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Effect of racism on African American women's development of psychological distress: The role of psychological well-being and racism-related social support

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**Effect of racism on African American women's development of psychological distress:
The role of psychological well-being and racism-related social support**

by

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ABSTRACT

Researchers have studied the potential negative association between racism and health extensively. Possible mechanisms of this link have been examined, but no definite answers exist. Based on Ryff's conceptualization of psychological well-being, this study examined whether psychological well-being mediated the relationship between perceived racism and subsequent development of psychological distress. The unique role of each dimension of psychological well-being was also examined. Further, the hypothesis that racism-related social support would buffer the effect of perceived racism on psychological well-being was also tested. Data were from the Wave 4 and Wave 5 assessments of 659 African American women (with an average age of 44.94) who participated in the Family and Community Health Study. Analyses were conducted using latent variable structural equation modeling methods. Age, educational level, and marital status were control variables in this study.

Results indicated that there was a significant indirect effect from perceived racism to subsequent change of psychological distress via psychological well-being. Perceived racism uniquely predicted environmental mastery (negatively) and personal growth (positively) but did not uniquely predict other dimensions of psychological well-being. None of the psychological well-being dimensions uniquely predicted subsequent development of psychological distress. This study found a direct but not a buffering effect of racism-related social support. Findings from this study contribute to both theoretical conceptualizations of psychological well-being as well as practice related to African American women's mental health.

CHAPTER 1

INTRODUCTION

In American society, movement towards equal status between the ethnic minority and majority has progressed significantly during the past decades. However, racism still occurs. Insulting and discriminatory statements and behaviors aimed at ethnic minority individuals, although perhaps have decreased over time, have not disappeared. The experience of racism is likely to induce deep negative feelings for at least a short period of time. When one experiences racism so often that it becomes a chronic stressor, the individual's health and well-being may be compromised. The experience of racism might influence one's positive functioning, which subsequently affects mental health such as feelings of anxiety and depression. In this chapter, the meaning of "psychological well-being" is introduced first, followed by a brief description of the rationale for this study.

Scientific research on psychological well-being has a long history and has produced multiple meaningful findings. However, definitions of psychological well-being are sometimes arbitrary and oversimplified. A brief search of the psychology literature yields a number of articles with "psychological well-being" in the title, but many of them use negative functioning such as depression as the indicator of lack of well-being. Essentially, these studies have operationalized psychological well-being as the opposite of psychological maladjustment. This is not surprising given that psychology has long been focused on maladaptation and dysfunction rather than optimal functioning. However, someone who has no mental illness does not necessarily have a high level of positive psychological functioning.

It would be beneficial if these two constructs could be separated and the relationship between them could be comprehensively examined.

For a long time theory-based definitions of psychological well-being were rare (Ryff, 1989a, 1989b), but in the last two decades some scholars have begun to explore theory-based conceptualizations and measures of psychological well-being. For example, Sumerlin and Bundrick (1996) developed a measure assessing Maslow's concept of self-actualization. Integrating several well-known theoretical perspectives, Ryff (1989a, 1989b) proposed a six-dimension model of psychological well-being: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. This new insight into psychological well-being brings the possibility of examining "happiness" in terms of positive psychological functioning and realizing one's potential (i.e., eudaimonic well-being) rather than merely transient feelings of pleasure (i.e., hedonic well-being).

For different individuals, the paths and challenges in pursuing psychological well-being are not always equal, and the frequency of encountering stressful life events may greatly influence such pursuits. For historic and cultural reasons, people in some groups are more likely to face challenges than others in our society. For example, African American individuals have been treated unequally for a long time and discrimination against them still occurs today. They may face more challenges than European Americans when pursuing their dreams and happiness.

Racism-related stress may do harm to both physical and psychological health (Williams, Neighbors, & Jackson, 2003). It is obvious that stressful events such as becoming a victim of racism decrease hedonic well-being and make people unhappy. However, we do not know much about how stress is related to our pursuit of eudaimonic psychological well-

being. Does racism-related stress reduce individuals' mastery, perception of the meaningfulness of life, or personal growth? Is it possible that stress affects health directly or through its negative effects on such eudaimonic well-being dimensions as mastery or personal growth?

Despite the unpleasant nature of racism, the consequences likely vary for different people, as suggested by Lazarus and Folkman's (1984) stress-coping model. For example, social support can be especially helpful in buffering the negative effects of stress (Cohen & Wills, 1985). Generally, non-stress-specific social support provided by family, friends or neighbors can be helpful. However, support related to a specific stressor may be more beneficial in reducing the detrimental effects of that stressor. In the case of African American individuals who frequently become the victim of racism, support that specifically addresses such negative experiences is likely to be best in helping them cope with racism effectively (Seawell, Cutrona, & Russell, 2012). Unfortunately, relatively few studies have examined the effect of racism-related support on psychological well-being or distress.

The current study examined the effect of perceived racism on changes in psychological distress, with overall psychological well-being as a potential mediator and racism-related social support as a potential moderator. In this study, psychological well-being refers to the construct that is described by Ryff (1989b) as reflecting eudaimonic rather than hedonic aspects of well-being. Psychological distress refers to anxiety as well as depression. In order to examine if psychological well-being causes subsequent changes in psychological distress, this study used a longitudinal design including two waves of psychological distress assessments. This addresses a limitation of the existing literature that typically uses cross-sectional designs. In addition, the unique effect of each dimension of psychological well-

being was examined. The findings from this study may contribute to understanding of the

mechanisms through which racism affects mental health.

CHAPTER 2

LITERATURE REVIEW

Racism and Mental Health Among African Americans

A number of researchers have examined the association between racism and mental health or psychological well-being. However, the operationalization of these constructs varies, especially the construct of psychological well-being. In this section, concepts and theories related to this study will be introduced, and empirical findings regarding the relationship between racism and African Americans' mental health will be presented.

Overview of Racism and Racism-Related Stress

Different definitions of "racism" exist that vary in their specificity. Clark, Anderson, Clark, and Williams (1999) described racism as "beliefs, attitudes, institutional arrangements, and acts that tend to denigrate individuals or groups because of phenotypic characteristics or ethnic group affiliation" (p. 805). Scholars have described both major racist events (such as a request for a loan that was denied because of racial membership) as well as everyday racist events such as being treated less politely than the majority because of racial membership (Soto, Dawson-Andoh, & BeLue, 2011). Jones (2000) proposed that there were three levels of racism: institutionalized (general unequal resources and opportunities in society), personally mediated (different assumptions and behaviors towards individuals based on their racial identities), and internalized (accepting unequal status). These three levels are connected with one another, but the elimination of institutionalized racism is more crucial than others as it can lead to the absence of the other two levels in the long run (Jones, 2000).

The experience of racism-related events can be stressful. Harrell (2000) defined racism-related stressors as "The race-related transactions between individuals or groups and their environment that emerge from the dynamics of racism, and that are perceived to tax or exceed existing individual and collective resources or threaten well-being" (p. 44). Harrell (2000) listed six different types of stress associated with racism: racism-related life events (significant events that may occur infrequently), vicarious racist experiences (stress induced by other people's racism experiences), daily racist microstressors (frequent experiences of minor racist events), chronic-contexual stress (stress due to the macro environment and atmosphere), collective experiences (perception of racist experiences as a group), and transgenerational transmission (historical events that passed down across generations). These types of stressors illustrate how racism-related stress can originate from different sources. Complex interactions may also occur among these sources of racism-related stress. Researchers have used two approaches to operationalize racism-related stress: calculating the frequency of events and evaluating the level of stressfulness of events (Landrine & Klonoff, 1996). McNeilly et al. (1996) proposed that racism is multidimensional and can happen in multiple domains. They created the "perceived racism scale" that assesses racism in terms of three dimensions (frequency of racism experiences, emotional responses when experiencing racism, and behavioral coping when experiencing racism) across three settings (employment, academic and public) and when hearing racist statements (McNeilly et al., 1996).

