes the importance of examining the role of both childhood and adult factors in shaping adult racial identity. Clearly, understanding the role of one's social context across the life course is important for assessing black identity development. A limitation of this study is that it utilizes cross sectional data. Future studies should examine these associations in longitudinal data with multiple time points to better understand the stability and fluidity of these processes.

Not only do social context variables shape racial identity, but they also influence its association with mental health. Study results demonstrate that individuals' levels of connectedness to other blacks and racial centrality are significant predictors of depressive symptoms, controlling for childhood circumstances. Interestingly, more connectedness to other blacks is associated with higher symptomatology while higher centrality seems to be protective. This distinction between dimensions may be a result of their intrinsic nature. Specifically, connectedness to other blacks involves one's feelings of closeness and the idea of shared values, ideas, and experiences with other blacks. As a result, individuals with high levels of connectedness may vicariously experience negative treatment due to racism and marginalization faced by other blacks, resulting in negative mental health consequences. Conversely, racial centrality captures the extent to which individuals feel that race is central to their own self-concept. Prior studies have found that this more internal dimension may be protective against negative treatment, which may result in lower depressive symptoms (Sellers and Shelton 2003; Caldwell et al. 2002). These findings further highlight the importance of understanding differences in the development of various identity dimensions.

In addition, there is evidence that racial identity acts a mediator in the association between childhood social conditions and mental health in adulthood. While there are a number of studies that have linked childhood social conditions and psychosocial resources to adult mental health (Umberson et al. 2014; Miller, Chen, and Parker 2011), fewer have examined the role of racial identity as an important intervening factor in the association between childhood and psychological well-being in adulthood. Results from this study indicate that while childhood SES is a significant predictor of adult depressive symptoms, with the consideration of racial identity, the effects of socioeconomic conditions are reduced to non-significance. This suggests that while

structural factors such as SES may be important for understanding variation in blacks' mental health, racial identity explains much of this association. Furthermore, racial identity likely represents a key mechanism by which childhood factors can influence the mental health of black American adults.

Overall, this study finds reasonable evidence to support the conclusion that one's social conditions in childhood and adulthood matter importantly for their racial identity development as adults. Moreover, these social factors and identity dimensions contribute substantially to variations in depressive symptomatology among black Americans. Consequently, future research should continue to examine the origins of black racial identity, as they may provide additional insight into the conditions that give rise to within-group differences in well-being. Further understanding of the social determinants of mental health, as well as psychosocial resources such as racial identity, may further elucidate the complexities of continued racial disparities in health

Appendix A. Racial Identity Dimensions
Connectedness to Other Blacks (α=.72)   1. Most of your close friends are from your own racial/ethnic group   2. You are more comfortable in social situations where others are present from your racial/ethnic group   3. You prefer to date people from your racial/ethnic group   4. Your values, attitudes, and behaviors are shared by most members of your racial/ethnic group
Centrality (α=.72)   1. You have a strong sense of yourself as a member of your racial/ethnic group   2. You identity with other people from your racial/ethnic group   3. Your racial/ethnic heritage is important in your life   4. You are proud of your racial/ethnic heritage
Salience (α=.67)   1. Your racial/ethnic group had a lot do with who you are today   2. Your racial/ethnic background plays a big part in how you interact with others

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STUDY #3: THE STRESS OF REPRESENTATION: MENTAL HEALTH CONSEQUENCES OF RACIAL COMPOSITION ACROSS CONTEXTS

There is a substantial literature outlining the significance of racial segregation for the health and well-being of black Americans (Williams, Yu, and Jackson 1997; Williams and Mohammed 2009; Williams and Collins 2001; Williams and Williams-Morris 2000; Collins and Williams 1999; Hutchinson et al. 2009). Research suggests that racial segregation, which is characterized by a racial composition in which one group is disproportionally represented, can shape SES, access to resources, and therefore, negatively impact health (Williams and Mohammed 2009). However, beyond the systemic effects of segregation, less is known regarding the psychological mechanisms by which racial composition influences blacks' mental health (White and Borrell 2011). As Brown (2001) notes, "Blacks face innumerable race-related challenges to achieving and maintaining high levels of psychological well-being. Despite the documented deficits that result from racial concentration, because race matters, interacting with other blacks in certain contexts may be an important protective factor" (p.168). Similarly, others have posited that ethnic enclaves likely confer protection against racial discrimination (Hutchinson et al. 2009), which suggests that racial composition may also influence individuals' exposure to stressors and availability of psychosocial resources that shape mental health. So while there has been some attention given to the benefits of racial concentration, substantially fewer studies have considered the potential health consequences of inhabiting predominately white spaces. Consequently, while there are good grounds to assume that racial composition has an impact on blacks' well-being, the extent to which the racial makeup of various social contexts contribute to variations in the psychological health of black Americans remains an important question.

Although the number of studies examining the significance of racial composition for the well-being of blacks is growing, this research has been limited by its tendency to focus on the composition of specific domains, such as neighborhoods and the workplace. A study by Ellis, Wright, and Parks (2004) highlights this limitation, observing that the racial composition and segregation literature has essentially ignored variations in the spatial separation of groups. Much of the work in this area has examined residential segregation within neighborhoods only, not acknowledging the fluidity of individuals as they traverse spaces for work and leisure time. This approach has likely underestimated the significance of racial composition across spaces for the lived experience of black Americans.

More recently, attempts have been made to explore the role of racial composition in a variety of spaces that blacks inhabit in their everyday lives. Lacy (2007) argues, as blacks routinely move back and forth between the "black world" and the "white world," the salience of their racial identity varies, along with their experiences of differential treatment. As such, it may be more beneficial to consider the potentially cumulative effect of racial composition across a variety of spaces on blacks' mental health. The purpose of the present study is to examine the independent and combined significance of workplace and neighborhood racial compositions for variations in the mental health of black Americans.

Background

Two competing hypotheses have emerged in the literature regarding the relationship between the racial composition of spaces and health (Mair et al. 2010; Shaw and Pickett 2011). The first one is the *ethnic density hypothesis,* which states that those who live in neighborhoods with a greater proportion of residents of their own race have better mental health. It is thought

that ethnic density provides group members with more social ties, greater levels of social support from kinship networks, and better access to resources through such ties. Conversely, the *residential segregation hypothesis* argues that people who live in neighborhoods with a larger proportion of residents of their own race have worse mental health. This may be due to factors such as institutional racism, forced segregation due to historical and contemporary discrimination in housing markets, and fewer economic opportunities (Williams and Mohammed 2009). Studies examining these issues have reported mixed results, with some supporting the ethnic density hypothesis (Mair et al. 2010; Halpern and Nazroo 2000), while others finding evidence supporting the racial segregation hypothesis (LaVeist 2003; Williams and Collins 2001). Although prior research has provided some insight into the racial composition-mental health association, there is a need for further examination of the specific mechanisms underlying this relationship.

Neighborhood Racial Composition

The racial composition of neighborhoods is the most commonly studied social context in this area of research, with most focusing on mediating and moderating factors that contribute to the relationship between racial composition and mental health. For example, studies of black neighborhoods have highlighted the significance of social class variation for the experiences of black Americans in residential areas. Pattillo (1999) notes that although many middle class blacks report preferences to live in racially integrated neighborhoods, most live in predominately black and less socially advantaged areas, which may have implications for their well-being and quality of life. Similarly, in her study of middle class blacks in suburban neighborhoods with varying levels of integration, Lacy (2004) discusses class differences among blacks, noting how such distinctions condition the significance of neighborhood composition for the identity

construction of blacks. She finds that middle class blacks who live in majority-black neighborhoods are more concerned with buffering their children from racism whereas those who live in majority- white suburbs are more focused on preparing their children to face racism. These different approaches are reflective of the cultural boundary work that blacks perform based on the racial composition of their neighborhoods. She argues that these intentional cognitive and behavioral responses to their contexts may represent additional sources of social stress, resulting in negative health consequences. Thus, further examination of these processes and their effect on blacks' psychological well-being is needed.

While the underlying mechanisms linking neighborhood racial composition and health remain uncertain, recent empirical studies have suggested that factors such as neighborhood characteristics and social connectedness may play an important role. For example, Hutchinson and colleagues (2009) posit that higher levels of isolation and lower levels of social support tend to characterize neighborhoods with proportionally small minority populations. Supporting this notion, they find that blacks living in predominately white neighborhoods have significantly higher mortality than blacks living in mostly black areas, even after adjusting for other neighborhood characteristics. Furthermore, results show that this effect only applies for those living in neighborhoods with high social capital. This suggests that racial composition may work in conjunction with these other social factors to influence health.

Despite a growing awareness of the potential significance of racial composition, only a few studies have examined the mental health effects of composition within one's neighborhood. One such study, by Yuan (2008), finds that although blacks who live in predominately black neighborhoods may be more likely to be economically disadvantaged, both individually and at the community-level, blacks may also benefit emotionally from same-race neighborhoods.

Specifically, such neighborhoods may improve social support and provide physical and emotional resources to combat individual and community disadvantage. Taken together, results from this study and others suggest that neighborhood racial composition may have both direct and indirect effects on the mental health of black Americans. Thus, in an effort to elucidate the linkages between racial composition and the mental health, a central goal of this study is to examine the role of potential intervening factors such as social support and other psychosocial resources.

Workplace Racial Composition

Another social context that has been considered within the racial composition literature has been the workplace. Of the few studies that have given significant attention to the mental health significance of racial composition, most have focused on the experiences of blacks within predominately white workplaces. As Reskin, McBrier, and Kmec (1999) note, "An establishment's sex and race composition can be particularly consequential because workplaces are likely to be more heterogeneous than are the other settings in which people interact" (p.344). As such, the literature suggests that those who work in spaces in which they are the minority are typically subjected to a constant awareness of difference, which likely results in adverse psychological effects (Jackson, Thoits, and Taylor 1995). This has been supported by a number of qualitative studies that report the negative effects of low representation and blocked opportunities for blacks' sense of well-being and life satisfaction (Cose 1993; Feagin and Sikes 1994; Anderson 1999).

Others have sought to explain this relationship empirically, examining the effect of work racial composition on blacks' levels of stress exposure. Work by Jackson and colleagues (Jackson, Thoits, and Taylor 1995; Jackson and Stewart 2003) suggests that black leaders who

are outnumbered by whites in their work situations exhibit higher levels of psychological distress relative to those in situations where there is proportional representation of black Americans. They posit that this may be due to the fact that people tend to classify themselves and others into various social categories such as race or gender, and when visible characteristics surface in the workplace, people are likely to invoke race or gender-based schemas. For example, they note that black women managers are defined by the language and actions of white men and women mangers as "black" and "female", rather than being considered as simply "managers" (Jackson and Stewart 2003). Thus, one's visible social characteristics (e.g. race or skin color) often become more salient than other statuses within the workplace, differentially exposing individuals to stressors. Consistent with this, the study found that black elites who work in predominately black settings report fewer problems with "token stress" (i.e. stress due to being forced to represent one's minority group in social settings) than elites in work settings that are predominately white. These study results serve to highlight the complexities of the racial composition-mental health relationship. Clearly, there are a number of potential mechanisms in need of further attention, including differential exposure to social stress, which may impact the significance of racial composition for the well-being of black Americans.

The Present Study

There are many gaps in our current knowledge regarding the significance of racial composition for the mental health of black Americans. Overwhelmingly, prior research has focused on a single social context and has not thoroughly assessed the role of potential intervening factors in this association. As a result, the mechanisms by which the racial composition of spaces influences health and well-being of black Americans have remained

elusive. The incorporation of a social stress framework may provide additional insight into these complex relationships.

As the dominant theoretical perspective explaining the association between social context and group differences in health, stress theory underscores the importance of individuals' social locations for patterning stress exposure that may be detrimental for health (Pearlin et al. 2005). Specifically, the "stress process model" illustrates the relationships between sociodemographic characteristics, stressors, social and psychological resources, and mental health. A large and growing literature finds evidence supporting the utility of this model (Turner 2013; Turner and Lloyd 1999; Turner and Avison 2003; Turner, Wheaton, and Lloyd 1995; Williams et al. 1997), observing that sociodemographic characteristics such as age, gender, socioeconomic status, and race/ethnicity predict stress exposure, with the socially disadvantaged generally reporting elevated levels of social stress. Increased exposure to stressors may trigger a host of psychological and physiological effects, resulting in negative consequences for health and well-being (Lazarus and Folkman 1984; Repetti, Taylor, and Seeman 2002). Furthermore, the stress-health association is importantly conditioned by a number of psychosocial resources such as social support, self-esteem, and sense of control, which also vary in their availability across social statuses (Turner, Taylor, and Van Gundy 2004; Turner, Lloyd, and Roszell 1999; Turner and Roszell 1994). As such, there are good grounds to hypothesize that workplace and neighborhood racial composition, as significant characteristics of blacks' social contexts, may be particularly important for the health and well-being of this group. By considering the nature of these two most common social domains, this study aims to enhance our understanding of the degree to which one's social surroundings can shape health. Specifically, this study will (1) consider the social antecedents of racial composition across contexts, (2) examine the joint and

independent effects of workplace and neighborhood composition on mental health, and (3) assess the extent to which levels of stress exposure and psychosocial resources act as important intervening factors in the racial composition- mental health association.

The Cumulative Effects of Racial Composition across Spaces

Recently, some have suggested that the effect of racial composition on health may vary depending on the ways in which composition is assessed (Shaw and Pickett 2011; White and Borrell 2011). Furthermore, others have argued that the failure to examine the (Ellis, Wright, and Parks 2004; Seaton and Yip 2009). Consequently, this study will examine the effects of racial composition measured variously. While most studies have focused only on the mental health significance of either work composition or neighborhood composition, the present study will consider both contexts, individually and in combination. By considering racial composition in these ways, this study aims at a better understanding of the pathways by which racial composition affects health. Given the suggestion that the very experience of traversing between black and white spaces may be detrimental to blacks' well-being (Lacy 2007; Brown 2001), it is important to explore processes by which the racial composition of spaces exert influence.