History of Racism

The inferior status of African Americans was legally justified for more than a century. They originally suffered from slavery. After the ending of slavery they continue to be treated unequally. It was not until the passage of the Civil Rights Act in 1964 that African Americans

obtained the same rights as other citizens under the law. However, traumatic experiences during the past can exert lasting influences on African American people's own life as well as the lives of subsequent generations (Harrell, 2000).

Nowadays, although various policies against racial discrimination exist, the experience of racism is still common. For example, in an African American sample, Landrine and Klonoff (1996) found that 98.1% of all participants had experienced racism in the previous year, and all participants had become victims of racism during their lifetime. More recently, a study showed that 98.5% of Black college students experienced at least one discrimination-related event during the previous year (Prelow, Mosher, & Bowman, 2006). Another study found that 98% of Black and White participants experienced acute discrimination events in one or more domains (employment, housing, education, police or courts, and other services) over their lifetime, with the prevalence being 42% over the previous year (Rooks, Xu, Holliman, & Williams, 2011).

The Influence of Racism on Mental Health Among African Americans

Given the prevalence rate of racism, it is important to examine its potential effects on health and well-being. There is a long-held view that mental illness is more prevalent among African Americans than European Americans (Mynatt, Wicks, & Bolden, 2008). However, this higher rate of diagnoses could be due to physicians' racial biases (Lawson, Hepler, Holladay, & Cuffel, 1994). Based on previous studies, Chae, Lincoln, and Jackson (2011) concluded that there were not higher prevalence rates of psychiatric diseases among African Americans versus European Americans. Regardless of the actual prevalence of severe psychiatric disorders, the consequences of mental illness for many African Americans, especially women, may be severe. For example, based on previous research Mynatt et al.

(2008) demonstrated that African American women with mental disorders were very likely to be of low socioeconomic status, have limited access to mental health services, and avoid seeking help from professionals. This could delay or prevent the receipt of proper treatment, which may make their mental conditions worse. Furthermore, adult women are much more likely than adult men to suffer from depression (Piccinelli & Wilkinson, 2000). From this perspective, it is important to identify risk and protective factors related to mental distress among African American women as well as to help them to find internal and external resources for reducing mental sufferings.

Landrine and Klonoff (1996) argued that racist events can be assumed to have a greater impact on African Americans' health than general life events and daily hassles because they are negative and degrading judgments on something that is very personal and unchangeable. A number of researchers have studied the effect of racism on mental health. The results are generally consistent although not absolutely conclusive (Pieterse, Todd, Neville, & Carter, 2012). For example, studies have found a positive relationship between racial discrimination and psychological distress among African Americans (Landrine & Klonoff, 1996; Soto et al., 2011). Two meta-analytic studies provided strong evidence of the link between racism experiences and health. Pascoe and Smart Richman's (2009) meta-analytic review showed that perceived discrimination negatively affects both physical and mental health, and perceived discrimination is also linked with a greater frequency of unhealthy behaviors. Pieterse et al. (2012) conducted another meta-analysis of the racism and distress relationship that included data from 66 studies (18,140 Black American adult participants) that were published during the previous 15 years. They found that perceived racism was positively related to psychological distress with an average association of .20,

and the effect of racism was stronger for psychiatric symptoms than life quality dimensions (Pieterse et al., 2012).

Lazarus and Folkman (1984) described a stress and coping model that predicted the same environmental stimuli do not necessarily have the same effect on different individuals, because various factors (such as personal traits and situations) affect the perception of stress, coping style and therefore the outcomes. In terms of the effect of racism on health, the "biopsychosocial model" developed by Clark et al. (1999) describes various facets of the impact of racism on ethnic minority individuals' health. Clark et al.'s (1999) contextual model hypothesizes that external stressors can negatively affect health, but there are moderators (constitutional, sociodemographic, and psychological/behavioral factors) and mediators (perception of the stressor, coping responses, and psychological/physiological stress responses) related to this association. This provides some insight into the mechanism underlying the effect of racism, but mediators and moderators that are not included in the model may also be important (Clark et al., 1999).

<center>Psychological Well-Being</center>

Although some researchers use "mental illness" and "psychological well-being" interchangeably, they are not necessarily the opposite ends of the same dimension. Two approaches to psychological well-being will be presented in this review: the hedonic and eudaimonic views. While the current study emphasizes the latter, it is worthwhile to introduce the former due to its popularity in social science research.

Psychological well-being has long been synonymous with hedonic well-being, which emphasizes the feeling of pleasure or absence of pain related to various aspects of life (Ryan

& Deci, 2001). Bradburn (1969) proposed that positive affect and negative affect were not mutually exclusive and that they together ("affect balance") contributed to an individual's level of "happiness" (i.e., high level of positive affect and low level of negative affect). Another popular measure of psychological well-being is the "Life Satisfaction Index" (LSI; Neugarten, Havighurst, & Tobin, 1961) which is used widely in aging research. Diener (1984) reviewed various studies and measures of positive affect, happiness and life satisfaction, which together were labeled as subjective well-being. Subsequently, Diener (1994) described subjective well-being as a combination of positive mood, lack of negative mood, and life satisfaction.

Ryff (1989b) indicated that these widely used measures of psychological well-being often lack a clear theoretical basis and fail to describe important facets of fully functioning individuals. Despite the popularity of happiness studies, some have criticized the notion of happiness and satisfaction as the only indicators of well-being. Eudaimonia, on the other hand, represents "the feelings present when one is moving toward self-realization in terms of the developing one's unique individual potentials and furthering one's purpose in living" (Waterman, Schwartz, & Conti, 2008, p. 42). Although the eudaimonic approach to well-being is not as widely studied as the hedonic approach in social science research, this approach has a strong basis in philosophical and psychological theories. Several scholars have contributed to this field with various distinctive perspectives as well as some overlapping concepts. Waterman (1993) regarded eudaimonia as "feelings of personal expressiveness" (p. 679) which arise from activities "in which an individual experiences self-realization through the fulfillment of personal potentials in the form of the development of one's skills and talents, the advancement of one's purpose in living, or both" (p. 679). Ryan

and Deci (2000) proposed self-determination theory (SDT) which includes autonomy, competence, and relatedness. They argued that these are humans' basic needs that contribute to both hedonic and eudaimonic well-being, but these constructs themselves are not "well-being" (Ryan & Deci, 2001). Ryff's (1989a, 1989b) proposed a six-dimension model of psychological well-being which will be described below.

Ryff's Definition of Psychological Well-Being

 Ryff's (1989a, 1989b) conceptualization of psychological well-being is a well-known approach from the eudaimonic perspective. By integrating life-span development, clinical and positivity-oriented mental health theories, Ryff (1989a, 1989b) argued that there are six dimensions of psychological functioning: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. She provided detailed descriptions of each dimension, which can be summarized as: (1) Self-acceptance reflects degree of acceptance of both the current and the past self; (2) Positive relations with others refers to relationship quality and satisfaction with other people; (3) Autonomy reflects degree of independence and resisting the influence of external judgments; (4) Environmental mastery refers to the effectiveness and flexibility of mastering the surrounding environment; (5) Purpose in life reflects the feeling of having goals and pursuits in life, and (6) Personal growth reflects one's positive progress in life (Ryff, 1989b).