Intervening Factors in the Racial Composition- Mental Health Relationship

In a recent review, White and Borrell (2011) note, "Distal causes of health such as segregation are mediated through individual-level and proximal causes. Therefore, enhancing the understanding of pathways and mechanisms linking segregation to health requires empirically testing mediating pathways" (p.9). The extant literature in this area has suggested a host of potential mediators and moderators in the racial composition-health relationship, most of which are key elements of the stress process model (Turner 2010; Turner 2013). For example, early work on the effects of proportional minority representation in the workplace (Kanter 1977)

argues that individuals with low representation in their work settings may experience various stressors related to performance pressure, boundary heightening, and role entrapment. Others have suggested that the racial composition of spaces primes individuals for the perception of discrimination, such that blacks who are in predominately white spaces are more likely to perceive racial discrimination (Forman 2003; Hunt et al. 2007). As such, exposure to various stressors such as perceived discrimination and chronic strain may be significant intervening factors in the racial composition-health relationship. This study will consider several dimensions of social stress, including acute stressors, chronic strains, and multiple forms of discrimination.

In addition, racial composition may affect health through its significance for social and personal resources. Several studies have suggested that one pathway by which racial composition may influence mental health is by patterning availability of social support and social integration (Hutchinson et al. 2009; Mair et al.2010; Yuan 2007). Being in spaces in with a high representation of persons from one's own racial or ethnic group may enhance social connections and quality of relationships. This may be especially beneficial for reducing the negative effects of stressors such as discrimination (White and Borrell 2011) and for improving mental health and emotional well-being (Yuan 2007).

Similarly, the racial composition- health relationship among black Americans may also be influenced by personal resources such as racial identity and mastery. Studies by Shelton and Sellers (2000; Sellers and Shelton 2003) have demonstrated the significance of racial identity for blacks' mental health, noting that its effects vary across social contexts. Specifically, they assert that in situations where race becomes a salient identity (i.e. when there is low racial representation), individuals' stable beliefs about the meaning of their racial identity are more likely to influence their interpretations of, and responses to, an event. Since the racial

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composition of spaces also influences the saliency of various negative racial stereotypes (Kwate 2011; Purdie-Vaughns et al. 2008; Reskin, McBrier, and Kmec 1999; Seaton and Yip 2009), those with more central black racial identities may be more attuned to these stereotypes and consequently, face heightened psychological strain (Sellers and Shelton 2003). The influence on racial identity may be one way that racial composition influences the mental health and well-being of black Americans. In addition, blacks' sense of mastery, or personal control, has been associated with depressive symptoms, such that higher levels of mastery are predictive of lower symptomatology. However, the magnitude of this association may vary by level of racial identity centrality as well as their neighborhood contexts (Christie-Mizell and Erikson 2007; Ida and Christie-Mizell 2012). Thus, this study also considers the significance of social support, racial identity, and mastery as potentially intervening factors in the racial composition-mental health association among blacks.

Method

Sample

The data for this study are drawn from the Stress and Health Study, which was aimed toward an improved understanding of black-white and SES health disparities. Data were gathered between April 2011 and January 2014, and the sample is representative of native-born, non-Hispanic black and white residents within the greater Nashville, Tennessee metropolitan area. A total of 1270 individuals participated in three-hour computer-assisted interviews with an achieved success rate of 67%. Analyses were weighted for the probability of non-contact during the household screening phases and non-response during the interviewing phase. Post-stratification weights were also incorporated into the final design weight to allow generalizability to the county population.

This is an ideal data set with which to address the research aims of this study for several reasons. First, it has a large enough sample of black Americans with similar numbers of males and females from various class groups to sufficiently examine gender and social class contrasts. In addition, this data set includes survey items about past and present racial composition of a variety of spaces that individuals commonly inhabit, such as work, school, and neighborhood; it also has items assessing a number of other race-specific and more general stressors. For the present study, a sample of 598 black Americans was used, with 311 females and 287 males.

<div align="center">***Measures***</div>

Mental Health

To assess the significance of racial composition for blacks' mental health and well-being, a single outcome was employed. *Depressive symptoms* represent an important psychological outcome because elevated levels of symptomology, has been shown to be associated with reduced capacity to successfully fulfill social roles and obligations (Aneshensel 1986; Avison and Turner 1988; Nolen-Hoeksema 2000). Depressive symptoms were measured using a modified 20-item version of the Center for Epidemiological Studies for Depression scale (CES-D) (α=.89). Respondents were asked how often in the last month they had experience symptoms such as "you were bothered by things that usually don't bother you," "you felt like you could not shake off the blues," and "you had trouble keeping your mind on what you were doing." Items are coded using a "0,1,2,3" scale, corresponding with responses of "not at all," "occasionally," "frequently," and "almost all the time."

Racial Composition

The racial composition of respondents' current *neighborhood* and *workplace* were assessed as follows: "When you think about the places where you have lived, gone to school, or worked, were mostly blacks or mostly whites there?" Respondents were then asked to consider the composition of their current neighborhood and workplace, rating whether each space was (1) all black, (2) mostly black (3) about half blacks, (4) mostly whites, or (5) almost all white. To compute individuals' *racial composition composite (RCC)* score, their workplace and neighborhood composition scores were averaged, with higher scores indicating a cumulative racial composition with more whites. If individuals were missing on work or neighborhood composition, their RCC score was computed based solely on the composition variable available. Lower scores signify that individuals' workplace and neighborhoods are predominately black.

Social Stressors

Prior research has outlined the advantages of considering a more comprehensive array of stressors, finding that assessing only individual dimensions substantially underestimates exposure (Turner and Avison 2003; Turner, Wheaton, and Lloyd 1995). Thus, the present study includes several distinct dimensions: recent life events, lifetime occurrence of major and potentially traumatic events, chronic stressors, daily discrimination, major discrimination, and ambiguous discrimination stress. *Recent life events* was measured with 32 items and asked respondents to report if each event happened to them or someone close within the past 12 months. Examples include "Did a child die," "Was there a marital separation or divorce," "Did someone have a major financial crisis," and "Was demoted at work or took a pay cut." The occurrence of *major and potentially traumatic events* is measured using 43 items that may have occurred at any time in one's lifetime (0=no, 1=yes). Examples include "did your parents ever divorce or separate," "did either of your parents drink or use drugs so often or so regularly that it

caused problems for the family," "did you ever have sexual intercourse when you didn't want to because someone forced you or threated to harm you if you didn't," and "has anyone close to you ever died." *Chronic stressors* consists of 41 items across several domains of life such as employment (e.g. "You want to change jobs but don't feel you can"), relationships (e.g. "You have a lot of conflict with your partner"), children (e.g. "A child's behavior is a source of serious concern for you"), and general strain (e.g. "You're trying to take on too many things at once"). Respondents are asked the extent to which each item is true, and responses are coded as (0) not true, (2) somewhat true, and (3) very true.

Several forms of discrimination were also assessed. Daily and major forms of discrimination or unfair treatment were measured using the Everyday Discrimination Scale (Williams et al. 1997). *Daily discrimination* consists of nine items such as "you are treated with less courtesy than other people" and "you receive worse service than other people at restaurants or stores." Respondents are asked to report the frequency with which such events occur: (0) never, (1) rarely, (2) sometimes, (3) often, and (4) almost always. *Major discrimination* was measured with seven items, including "been unfairly fired or denied a promotion," "been unfairly treated by the police," and "unfairly discouraged by a teacher or advisor from pursuing a job/career." For each item, respondents are asked to report whether the event has ever occurred (0=no, 1=yes). For both daily and major discrimination, respondents are asked to list the reasons for their reported discrimination experiences. Examples of potential reasons include ethnicity, race, gender, age, skin tone, and sexual orientation. For this analysis, the mental health effects of discrimination are considered regardless of the reasons specified. Finally, *ambiguous discrimination stress*, which assesses the frequency with which blacks are unsure if they are being treated differently because of their race was assessed (Turner and Brown unpublished).

There are four items including, (1) "In an average week, how often do you expect to be viewed or treated differently because of who you are?" (2)"How often do you wonder whether your race has influenced how you are viewed or treated?" (3) "How often do you feel some regret for not having questioned or challenged the way you the way you or other African Americans were viewed or treated?" and (4) "How often do you regret having suggested that, or even wondered, whether racism or discrimination might have occurred or be occurring?" This measure has good internal reliability (α=0.77) and has been associated with mental health outcomes among blacks in previous studies (Thomas *under review*).

Psychosocial Resources

Social Relationships The amount of the support individuals perceive as available from family, friends, and coworkers was considered collectively. With an eight item measure (α=.91), *family support* was measured with statements such as "You have family who would always take the time to talk over your problems, should you want to," and "When you are with your family, you feel completely able to relax and be yourself." *Friend support* was measured with eight items (α=.95), including "you feel very close to your friends" and "no matter what happens you know that your friends will always be there for you should you need them." *Coworker support* was assessed with three items (α=.71) including, "I feel close to the people at work" and "I have people at work who would always take the time to talk over my problems should I want to." Responses are coded as (1) very true for you, (2) moderately true for you, (3) somewhat true for you, and (4) not at all true for you. Totals from the three sources of support were standardized to create an overall social support score, with higher scores representing higher levels of perceived support. The reliability of these measures have been well-documented in prior studies (e.g. Turner, Frankel, and Levin 1983; Turner and Marino 1994).

Racial Identity. The centrality or importance of individuals' black racial identity was assessed using an 11-item measure (α=.76). On a scale from 1 to 7, respondents were asked to indicate the level of agreement with each statement. Examples include "you have a strong sense of yourself as a member of your racial/ethnic group," "your racial/ethnic heritage is important to your life," and "your racial/ethnic background plays a big part in how you interact with others." Items were reverse coded as necessary so that higher scores indicate more central black identities.

Mastery. Individuals' level of mastery was also considered using a well-known seven-item measure (Pearlin and Schooler 1978) (α=0.70) including "you have little control over the things that happen to you," "there is really no way you can solve some of the problems you have," and "you often feel helpless in dealing with problems of life." Respondents were asked the degree to which they agree with each statement on a 1 to 5 scale, such that higher scores correspond with higher levels of mastery.

Sociodemographic Characteristics

In addition to racial composition, social stressors, and psychosocial resources, several additional factors were also considered. These include age, sex (0=female, 1=male), marital status (0=non-married, 1=married), socioeconomic status (i.e. highest level of education completed, yearly household income, and level of occupational prestige equally weighted), interviewer-rated skin tone (1=very dark, 2=dark, 3=medium, 4=light, 5=very light) and the racial composition of high school and childhood neighborhood.

Analytic Strategy

The goal of this analysis was to confirm the mental health significance of racial composition across social contexts and to identify the mechanisms by which racial composition, measured variously, affects the mental health and well-being of black Americans. Preliminary bivariate analyses were conducted to assess the associations between study variables. To account for variation in depressive symptoms, a path analysis technique was utilized, allowing for the examination of specific linkages between numerous dimensions at once. For this study, three different models were considered. In the first model, workplace racial composition was regressed on sociodemographic characteristics. In the same model, depressive symptoms were also regressed on workplace composition, perceived stressors, and psychosocial resources, controlling for sociodemographic characteristics. The second model used the same approach to assess the significance of neighborhood racial composition. The third model included the RCC score to measure the potentially cumulative effect of workplace and neighborhood composition on individuals' levels of perceived stress, psychosocial resources, and ultimately, their mental health. Standardized Beta coefficients are presented to compare the magnitude and significance of effects. The R^2 values indicating the amount of variation explained for each of the three models were also compared. Finally, interaction analyses were conducted to assess potential interactive effects between sociodemographic characteristics, RCC, perceived stress, and psychosocial resources on mental health.

Table 1. Means and Proportions of Study Variables

	All	_Women_	_Men_
N	598	311	287
Sociodemographic Characteristics			
Age (22-69)	46.57	45.78	47.09
Married	0.37	0.21***	0.49
SES			
low	0.33	0.34	0.33
moderate	0.34	0.29	0.37
high	0.33	0.37	0.30
Skin Tone			
very dark	0.03	0.03	0.02
dark	0.29	0.25*	0.32
medium	0.46	0.40*	0.50
light	0.20	0.28***	0.14
very light	0.03	0.04	0.01
High School Racial Composition			
mostly black	0.47	0.44	0.49
half black	0.29	0.30	0.28
mostly white	0.25	0.26	0.23
Childhood Racial Composition			
mostly black	0.78	0.75	0.81
half black	0.13	0.15	0.11
mostly white	0.09	0.10	0.08
Social Stress			
Recent Life Events (0-15)	2.06	2.41***	1.65
Lifetime Trauma (0-31)	9.38	9.36	9.41
Chronic Stress (0-39)	11.10	12.42***	10.07
Daily Discrimination (0-34)	9.97	9.79	10.11
Major Discrimination (0-7)	1.89	1.86	1.89
Ambiguous Discrimination Stress (0-12)	3.18	2.95	3.36
Psychosocial Resources			
Social Support			
Family Support (8-32)	27.49	26.88*	27.95
Friend Support (8-32)	25.24	25.83*	24.78
Coworker Support (3-12)	8.09	7.73*	8.35
Racial Identity Centrality (22-70)	60.49	60.09	61.14
Mastery (13-35)	26.15	25.98	26.29
Racial Composition			
Work Racial Composition (1-5)	3.36	3.36	3.36
Current Neighborhood Racial Composition (1-5)	2.70	2.75	2.68
Racial Composition Composite (RCC) Score (1-5)	2.92	2.95	2.90
Mental Health			
CES-D (0-47)	13.82	15.61***	11.89

*p<0.05; **p<0.01; ***p<0.001 gender differences

Results

Initial analyses assessed the relationships among study variables. Table 1 provides means and proportions for all study variables, revealing several significant gender differences, including an expected difference in depressive symptoms. This is consistent with numerous prior studies that have found women to report higher levels of depressive symptoms relative to men (Piccinelli and Wilkinson 2000; Nolen-Hoeksema, Larson, and Grayson 1999; Kessler et al. 1993). Scores on mean work composition score (3.36) and neighborhood composition score (2.70) indicate that most participants work in spaces that are "mostly white," while they live in spaces that are "mostly or about half black." There are no significant gender differences in work or neighborhood racial contexts. When considering racial composition cumulatively, the mean RCC score, 2.92, suggests that on average, the sample inhabits racially integrated spaces.