While Ryff and her colleagues (Ryff, 1989b; Ryff & Keyes, 1995; Ryff & Singer, 2006) found evidence supporting the uniqueness of these six dimensions, other researchers have argued that the associations among these dimensions are too high to indicate the existence of six separate domains (Springer & Hauser, 2006; Springer, Hauser & Freese, 2006). In addition, different versions of Ryff's psychological well-being scale consisting of

differing numbers of items may affect the reliability and validity of the measure (van Dierendonck, 2004). Therefore, the dimensionality of Ryff's psychological well-being measure is not clear.

Psychological Well-Being as a Potential Mediator between Racism and Mental Health

Racism in society is relatively uncontrollable, so frequent exposure to racist events is likely to lead to feelings of helplessness (Broman, Mavaddat, & Hsu, 2000). Smith, Allen, and Danley (2007) described a term related to African Americans' experiences of racism: "racial battle fatigue" which "addressed the physiological and psychological strain exacted on racially marginalized groups and the amount of energy lost dedicated to coping with racial microaggressions and racism" (p. 555). Such experiences are very likely to reduce individuals' level of self-acceptance, have negative effects on relationships with others, and decrease feelings of autonomy, mastery, purpose in life, and personal growth, which are dimensions of Ryff's psychological well-being construct. It is also reasonable to argue that the loss of these positive functioning characteristics may lead to physical and mental symptoms such as anxiety and depression, although most previous research has only examined the direct effect of racism and associated stress on health.

For studies examining the relationship between racial discrimination and positive psychological functioning, self-esteem is often the focus. However, empirical findings regarding this association are inconclusive. For example, Utsey, Ponterotto, Reynolds, and Cancelli (2000) did not find a statistically significant correlation between race-related stress and self-esteem in a sample of African American college students. On the other hand, based on a sample of young ethnic minority individuals in Scotland, Cassidy, O'Connor, Howe, and Warden (2004) found that self-esteem did not moderate the association between perceived

discrimination and distress; instead, self-esteem mediated the relationship between perceived discrimination and distress among men but not women.

The sense of control, or mastery, is another variable of interest when examining the impact of racism. Several studies have examined the effect of racism on mastery and/or the effect of mastery on psychological distress. Broman et al. (2000) found that racism negatively predicted mastery and positively predicted psychological distress among African American adults. Folkman, Lazarus, Gruen, and DeLongis (1986) reported that mastery and interpersonal trust significantly predicted psychological symptoms, even after controlling for appraisal and coping variables in a Caucasian sample. This indicates that both mastery and positive relationships with others are important in preventing mental illness. Also, these studies suggest a model where mastery serves as a mediator in the racism-distress association. Indeed, in a study examining the potential role of mastery, Moradi and Hasan (2004) found that sense of personal control (using the environmental mastery subscale of Ryff's psychological well-being measure) partially mediated the relationship between discrimination and psychological distress in an Arab American sample. In another study of Latina/o Americans, Moradi and Risco (2006) also found that personal control (again using the environmental mastery subscale of the Ryff 's psychological well-being measure) partially mediated the relationship between perceived discrimination and psychological distress. These findings indicate that discrimination can influence psychological distress both directly and indirectly through its negative effect on mastery.

The effect of racism on other dimensions of psychological well-being has rarely been examined. Hughes and Demo (1989) indicated that institutional discrimination has deprived African Americans of many opportunities to experience a sense of power and autonomy. This

suggests the potential influence of racism on well-being dimensions such as mastery and autonomy. Ryff, Keyes, and Hughes (2003) examined the effect of discrimination (not necessarily racial discrimination) on all six dimensions of well-being described by Ryff using data from a national sample of White and African American individuals plus a sample of New York City African Americans and a sample of Chicago Mexican Americans. They found that perceived discrimination adversely affected both majority and minority individuals on all 6 dimensions of psychological well-being (i.e., self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth), and the effect was generally stronger for women than men (Ryff et al., 2003). For the overall psychological well-being measure (based on the average of the six dimensions) the same pattern held for Whites and African Americans, but the effect of racism on well-being was much weaker for Mexican Americans (Ryff et al., 2003). However, this study included separate analyses of the six dimensions and total psychological well-being, so the unique effects of racism on the six dimensions of well-being were not examined.

In terms of the effect of psychological well-being on psychological distress, Ryff and Keyes (1995) summarized correlations between each dimension of psychological well-being and depression in three studies: Correlations with the Zung Depression Scale ranged from -.33 to -.60, with the CES-D scale -.22 to -.70, and with a newly created depression scale (including dysfunctional energy and dysfunctional affect) from -.05 to -.50. All correlations were statistically significant at the $p < .05$ level except the correlation between purpose in life and dysfunctional energy (Ryff & Keyes, 1995). In summary, previous studies have indicated that there are moderate to strong associations between each dimension of psychological well-

being and distress, but not to the extent that would suggest substantial overlap between the constructs.

Just as the mediating effects of self-esteem (Cassidy et al., 2004) and mastery (Moradi & Hasan, 2004; Moradi & Risco, 2006) were demonstrated in previous studies, other dimensions of psychological well-being may have similar effects. That is, racism may negatively affect individuals' psychological well-being, with decreased psychological well-being in turn leading to increased psychological distress. Figure 1 shows the theoretical model that describes this mechanism. Previous studies have almost always used cross-sectional designs and examined only the effects of one dimension of psychological well-being or have examined the effects of several dimensions of psychological well-being separately without taking into consideration the possible overlap among these dimensions. Therefore, it is not clear if there is a causal relationship between psychological well-being and psychological distress and if each dimension of psychological well-being has a unique effect in relation to racism and psychological distress controlling for the effect of the overall psychological well-being.

Role of Social Support in Affecting Psychological Well-Being and Distress

The benefits of social support have been studied widely. However, the process through which social support provides beneficial effects is not always the same. Cohen and Wills (1985) provided a detailed review of two possible processes: Social support affects health directly (direct-effect model) or social support serves as a protective factor when the stress level is high (buffering model). They concluded that the measure of social support seems to determine which model is most relevant: When social support reflects the extent to

which the individual is part of a large social network, a direct-effect model is more applicable, whereas when social support reflects the availability of support a buffering effect of support is generally found (Cohen & Wills, 1985).

This study examined the availability of support when experiencing racist events, rather than a sense of belonging to a large social network, so the buffering model would appear to be most relevant. According to Cohen and Wills (1985), social support may moderate the relationship between stress and health outcomes in two ways: First, social support may influence individuals' evaluation of the stressfulness of the event so that the same life event may be perceived as less stressful by those with a higher level of support; Second, individuals with a higher level of support may be better able to cope with the stressor.

Two other less popular models are support mobilization and support deterioration models (Barrera, 1988). The support deterioration model hypothesizes that some life events may reduce the level of social support and result in elevated distress, whereas the support mobilization model predicts the opposite: Individuals under more stress will receive more social support (Barrera, 1988). Different operationalizations of social support (such as perceived availability of support versus actual receipt of support) may influence which model is most applicable. For example, it is likely that people will have high level of received support during stressful situations, but their perception of the availability of support may not change as much.

Prelow et al. (2006) examined the role of social support in influencing the relationship between racial discrimination and psychological adjustment in a sample of African American college students. They used total scores on the Social Provisions Scale (Cutrona & Russell, 1987) as an index of perceived social support, and tested several models

of the stress-support relationship. Their findings supported the deterioration model (i.e., more perceived discrimination leads to less perceived social support). It is possible that they would have found a buffering effect of social support if they had assessed support specific to racial discrimination or had examined the effects of specific social provisions that are relevant to the experience of racial discrimination.