While there are no sex differences in racial composition, significant differences in exposure to social stressors and in psychosocial resources are observed. For example, women report higher levels of recent life events and chronic stress. There are no significant differences in lifetime trauma, or any of the discrimination stressors. Interestingly, men report higher levels of social support from family and coworkers, while women report higher friend support. No sex differences are found in racial identity or mastery.

Table 2. Correlations of Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. CES-D	1.00														
2. RCC	-0.10**	1.00													
3. Work R.C.	-0.09	0.70***	1.00												
4. Neighborhood R.C.	-0.003	0.80***	0.15**	1.00											
5. Social Stress	0.49***	0.07	0.05	0.08*	1.00										
6. Racial Identity Centrality	-0.08*	-0.14	-0.02	-0.19***	-0.05	1.00									
7. Social Support	-0.41***	0.005	-0.01	-0.01	-0.28***	0.11**	1.00								
8. Mastery	-0.47***	0.13**	0.13**	0.06	-0.18***	-0.08*	0.25***	1.00							
9. Age	-0.16***	0.01	-0.02	0.02	-0.17***	0.17***	0.02	-0.16***	1.00						
10. Gender (1=Male)	-0.18***	-0.04	0.001	-0.06	-0.05	0.10*	0.03	0.04	0.06	1.00					
11. Marital Status (1=Married)	-0.19	0.08*	-0.02	0.05	-0.03	0.04	0.08*	0.13***	0.07	0.31***	1.00				
12. SES	-0.20***	0.27***	0.23***	0.17***	0.008	-0.07	0.20***	0.34***	-0.10**	0.04	0.20***	1.00			
13. Skin Tone	-0.01	0.09*	0.13**	0.07	-0.07	-0.008	0.03	0.08*	-0.11**	-0.12**	-0.008	0.19***	1.00		
14. High School R.C.	-0.007	0.14***	0.08	0.11**	0.04	-0.05	0.04	0.10**	-0.03	-0.06	0.02	0.10*	0.03	1.00	
15. Childhood Neighborhood R.C.	0.003	0.09*	-0.004	0.12**	0.003	-0.06	0.02	-0.01	-0.16***	-0.08*	-0.04	0.02	0.06	0.34***	1.00

*p<0.05; **p<0.01; ***p<0.001

Notes: RCC=Racial Composition Composite Score; R.C.= racial composition; SES=socioeconomic status

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Associations among these variables are depicted in Table 2. Although the individual work and neighborhood racial composition variables are not significantly correlated with depressive symptoms, there is a negative association between the composite scores (RCC) and CES-D, suggesting that inhabiting spaces with more whites is associated with lower levels of depressive symptoms. In addition, perceived stress and each of the psychosocial resources are significantly associated with symptomatology, such that higher levels of exposure to social stressors and lower levels of racial identity, social support, and mastery are all predict with higher levels of depressive symptoms.
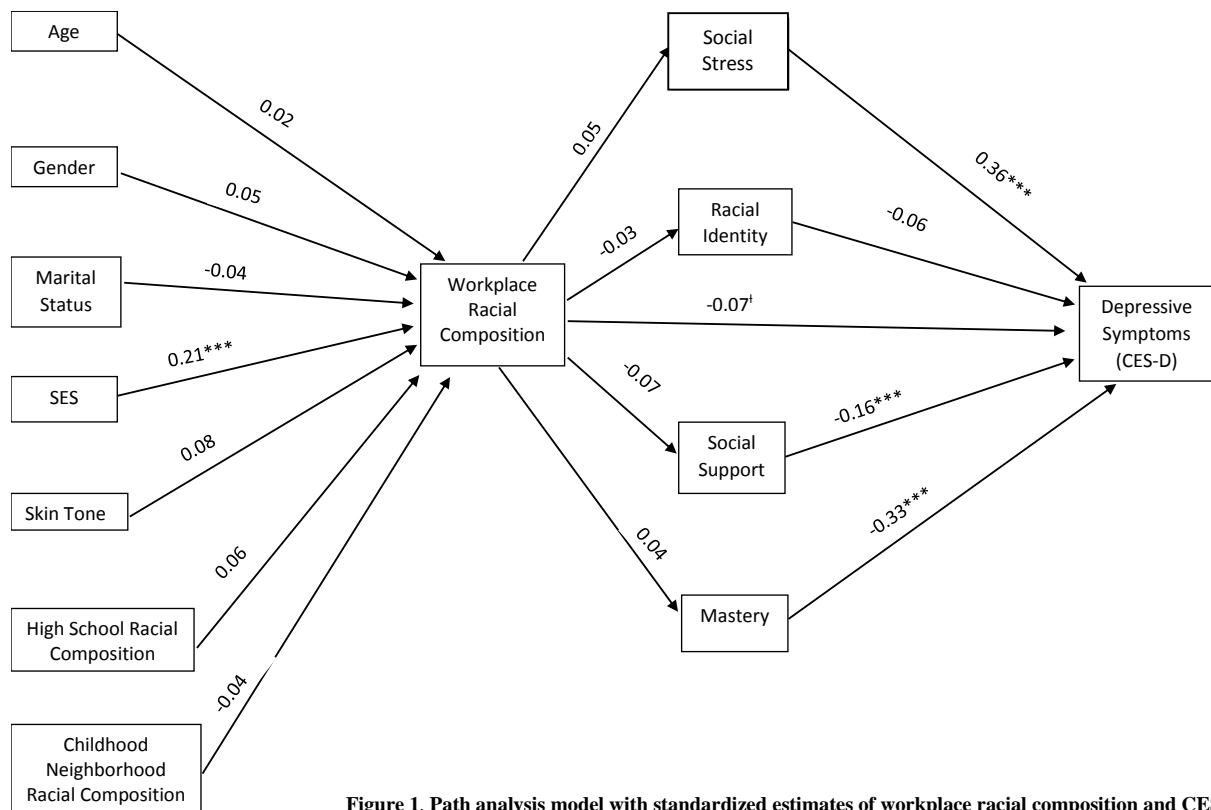