While the examination of the role of global social support can be helpful, it lacks the ability to test which aspects or types of support are more effective than others. Cutrona and Russell (1990) have argued that, for a specific type of stress, some forms of support may be more beneficial than others. For example, for uncontrollable life events, emotional support is likely to be more important for the individual's well-being than other types of support (Cutrona & Russell, 1990). Another possibility is that, for a specific stressor, support related to that stressor may be more important than general levels of social support, regardless of the types or sources of support provided. For instance, in the event of a racist situation, if there is someone the victim can talk to (emotional support), seek advice from (informational support), or get help to deal with the situation (instrumental support), then it is likely that the experience of the racism will have a less detrimental effect than if there is no one providing support specific to the racial situation.

Seawell et al. (2012) used data from a sample of participants from the FACHS project and found that racism-related social support moderated the association between racial discrimination and depression; By contrast, a global social support measure did not have a buffering effect on the racism-distress relationship. This suggests that, in times of stress, the availability of relevant forms of social support may play a more important role than general support in reducing the harmful effects of stress. Figure 2 shows the theoretical model

describing how racism-related social support is hypothesized to buffer the effect of racism on psychological well-being.

Gaps in the Literature

As mentioned above, studies examining the relationship between racism and health and mental health outcomes are abundant. A negative relationship between racism and physical and mental health seems to be evident, although the magnitude of this association varies from study to study. These studies provide important information regarding the potential consequences of racism, but some unanswered questions remain.

First, most studies on this topic are cross-sectional, making it difficult to draw causal inferences. There are several longitudinal studies examining the relations between racism and health, but not between psychological well-being and distress. For instance, in a recent longitudinal study using two assessments (in 1996 and 2001) of an adult African American female sample, Schulz et al. (2006) found that the change in perceived discrimination predicted change in health as well as depression, net of the influence of education, age and income. In addition, as mentioned earlier, the longitudinal study by Seawell et al. (2012) examined whether general and racism-related social support caused subsequent optimism and depression among African American women. However, it seems that no one has examined whether or not psychological well-being causes subsequent health and mental distress using a longitudinal design.

Second, previous studies have examined the relationship between racism and negative functioning such as anxiety and depression, but have typically ignored the impact of racism on positive psychological functioning. Ryff et al. (2006) found evidence supporting the

distinction between psychological well-being and ill-being compared to the "mirrored" hypothesis (i.e., these are the same constructs with opposite meanings) based on their generally different correlations with a number of biomarkers (including various neuroendocrine and cardiovascular measures). Therefore, it is useful to include both in the model.

Third, Clark et al. (1999) pointed out that future studies should examine other potential moderators and/or mediators that were not included in their model. For example, eudaimonic well-being may serve as a mediator between racism and health, and social support may moderate the relationship between racism and eudaimonic well-being. These mechanisms are worth examining because they can provide new perspectives on the process through which racism affects physical and mental health.

Finally, it is worthwhile to not only examine the role of overall psychological well-being, but also whether the six dimensions of psychological well-being described by Ryff are unique in mediating the relationships between racism and psychological distress. There are different opinions regarding the uniqueness of these dimensions (e.g., Ryff & Singer, 2006; Springer et al., 2006). An examination of the effect of racism on different dimensions of psychological well-being and the effect of dimensions of psychological well-being on psychological distress may provide additional evidence regarding the structure of Ryff's psychological well-being measure. This issue cannot be addressed if one examines each dimension separately as was done by Ryff et al. (2003).

The Present Study

The current study addressed several limitations of existing research regarding the racism-distress relationship. In this study psychological well-being and psychological distress were treated as distinct constructs. The proposed theoretical models (see Figures 1 and 2) are based on Clark et al.'s (1999) biopsychosocial model. The first theoretical model includes overall psychological well-being as a mediator of the relationship between racism and subsequent change in psychological distress over time. In addition, further analyses were conducted to examine whether specific dimensions of psychological well-being are uniquely related to perceived racism and subsequent change in psychological distress. The second theoretical model adds racism-related social support as a moderator of the effect of racism on overall psychological well-being. Since previous studies (e.g., Ryff, 1989b) indicated that age, education and marital status were associated with some dimensions of psychological well-being, they will be included as control variables in the analyses testing the models.

The general hypotheses for the present study are the following. First, overall psychological well-being will mediate the relationship between perceived racism and subsequent change in psychological distress. That is, high levels of perceived racism will lead to decreased psychological well-being, which in turn facilitates increased psychological distress over time. Because the unique effects of each dimension of psychological well-being are not clear from previous studies, they were examined in this study by controlling for overall psychological well-being. Second, racism-related social support is hypothesized to moderate the relationship between perceived racism and overall psychological well-being. That is, the negative effect of perceived racism on psychological well-being will be less

severe for African American women who report a higher level of racism-related social

support.

CHAPTER 3

METHOD

Data and Sample

The data for this study were from the "Family and Community Health Study" (FACHS), which is a large longitudinal study of nearly 900 African American families. The FACHS project focuses on African American families in Iowa and Georgia, and includes data from a target child who was between 10 and 12 years old when the first wave of the study began in 1997. Data were also collected from the primary and secondary caregivers of the target child. Due to the small number of male and non-African-American primary caregivers, the present analyses were limited to African American women. Because the psychological well-being measure was only administered during the Wave 4 primary caregiver interview, participation in that wave of interviews was required for inclusion in the current study. Due to attrition of participants over time and selection criteria for the current study, the final sample was 659 African American women[1]. Psychological distress scores from Waves 4 and 5 for these African American women were used to examine the level and change in distress over time. The Wave 4 interviews began in approximately 2005 and Wave 5 in 2007. The exact time of the interviews at each wave varied across participants.

In this sample, the average interval between Wave 4 and Wave 5 was 2.20 years (SD = 0.41). Participants' age ranged from 20 to 89, with M = 44.94 and SD = 8.11. Most of the participants were middle-aged (between 35 and 55). Their educational levels[2] ranged from 0 to 20 years, with M = 12.72 and SD = 2.37. Most participants were high school graduates or had some post-secondary educational training. About 59% of the participants were not in a

married relationship at the time of Wave 4 participation, while the rest were either married or in a marriage-like relationship. Ninety-one percent of the Wave 4 participants continued to participate in Wave 5.

Procedure

The sampling and interview procedures are described in Cutrona, Russell, Hessling, Brown and Murry (2000). Participants in the FACHS study were from neighborhoods in Iowa and Georgia that varied in their racial distributions and economic characteristics. These neighborhood characteristics were determined based on block group areas (BGAs) defined by the 1990 census. BGAs are areas within census tracts and included an average of 452 housing units or 1,100 individuals in the 1990 census. The sample was drawn from BGAs that had a reasonable proportion of African Americans (10% or higher) and a high level of variability in economic characteristics.

In Iowa, the BGAs selected were in two urban areas: Des Moines (with a population of 193,000) and Waterloo (population of 65,000). African American students between 10 and 12 years old who attended public schools were identified and their families were contacted regarding participation in the study. In Georgia, the BGAs selected were from 12 counties in small towns and rural areas; 10 counties had populations of 30,000 or less. Community members within each selected BGA served as liaisons between the FACHS team and potential participants. These liaisons compiled rosters of children that met study criteria. Families were then randomly selected from these rosters and contacted regarding participation in the study. The final sample at Wave 1 consisted of 467 families in Iowa and 422 in Georgia. The samples were representative of families in Iowa and Georgia in terms of

family economic levels, except that high income neighborhoods were underrepresented in the Georgia sample (Cutrona et al., 2000).