Figure 1. Path analysis model with standardized estimates of workplace racial composition and CES-D
R^2=0.44; $\dagger$ p<0.10; *p<0.05; **p<0.01; *p<0.001

Consideration of the associations between sociodemographic characteristics, workplace racial composition, perceived stressors, psychosocial resources, and mental health is shown in Figure 1[1]. Results from path analyses suggest that SES is a significant predictor of workplace racial composition, such that higher SES is associated with workplaces with a higher proportion of whites. Workplace composition fails to significantly predict levels of stress exposure or any of the psychosocial resources, but there is a marginally significant direct effect of workplace racial composition on depressive symptoms (B=-0.07, p=0.06). Although the reliability of this coefficient is less certain, it suggests that having workplaces with a larger proportion of whites are associated with lower levels of depressive symptoms among black Americans. Additional analyses further indicate that, absent the consideration of social stress and psychosocial resources, workplace racial composition appears to matter for depressive symptoms (B=-0.11, p=0.03). Consistent with a wide literature, social stress, social support, and mastery effectively predict level of depressive symptoms. Those with greater levels of perceived stress and lower levels of social support and mastery have the highest levels of depressive symptoms. This full model accounts for 44 percent of observed variation in depressive symptoms, suggesting that variables comprising the stress process model collectively represent dimensions that importantly shape the mental health of blacks.

Figure 2[1] shows similar results for neighborhood racial composition. Again, SES is a significant predictor of neighborhood racial composition, such that higher SES levels are predictive of living in a neighborhood with more whites. While workplace composition failed to predict any of the potential mediators, neighborhood racial composition is significantly associated with level of social stress and racial identity. Living in predominately white neighborhoods is predictive of elevated stress exposure and less central black identities.

Neighborhood racial composition does not significantly predict social support or mastery. While neighborhood composition has no direct effect with respect to depressive symptoms, it has an indirect effect through increasing social stress. Thus, level of exposure to social stress is influenced by neighborhood composition, and such stress is predictive of depressive symptomatology (B=0.03).
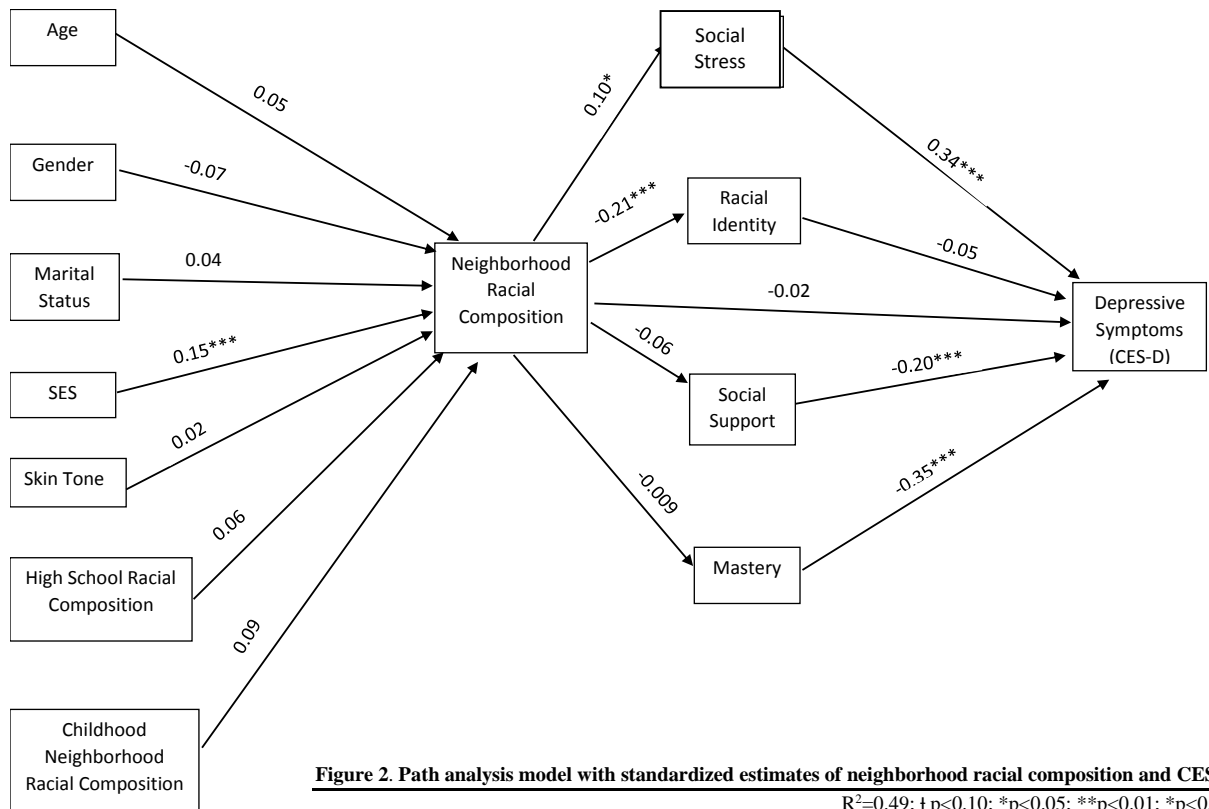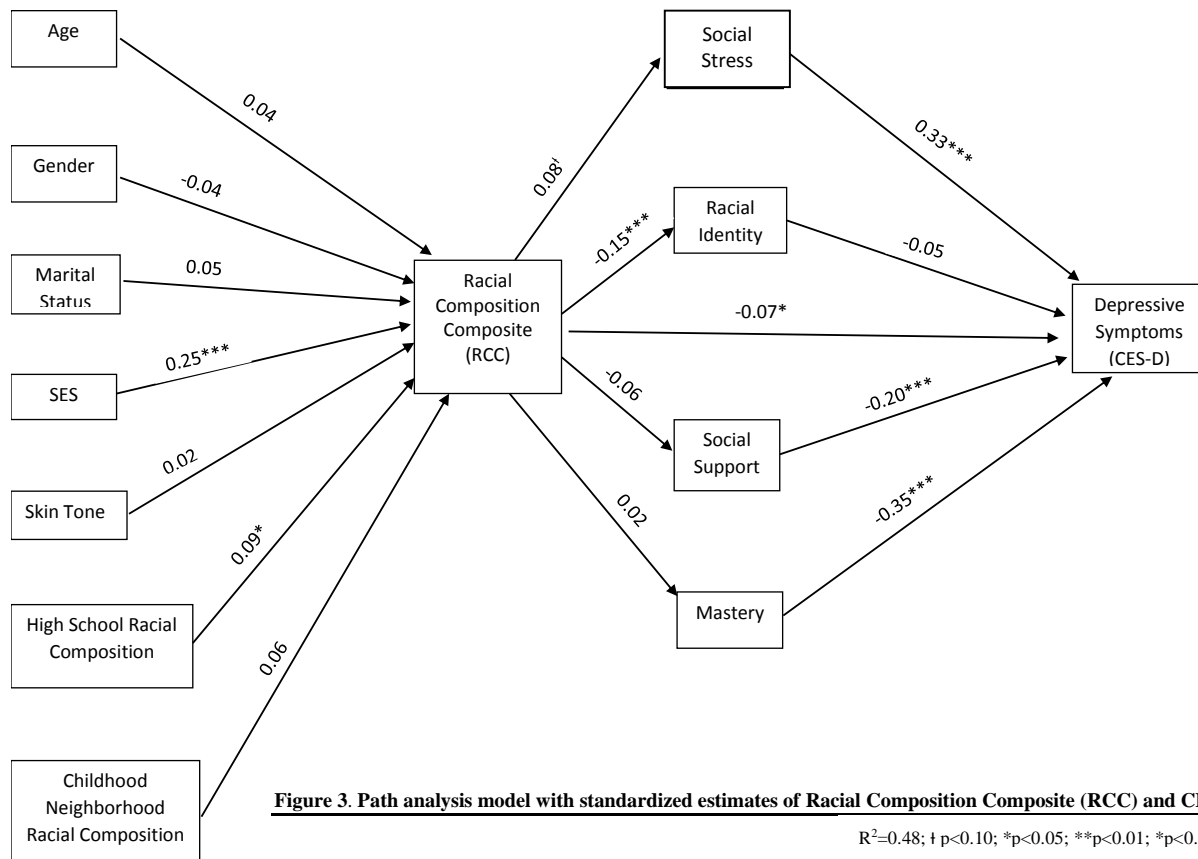