Before the actual data collection, focus groups were conducted to assist in developing the questionnaires. Members of the focus group consisted of African American women who resided in neighborhoods that have similar characteristics to those included in the study. The purpose of the pilot interviews was to revise the wording of items that appeared to be vague, difficult to understand, or culturally inappropriate. After these revisions to the questionnaires, formal data collection began.

The interviewers for both the focus groups and actual data collection were African Americans, and most of them lived in or near the study areas. They collected data at participants' homes or other places near the family's home if the participants chose to do so. A majority of questionnaire measures were administered using computer-assisted personal interviews (CAPI). The interviewer read the questions as they appeared on the screen and entered the participant's responses in the computer.

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

Demographic Characteristics

Participants' age, educational level, and marital status were used as control variables in the current study. Age was based on participants' self-reports at the time of the Wave 4 interviews. The educational level roughly corresponded to the number of years of education the individual had completed (including those currently in school) with a possible range from 0 to 20 at the time of the Wave 4 interviews. The original "current relationship status" question included 5 categories: 1-Married; 2-Living with someone in a steady, marriage-like

relationship; 3- In a steady, romantic relationship with one person, 4-Dating, but do not have a steady, romantic relationship; 5-Not dating or seeing anyone right now. Marital status was recoded from this variable using two broad categories: the "married or marriage-like relationship" category as "1" (first two categories in the original variable) and the "unmarried" category as "0" (the 3-5 categories in the original variable).

Perceived Racism

Participants' perceived racism was assessed using a slightly modified version of the "Experiences of Racism Scale" (Murry, Brown, Brody, Cutrona, & Simons, 2001), which is adapted from the "Schedule of Racist Events" scale (Landrine & Klonoff, 1996). This measure includes 13 items assessing both direct and indirect racism experiences in various situations in people's lives (no specific time frame was indicated). Example items are: "How often has someone said something derogatory or insulting to you just because of your race or ethnic background?" and "How often have close friends of yours been treated unfairly just because of their race or ethnic background?" There were 4 response options: 1 - never, 2 - once or twice, 3 - a few times, and 4 - frequently. All items were worded in the same direction: Higher scores represented a greater number of racist experiences. Murry et al. (2001) reported that the scale had a high level of internal consistency ($\alpha = .92$) and appeared to be valid based on statistically significant positive correlations with the number of negative life events, anxiety and depression. Seawell et al. (2012) reported that coefficient α was .93 for this measure in a subsample of primary caregivers from the FACHS project. The Cronbach's α was .94 in the current study.

Racism-Related Social Support

Racism-related social support was assessed using 5 items adapted from the "Social Support Questionnaire for Racial Situations" (SSQRS; Boyce, 1996). This measure assesses perceived availability of support when experiencing racism-related stress. An example item is, "There is someone I can count on to help me feel better after I have experienced a racial incident". Each item has four response options ranging from "1" (strongly agree) to "4" (strongly disagree). All items were originally scored in the same direction: High scores represent lower levels of racism-related social support. All items were then reverse coded so that higher scores indicate higher levels of perceived support. Boyce (1996) found that coefficient α was .88 for this scale. Seawell et al. (2012) found that coefficient α was .95 for the adapted measure in a subsample of primary caregivers from the FACHS project, and the measure was positively correlated with general social support. The Cronbach's α was .93 in the current study.

Psychological Well-Being

The Ryff's (1989b) "Scales of Psychological Well-being" were used to assess participants' psychological well-being. As described previously, there are 6 subscales. The version used in this study includes 9 items in each subscale. Both positively-worded and negatively-worded items were employed in assessing each dimension of psychological well-being. There were 6 response options ranging from "1" (strongly disagree) to "6" (strongly agree). The name of each subscale and a sample item for each subscale are: positive relations with others (e.g., "Most people see me as loving and affectionate"); environmental mastery (e.g., "In general, I feel I am in charge of the situation in which I live"); personal growth (e.g., I am not interested in activities that will expand my horizons); self-acceptance (e.g.,

"When I look at the story of my life, I am pleased with how things have turned out");
autonomy (e.g., "I am not afraid to voice my opinions, even when they are in opposition to
the opinions of most people"); and purpose in life (e.g., "I live life one day at a time and
don't really think about the future"). After reverse coding the negatively-worded items,
higher scores represent better psychological well-being. In the original 120 item version of
the scale (i.e., 20 items per subscale), coefficient α for the subscales ranged from .86 to .93,
and the 6 week test-retest reliability ranged from .81 to .88 (Ryff, 1989b). The psychometric
information for the shorter 54-item English version of the scale employed here (i.e., 9 items
for each dimension) is unavailable from previous studies. However, for a Dutch short version
of this measure, coefficient α ranged from .65 to .83 in one study and from .61 to .77 in
another study (van Dierendonck, 2004). The validity of the measure was also supported
based on significant correlations with other well-being measures as well as distinct patterns
of age differences on the six dimensions (Ryff, 1989b). In the current study, the Cronbach's
α was .70 for "positive relations with others", .72 for "environmental mastery", .68 for
"personal growth", .71 for "self-acceptance", .64 for "autonomy", and .69 for "purpose in
life".

Psychological Distress

Participants' psychological distress was assessed using measures of anxiety and
depression. Three subscales from "The Mini Mood and Anxiety Symptom Questionnaire"
(mini-MASQ; Clark & Watson, 1995) were used: Depression (5 items, e.g., "During the past
week, how much have you felt hopeless?"), Non-Specific Anxiety (3 items, e.g., "During the
past week, how much have you felt uneasy?"), and Anxious Arousal (10 items, e.g., During
the past week, how much have you felt dizzy or lightheaded?). Response options for the

items were "1" - not at all, "2" – somewhat, and "3" - extremely. A previous study using an

earlier wave of the FACHS data has shown that a composite measure of these scales had

good internal consistency ($\alpha = .95$) and validity (significantly higher scores on the measure

for individuals meeting criteria for clinical depression; Cutrona et al., 2000). In the current

study, the Cronbach's α for anxious arousal was .81 and .78 for Wave 4 and Wave 5. For

non-specific anxiety reliability was .79 and .80. Finally, coefficient α was .83 and .84 for

depression.

Analytic Steps

Data analyses were conducted using the IBM SPSS Statistics 21 and Mplus 7

(Muthén and Muthén, 1998-2012) programs. Structural equation modeling analyses were

conducted to test the theoretical models shown in Figure 1 and Figure 2. Participants' age,

educational level and marital status at Wave 4 were treated as control variables. That is, they

were included in the model as predictors of all the other variables. The testing of models

involved several sequential steps as illustrated in the section "Testing the Measurement and

Hypothesized Causal Models".

Creation of Latent Variables

Latent variables were created for perceived racism, racism-related social support,

psychological well-being, and psychological distress. For the psychological well-being and

psychological distress measures, the indicators for each latent variable were the subscales

from the measure. For the perceived racism and racism-related social support measures, three

indicators were formed for each measure. To create the indicators, item-total correlations

were computed for all items, and then items were selected for each of the three indicators so

that the average item-total correlation for items within each measured indicator was similar as was the number of items assigned for each indicator. That is, items with the highest and lowest item-total correlation were assigned to Indicator 1, items with the second highest and second lowest item-total correlation were assigned to Indicator 1 or a new Indicator 2 depending on the total number of items in the measure, and so on. As a result, Items 3, 7, 9, and 13 (see Appendix A for item numbers) were assigned to Indicator 1 of perceived racism, Items 8, 10, 11, and 12 were assigned to Indicator 2, and the remaining items were assigned to Indicator 3. For racism-related social support, Items 1 and 3 were assigned to Indicator 1, Items 4 and 5 were assigned to Indicator 2, and Item 2 was Indicator 3. The mean score of items within each indicator was used as a summary score of that indicator.

Treatment of Missing Data

For Wave 4 measured items, the number of participants who did not provide a valid response ranged from 0 to 14 of the 659 cases (0% to 2%). For the Wave 5 measured items, the number of participants who did not provide a valid response ranged from 0 to 1 of the 600 cases. Given the small percentage of item missingness, a mean score of all non-missing items within a specific measure/indicator was used to calculate the summary score for that measure or indicator. All models were estimated in Mplus using the "full information maximum likelihood" method when dealing with missing data on a measure or indicator. It is important to examine whether the data are missing at random. If data are not missing randomly, the analyses may lead to a biased interpretation of the results. In order to examine this issue, an indicator of participation status was created, and tests were conducted to examine if the participation status at Wave 5 matters in terms of the scores of variables and the major paths in the models (see the results chapter for details).

Testing the Measurement and Hypothesized Causal Models

There were two sets of analyses for this study. Each set began with a test of the measurement model, followed by testing the structural model. The measurement models examined the factor loadings and correlations among variables whereas the structural model tested the hypothesized causal relationships among variables. The focus of the first set of causal modeling analyses is on the role of psychological well-being and its dimensions in the association between perceived racism and psychological distress, whereas the emphasis is on the potential buffering effect of racism-related social support in the second set of analyses. Because marital status is a dichotomous variable, when estimating the measurement models its mean (0.407) and variance (0.241) were fixed at their respective values in the sample to avoid potential errors in the estimation process. Given the skewed distribution of the distress measures, all models were tested using the MLR (maximum likelihood estimation with robust standard errors) estimation method.

CHAPTER 4

RESULTS

Descriptive Statistics

Table 1 presents the means and standard deviations for the variables included in the

analyses. On average, participants reported low levels of racism, high levels of racism-related

social support, high levels of psychological well-being, and low levels of psychological

distress. However, the relatively large standard deviations for some of these measures

indicated that there were substantial individual differences. In addition, there was a slight

increase in anxious arousal and non-specific anxiety from Wave 4 to Wave 5. Compared to

the psychological well-being scores from a national probability adult sample (Ryff & Keyes,

1995), the African American women in the current study had slightly higher scores on

positive relations with others, self-acceptance, and purpose in life, slightly lower scores on

environmental mastery and personal growth, and very similar scores on autonomy. The other

measures in the current study have been used in other studies of the FACHS project but

normative data are not available.

Measurement Invariance for Psychological Distress

The Wave 4 and Wave 5 measures of psychological distress were used to examine

change in distress over time. To ensure that the psychological distress latent variables for

Waves 4 and 5 were equivalent, the factor loadings of the measured variables on the two

latent variables were constrained to be identical over time. The error terms for the parallel

items across the two waves of assessment were also allowed to be correlated. These

conditions were applied for testing the models.

Psychological Well-Being Model

The first step in testing the causal model shown in Figure 1 was to test the

measurement model. According to Hu and Bentler (1999), a model fits the data well if the

Comparative Fit Index (CFI) is near or above .95 and the Root Mean Square Error of

Approximation (RMSEA) is near or below .06. The fit of this model to the data was good, χ^2

(118, $N = 659$) = 417.01, $p < .001$, CFI = .93, and RMSEA = .06, although it should be noted

that CFI was below .95. The loadings for the measured variables on the latent variables are

presented in Table 2. As can be seen, all of the loadings were statistically significant.

Correlations among the variables to be employed in the test of the causal model are presented

in Table 3. Age was found to be significantly related to Wave 5 psychological distress,

whereas level of education was significantly associated with all of the variables included in

the model. Higher levels of education were related to being married, higher levels of

perceived racism and psychological well-being and lower levels of psychological distress at

Waves 4 and 5. Marital status was significantly related to psychological well-being and Wave

5 psychological distress; as expected being married was associated with higher levels of

psychological well-being and lower levels of psychological distress. The associations among

the other variables included in the model were also generally consistent with expectations.

Specifically, perceived racism was positively related to psychological distress at Waves 4 and

5, whereas psychological well-being was negatively related to psychological distress at both

time points. The Wave 4 and Wave 5 measures of psychological distress were significantly

correlated, although the magnitude of the association was only .50. The one result that was not consistent with expectations was the relationship between perceived racism and psychological well-being; although the relationship was negative the correlation was not statistically significant.

To further examine the relationship between perceived racism and psychological well-being, an analysis was conducted that evaluated the association between the latent perceived racism variable and the six dimensions of psychological well-being (i.e., positive relations with others, environmental mastery, personal growth, self-acceptance, autonomy and purpose in life). As shown in Table 4, perceived racism was found to be negatively correlated with positive relations with others and environmental mastery and positively correlated with personal growth. These results indicate that, although perceived racism was not significantly related to the overall level of psychological well-being, it was significantly related to specific dimensions of well-being.

All dimensions of psychological well-being were significantly correlated with subsequent psychological distress (correlations ranging from -.28 to -.40) as shown in Table 5. It appears that these correlations were consistent in terms of both direction and magnitude. In addition, these individual correlations were also consistent with the correlation between overall psychological well-being and Wave 5 psychological distress.

The next step was to evaluate the fit of the causal model shown in Figure 1 to the data. This model was found to fit the data well, χ^2 (117, $N = 659$) = 416.22, $p < .001$, CFI = .94, and RMSEA = .06, although once again the CFI was below .95. Tables 6 and 7 and Figure 3 show unstandardized and standardized path coefficients based on the model. Age and level of education positively predicted perceived racism and psychological well-being

and negatively predicted Wave 4 psychological distress. Being married predicted higher levels of psychological well-being. Perceived racism positively predicted Wave 4 psychological distress and negatively predicted psychological well-being.   Psychological well-being in turn negatively predicted subsequent psychological distress after controlling for the previous level of psychological distress.

As discussed previously, this model hypothesizes that the effect of perceived racism on subsequent change in psychological distress is mediated by psychological well-being. To test the statistical significance of this mediation effect, the bootstrap resampling method recommended by Shrout and Bolger (2002) was used, with 1000 samples being employed to provide an unbiased estimate of the magnitude of this indirect effect along with a sampling distribution for the parameter. The results indicated that the unstandardized indirect effect from perceived racism to Wave 5 psychological distress through psychological well-being was 0.007, with the 95% bias-corrected confidence interval ranging from 0.002 to 0.017. Therefore, there was evidence that the overall level of psychological well-being significantly mediated the relationship between African American women's racist experiences and the subsequent development of psychological distress.

To examine if adding a direct path from perceived racism to Wave 5 psychological distress would change these results, a second model including this direct path was tested. The results indicated that this path was not statistically significant ($b = 0.020$, $SE = 0.013$, $p = .112$, $\beta = .09$). The other path coefficients remained similar to the results from the previous model. This model was not used in subsequent analyses.