Figure 2. **Path analysis model with standardized estimates of neighborhood racial composition and CES-D**
R^2=0.49; † p<0.10; *p<0.05; **p<0.01; *p<0.001

Figure 3[1] considers the combined effects of neighborhood and workplace composition employing RCC scores. RCC is predicted by SES and high school racial composition, such that those with higher SES levels and those who attended predominately white high schools report higher adult RCC scores. RCC significantly predicts racial identity, such that inhabiting spaces with greater numbers of whites is associated with a less central black identity. Furthermore, RCC is marginally predictive of social stress (B=0.08, p=0.07), such that being in predominately white

spaces is linked to greater levels of stress, which, in turn, predicts higher levels of depressive symptoms (B=-0.07, p=0.03). Despite this indirect relationship, living and working in predominately white spaces predicts lower rather than higher levels of depression. While there is no evidence to suggest that RCC mediates the association between sociodemographic characteristics and depressive symptoms, there is a suppression effect such that racial composition only makes a significant independent contribution to depression when social stress and psychosocial resources are considered (see Appendix A).

Figure 3. Path analysis model with standardized estimates of Racial Composition Composite (RCC) and CES-D

R^2=0.48; ǂ p<0.10; *p<0.05; **p<0.01; *p<0.001

Potential interactive effects between sociodemographic characteristics, RCC, and the intervening variables were tested through the formation of a number of multiplicative terms. However, only one proved statistically significant, that between RCC and racial identity (B=-1.37, p=0.007). As Figure 4 illustrates, the association between RCC and depressive symptoms

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varies across levels of racial identity. Across racial composition contexts, those with low levels of racial identity centrality report the highest levels of depressive symptoms while those with moderate to high central identities report lower depressive symptoms. While there is little change in symptom levels for those with moderate centrality, for those with low or high racial identity centrality, inhabiting more racially integrated spaces is associated with lower levels of depressive symptoms. These results suggest that although racial identity does not have a direct association with depressive symptomatology, it importantly conditions the relationship between racial composition and mental health. Specifically, having a more central black identity seems to be protective across contexts but these effects are greatest in predominately white spaces.

Figure 4. Racial Identity Moderates the RCC-Depressive Symptoms Association
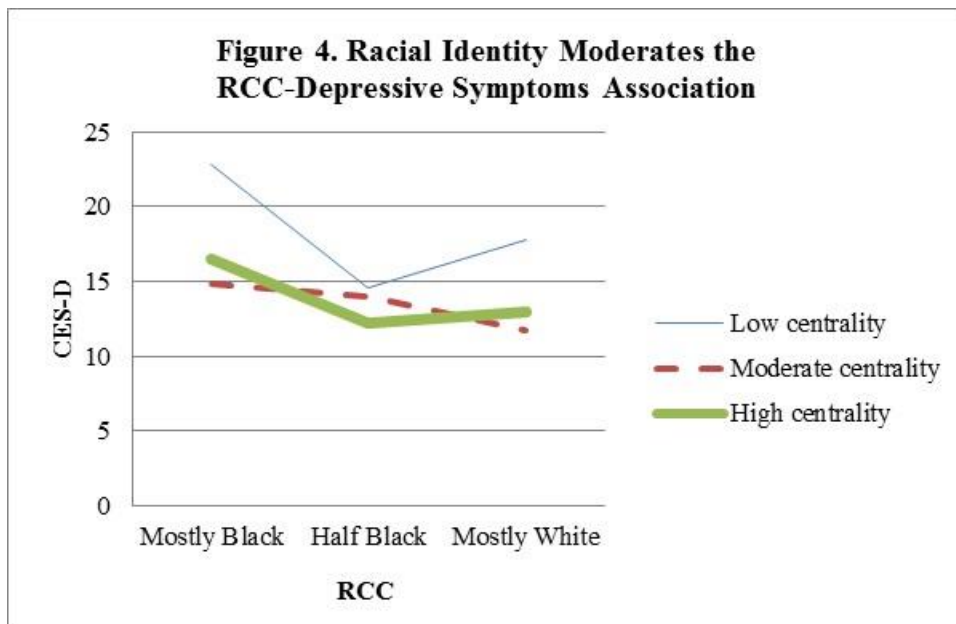
Discussion

The purpose of this study was to examine the independent and joint effects of the racial composition of work and neighborhood spaces on the mental health of black Americans. Results demonstrated that while the composition of these spaces have limited direct effects on depressive symptoms when considered individually, their combined effects indicate that inhabiting predominately white spaces is associated with better mental health. In addition, although social support and mastery proved to be important factors for depressive symptoms, there was no significant association between these resources and racial composition.

Although somewhat surprising, these findings support the "residential segregation hypothesis," which suggests that time in contexts with a larger proportion of individuals of one's own race may produce worse mental health. This perspective argues that such outcomes may be due to systemic factors including institutional racism and fewer economic opportunities (Williams and Mohammed 2009; Williams and Collins 2001). Based on the number of prior studies supporting the "ethnic density hypothesis," it was expected that time in predominately white spaces would predict worse mental health, due to increased stress and diminished availability of psychosocial resources. While results demonstrate a positive association between being in white spaces and stress exposure and that such exposure is predictive of poor mental health, the indirect effect through which racial composition influences depressive symptoms through stress exposure is only 0.03, which is relatively small. In addition, there is no evidence that the racial composition-depression linkage is in any way mediated by psychosocial resources (i.e. racial identity, social support, and mastery). In fact, racial composition failed to predict either social support or mastery, variables that have strong negative associations with depressive symptoms. This suggests that while these factors are important for depressive symptomatology,

they are not significantly influenced by the racial composition within which individuals live and work.