The next step of analyses was designed to test whether or not perceived racism was uniquely related to the different dimensions of psychological well-being net of the other

paths in the model. For example, perceived racism may still have a negative effect on environmental mastery net of the effect of perceived racism on psychological well-being and the effect of psychological well-being on environmental mastery. That is, according to the model that has been tested perceived racism should be indirectly related to environmental mastery through psychological well-being; is there also a significant direct relationship net of this indirect effect? To examine the unique effect of racism on specific dimensions of psychological well-being, all unstandardized loadings of the measured variables on the latent variables, path coefficients, intercepts and residual terms for the variables were constrained to be equal to the values found in testing the previous causal model. The exceptions to the constraints for this model were the error terms for the six dimensions of psychological well-being. As shown in Table 8 and Figure 4, causal paths were then added to the original model between the latent perceived racism variable and each of the six dimensions of psychological well-being. The results indicate that perceived racism significantly predicted environmental mastery (negatively) and personal growth (positively) after controlling for the indirect effect of perceived racism on these two dimensions through the overall psychological well-being.

A parallel analysis was conducted to examine the possible unique effects of specific dimensions of psychological well-being on psychological distress at Wave 5. As was done in the previous analysis, all unstandardized loadings, path coefficients, intercepts, and residuals were constrained to equal those derived from the previous model except for the residual term for psychological distress at Wave 5. Causal paths were then added to the model between each of the dimensions of psychological well-being and psychological distress at Wave 5. As shown in Table 9 and Figure 5, none of the causal paths between the psychological well-being dimensions and Wave 5 psychological distress was statistically significant. These

results indicate that the dimensions of psychological well-being are related to subsequent distress indirectly through the higher-level construct of psychological well-being.

<div align="center">Racism-Related Social Support Model</div>

Another set of analyses examined the impact of racism-related social support on the relationship between perceived racism and psychological well-being (see Figure 2). As a first step in testing this model, a measurement model was evaluated that included the racism-related social support variable. This measurement model fit the data well, χ^2 (165, $N = 659$) = 453.99, $p < .001$, CFI = .95, RMSEA = .05. The standardized factor loadings for the three measured indicators of racism-related social support on the latent racism-related social support variable were .88 or above and were all statistically significant at $p < .001$. Table 10 presents the correlations between racism-related social support and the other variables included in the model. The results indicated that higher levels of racism-related social support were associated with higher levels of education and psychological well-being and lower levels of psychological distress at Waves 4 and 5. To examine whether the potential overlap between racism-related social support and the "positive relations with others" dimension of psychological well-being artificially increased the correlation between racism-related social support and overall psychological well-being, a modified measurement model was tested that excluded this dimension of psychological well-being. In this alternative model the correlation between racism-related social support and psychological well-being was .36 which was very close to the original correlation (.37). Therefore, it does not appear that the association between these two latent variables was largely due to the correlation between racism-related social support and positive relations with others. As a result, the

original construct of psychological well-being based on the six dimensions was used in the test of the causal models.

The next step of analyses was to test the hypothesized causal model shown in Figure 2. An initial test of the model examined the direct effect of racism-related social support on psychological well-being. This model fit data very well, χ^2 (165, $N = 659$) = 456.27, $p < .001$, CFI = .95, RMSEA = .05. Tables 11 and 12 and Figure 6 show the path coefficients for this model. Among the three control variables, only education significantly predicted racism-related social support. That is, higher levels of education were associated with higher levels of racism-related social support. Furthermore, racism-related social support significantly predicted African American women's overall psychological well-being and Wave 4 psychological distress. The relationships among the other variables were similar to those found for the psychological well-being model. A second version of this model was tested that included an interaction between perceived racism and racism-related social support in predicting psychological well-being (see Klein & Moosbrugger, 2000 for description of the method). Results indicated that the interaction between these variables was not significantly related to psychological well-being (see Tables 13 and 14 for model results). These results indicate that higher levels of racism-related social support increased African American women's psychological well-being but did not buffer the negative effect of perceived racist experiences on their psychological well-being.

Regional Differences of the Associations

To examine whether the path coefficients among the study variables differ between Iowa and Georgia African American women, multiple group analyses were conducted for the

"Psychological Well-Being Model" and the "Racism-Related Social Support Model". In both

models, the two groups had similar path coefficients when the paths were allowed to vary

between the two groups. When the paths were constrained to be identical, the change of chi-

square was not statistically significant. For the "Psychological Well-Being Model", $\Delta\chi^2$ (16,

$N = 659$) = 17.92. For the "Racism-Related Social Support Model", $\Delta\chi^2$ (21, $N = 659$) =

19.26. Therefore, the regression paths in both models were similar between Iowa and

Georgia African American women.

Effects of Missing Data

As noted in Table 1, some participants ($N = 59$) did not provide data on the

psychological distress measure at Wave 5. However, all of the 659 participants who

participated in the Wave 4 assessment were included in the analyses testing the measurement

and causal models. To examine if participants who completed both the Wave 4 and Wave 5

interviews ($N = 600$) differed from individuals who did not participate in the Wave 5

interviews ($N = 59$) on the variables included in the causal models, a dichotomous variable

indicating participation status ("1" if they participated in the Wave 5 interview and "0" if not)

was created. The relationship between this participation status variable and the other Wave 4

variables used in this study was then examined. Results indicated that participation status was

not significantly related to any of the Wave 4 variables included in the model. These results

suggest that the loss of these participants from the study due to attrition did not appear to

have biased scores of the modeling variables.

A second model was tested to examine if participation status moderated the

association between perceived racism and psychological well-being as well as between

racism-related social support and psychological well-being. The base model was the measurement model including all study variables at Wave 4. The two interaction terms (i.e., perceived racism * participation status, and racism-related social support * participation status) were added as predictors of psychological well-being. Results indicated that neither interaction was statistically significant, suggesting that the association between perceived racism and psychological well-being as well as between racism-related social support and psychological well-being was similar for the two groups of participants.

To summarize, the proportion of missing data was small, individuals who did and did not participate in the Wave 5 interviews had similar characteristics on the Wave 4 measures, and individuals' participation status did not modify the associations between the Wave 4 measures of primary interest in the analyses. Although this cannot be directly tested, it appears reasonable to assume that the path from Wave 4 psychological well-being to Wave 5 distress would not differ for individuals who did and did not participate in the Wave 5 interviews.

CHAPTER 5

DISCUSSION

The results from this study support the hypothesis that psychological well-being mediates the relationship between perceived racism and subsequent change in psychological distress. That is, African American women who experienced racist events more frequently reported lower levels of psychological well-being which in turn intensified the experience of psychological distress over time. Regarding the effect of racism on specific dimensions of psychological well-being, perceived racism was negatively associated with positive relations and mastery but positively associated with personal growth. When controlling for the other associations in the model, racism still uniquely predicted environmental mastery and personal growth. In contrast, although all dimensions of psychological well-being were negatively associated with subsequent psychological distress, none of them uniquely predicted psychological distress at Wave 5.

Racism-related social support had a direct effect on overall psychological well-being. African American women who reported a higher level of social support from others when experiencing racist events also reported a higher level of psychological well-being. However, such support did not moderate the relationship between perceived racism and overall psychological well-being, a finding which is inconsistent with the buffering hypothesis. In other words, high levels of racism-related social support did not influence the strength of the negative effect of racism on psychological well-being.

The Role of Psychological Well-being

The findings from this study provide evidence of the mediating effect of psychological well-being on the relationship between racism and feelings of distress. These results suggest that the experience of racism negatively influences positive functioning which in turn leads to feelings of distress. The effect of perceived racism on psychological well-being was small (β = -.13) and the effect of psychological well-being on psychological distress was moderate (β = -.25) after controlling the effects of age, education, and marital status. In addition, the indirect effect of racism on feelings of distress was significant (although not strong), providing further evidence for the mediation model. This is consistent with previous studies which suggested that self-esteem (Cassidy et al., 2004) and mastery (Moradi & Hasan, 2004; Moradi & Risco, 2006) mediate the relationship between discrimination and distress among some groups of individuals.