A potential explanation for these complex findings is that the significance of racial composition for mental health may be dependent on other factors. While this study considered the role of important sociodemographic factors that have been associated with variations in mental health among black Americans (i.e. age, gender, marital status, SES, and skin tone) as well as the racial composition of childhood contexts, prior research suggests that other, more systemic factors, may also play an important role. For example, Hutchinson and colleagues (2009) found that the association between neighborhood composition and psychological well-being was dependent on neighborhood social capital. This suggests that structural conditions such as the neighborhood socioeconomic status, fear of crime, and even workplace factors such as level of job autonomy and working conditions may be important. Future studies should consider the combined significance of workplace and neighborhood racial composition for mental health in the context of these structural conditions.

Prior studies also suggest that racial composition may influence health through its impact on social support and social integration. However, this study found that blacks' levels of perceived social support from family, friends, and coworkers considered collectively did not vary across racial composition contexts. Additional analyses (not shown) also indicated that racial composition failed to significantly predict support from these sources when considered individually, further suggesting that blacks' social support is not dependent on the racial composition of the contexts in which they inhabit. This is consistent with findings from prior research. For example, in a prominent study described in *Black Picket Fences,* Mary Patillo (1999) notes that blacks living in neighborhoods of varying racial compositions work to maintain

social ties with other blacks. Furthermore, Lacy (2007) asserts that blacks living in predominately white neighborhoods make concerted efforts, or engage in "strategic assimilation," to cultivate and sustain meaningful relationships with other black Americans. Thus, black Americans may perceive psychologically beneficial support regardless of the racial composition of their work and neighborhood contexts.

Similarly, previous studies noted that inhabiting spaces in which there are fewer blacks likely exposes black Americans to additional social stressors. However, the present study finds that there is only a marginally significant association between racial composition and social stress considered comprehensively. In supplemental analyses (not shown), the effect of racial composition on individual dimensions was considered. Results revealed that while racial composition does not influence exposure to the other stressors (e.g. recent life events, chronic stress, lifetime trauma, daily discrimination, and ambiguous discrimination stress), there is a significant association between major discrimination and racial composition (B=0.11, p=0.01). This indicates that inhabiting spaces in which there is a higher proportion of whites is associated with higher levels of major discrimination, although there is no evidence suggesting that discrimination mediates the racial composition-mental health association. This is consistent with prior findings from several qualitative studies documenting blacks' experiences with blatant discrimination in workplaces and neighborhoods (Cose 1993; Feagin and Sikes 1994; Anderson 1999). Future studies should examine the significance of various dimensions of social stress within different contexts, as they likely have distinct effects on the mental health of black Americans.

Despite its limited effect on stress exposure, social support, and mastery, racial composition is a significant predictor of racial identity. Specifically, inhabiting predominately

white spaces is associated with less racial identity centrality. In addition, racial identity

conditions the association between racial composition and mental health, such that among those

who inhabit racially integrated and predominately white contexts, a more central racial identity is

predictive of lower levels of depressive symptoms. This suggests that inhabiting majority white

spaces may result in race becoming less central to individuals' sense of self. At the same time, a

central black identity is also protective within such contexts, as high racial centrality is

associated with lower symptomatology within racially integrated spaces. Future research should

continue to assess the association between racial composition and black identity, examining how

time in white spaces impacts the importance of race for blacks' self-concepts. Furthermore,

additional consideration of this relationship, as well as its significance for mental health, within

longitudinal data is needed.

The central goal of this study was to examine the extent to which racial composition

across work and home contexts influences the mental health of black Americans. Although the

findings were unexpected, they help to clarify the mechanisms by which social contexts can

shape well-being and overcomes limitations of prior research, which largely focused on the

compositional effects of single contexts. Specifically, this study demonstrates that taking a more

cumulative approach to the study of racial composition with the consideration of RCC provides

further insight into the factors that contribute to variations in mental health among the black

American population.

Clearly, racial composition represents an important dimension of the social world of

black Americans that is in need of further study. The racial makeup of spaces is reflective of

broader systems of stratification in society, which can put individuals at differential risk for poor

health and well-being. Thus, by understanding the significance of racial composition across

spaces, it becomes possible to identify potentially modifiable factors that may inform more effective policies and interventions to reduce human suffering and eliminate persistent disparities in health.

Note: [1]Some paths are omitted for clarity

Appendix A. Depressive Symptoms Regressed on RCC, Social Stress, Psychosocial Resources, and Sociodemographic Characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age	-0.14***	-0.06*	-0.13***	-0.13***	-0.13***	-0.19***	-0.11***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Gender (Men=1)	-2.47**	-2.50***	-2.07**	-2.42**	-2.36**	-2.42***	-1.99**
	(0.80)	(0.80)	(0.77)	(0.80)	(0.73)	(0.70)	(0.61)
Marital Status (Married=1)	-2.32**	-2.29**	-2.22**	-2.28***	-2.07*	-1.65*	-1.64*
	(0.88)	(0.88)	(0.77)	(0.88)	(0.81)	(0.78)	(0.67)
SES	-2.35***	-2.25***	-2.21***	-2.28***	-.126**	-0.51	-0.44
	(0.50)	(0.52)	(0.45)	(0.52)	(0.48)	(0.48)	(0.42)
Skin Tone	0.01	0.01	0.48	0.03	-0.06	0.03	0.33
	(0.46)	(0.46)	(0.41)	(0.46)	(0.43)	(0.41)	(0.36)
High School R.C.	0.13	0.16	0.07	0.15	0.30	0.68	0.54
	(0.49)	(0.49)	(0.43)	(0.49)	(0.45)	(0.43)	(0.38)
Childhood Neighborhood R.C.	-0.48	-0.45	-0.19	-0.46	-0.37	-0.94	-0.59
	(0.64)	(0.64)	(0.56)	(0.64)	(0.59)	(0.570)	(0.49)
RCC		-0.46	-0.99	-0.57	-0.80	-0.32	-1.01*
		(0.59)	(0.52)	(0.60)	(0.54)	(0.52)	(0.46)
Social Stress			6.93***				4.88***
			(0.51)				(0.48)
Racial Identity				-0.06			-0.06
				(0.05)			(0.04)
Social Support					-4.75***		-2.52***
					(0.46)		(0.41)
Mastery						-0.88***	-0.65***
						(0.07)	(0.06)
Intercept	22.34***	23.12***	18.78***	26.42***	22.98***	47.77***	41.38***
	(2.28)	(2.49)	(2.20)	(3.61)	(2.29)	(2.91)	(3.40)
N	598	598	598	598	598	598	598
R^2	0.11	0.11	0.32	0.11	0.24	0.31	0.48
F	10.18	8.98	31.09	8.16	21.46	28.90	45.25

*p<0.05; **p<0.01; ***p<0.001

Notes: RCC=Racial Composition Composite Score; R.C.= racial composition; SES=socioeconmic status

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