It is not difficult to understand why racist experiences have negative effects on individuals' psychological well-being. The concept of "racial battle fatigue" developed by Smith et al. (2007) could explain this process: Individuals' internal physical and psychological power and resources can be drained after experiencing racism repeatedly. They may feel tired, become isolated, and lose their sense of control if racism is prevalent in their lives. It is not surprising that their overall psychological well-being, which is composed of positive relations with others, environmental mastery, personal growth, self-acceptance, autonomy, and purpose in life, would be impaired as a consequence of frequently dealing with racist experiences.

Although previous studies have examined the association between dimensions of psychological well-being and distress (e.g., Ryff & Keyes, 1995), it is not clear whether one

causes the other. Using a longitudinal design, this study examined the effect of psychological well-being on subsequent psychological distress, controlling for the participants' concurrent distress levels that were assessed at the same time as psychological well-being. The results indicated that decreased overall psychological well-being led to increased psychological distress over time. This finding provides support for the prediction that one's level of psychological well-being may serve as a cause of subsequent changes in distress. It should be noted, however, that this finding does not rule out the possibility of a reciprocal causal relationship between psychological well-being and distress, as initial levels of distress may also predict subsequent changes in psychological well-being.

<div align="center">Dimensions of Psychological Well-being</div>

Analyses also examined whether specific components of psychological well-being were related to perceived racism and psychological distress. Ryff et al. (2003) examined the effect of discrimination on each of the six individual dimension of psychological well-being, finding that perceived discrimination negatively predicted these dimensions of well-being after controlling for the effects of demographic characteristics of participants. The simple correlations from this study showed that perceived racism was negatively associated with the well-being dimensions of positive relations with others and environmental mastery and positively associated with personal growth. Ryff et al.'s (2003) analyses were conducted separately for each dimension, raising the possibility that any relationships that were found may reflect the overlap among the six dimensions. That is, they did not examine whether or not any of the six dimensions was uniquely related to the experience of discrimination. The current study found two significant unique effects of perceived racism on these dimensions of

psychological well-being: Perceived racism negatively predicted environmental mastery and positively predicted personal growth net of the other associations in the model.

As noted above the differences in findings from the two studies could be due to the overlap among the dimensions of psychological well-being. As shown in Table 4, scores on these six dimensions of psychological well-being were found to be significantly correlated with one another, with the correlations ranging from .41 to .69. The present results indicate that only environmental mastery and personal growth were found to be significantly predicted by perceived racism after controlling for the indirect effect of perceived racism on psychological well-being dimensions through overall psychological well-being.

The negative effect of racism on mastery has been found in other studies (e.g., Ryff et al. 2003). The positive effect of perceived racism on African American women's personal growth is consistent with studies that have shown one can grow from adversity (e.g., Park & Fenster, 2004; Taubman–Ben-Ari, Findler & Kuint, 2010), although this is inconsistent with Ryff et al.'s (2003) finding. Researchers have created different theoretical models to address why stress can make people grow, including changing worldviews to adjust to the environment, implicit cognitive processing that adds greater insight into the stressor, and active coping with the stressor (Park & Fenster, 2004). Although it is possible for African American women to grow after frequently experiencing racist events, the overall negative effect of racism on psychological well-being and the suffering caused by such degrading encounters should not be ignored.

In terms of the associations between each dimension of psychological well-being and psychological distress, none of the six dimensions uniquely predicted subsequent psychological distress. Although all dimensions of psychological well-being at Wave 4 were

negatively correlated with the psychological distress dimensions at Wave 5, the overlap

between the dimensions of psychological well-being may explain why these relationships

become non-significant after accounting for the effect of overall psychological well-being on

subsequent distress. It is the decrease of psychological well-being as a whole rather than the

specific dimensions of well-being that causes increased feeling of distress over time.

Role of Racism-Related Social Support

As mentioned previously, Seawell et al. (2012) found that racism-related social

support moderated the relationship between the experience of racial discrimination and

depression using data from the FACHS study. By contrast, the current study found that

racism-related social support positively influenced psychological well-being but did not

moderate the effect of racism on psychological well-being. That is, the negative effect of

racism on psychological well-being is similar for individuals who reported different levels of

perceived racism-related social support. There are several possible reasons for the differential

findings. First, Seawell et al. (2012) used Wave 3 measures to predict Wave 4 depression;

second, they included general social support as one of the predictors but did not include

marital status as a control variable. Therefore, the time points and model variables used in

Seawell et al.'s (2012) study are not identical to the current study. To better explain such

different findings, future studies should continue to examine the effects of both general and

specific social support in affecting the relationship between stress and distress/well-being.

As suggested by Barrera (1988), there are several models regarding the role of social

support. More studies are needed to address reasons for inconsistent findings across different

studies. Nevertheless, this study again shows the benefits of social support. Unlike previous

studies that indicate positive effects of social support on physical and psychological health,

the current study provides evidence of beneficial effects of social support on individuals'

optimal development and psychological functioning. Therefore, a person who feels someone

is there to support him/her in stressful situations is likely to have a high level of

psychological well-being, even though such perceived availability of support may not cancel

out undesirable effects of stressful events.

Theoretical Implications

This study provides new perspectives regarding the effects of racism on African

American women's well-being and mental health. First, it adds new elements (i.e.,

psychological well-being) to the Clark et al. (1999) "biopsychosocial model", which

describes various potential mediators and moderators that could affect the racism-health

relationship. Although previous research has examined some dimensions of psychological

well-being (such as mastery) as mediators between discrimination and distress, it appears that

no previous study has examined the role of overall psychological well-being using a

longitudinal analysis examining change in distress over time.

Second, this study provides support to the literature demonstrating individual

resilience as well as vulnerability following traumatic experiences. Although painful and

harmful to one's level of mastery, stressful events may facilitate individuals' growth.

However, in general, stress would lead to impaired psychological well-being which in turn

causes mental suffering.

Third, racism-related social support was not found to moderate the effect of racism on

psychological well-being. Instead, such support had a direct positive effect on psychological

well-being. This may provide new insights into the role of situation-specific support as it relates to psychological well-being. However, more studies are needed to make a strong conclusion and explain why there are different findings.

Finally, findings from this study indicate that the environmental mastery and personal growth dimensions from Ryff's conceptualization of psychological well-being may be uniquely related to perceived discrimination. There are controversies regarding whether psychological well-being has as many as six dimensions. Ryff and her colleagues have insisted that the six-factor model is valid both theoretically and statistically (e.g., Ryff & Keyes, 1995; Ryff & Singer, 2006), but some researchers have argued that there is overlap among the dimensions (e.g., Springer & Hauser, 2006; Springer et al., 2006). If the six dimensions have unique characteristics net of their shared "overall psychological well-being" component, then they should be uniquely related to other constructs and thereby demonstrate discriminant validity. That is, each dimension should have some component or components that are not shared by the other dimensions. The current study found that perceived racism did uniquely affect the environmental mastery and personal growth dimensions of psychological well-being, providing evidence of the two-level structure of the psychological well-being construct. On the other hand, all six dimensions of psychological well-being do not seem to be uniquely predictive of psychological distress. These findings contribute to the ongoing conceptualization of dimensionality of psychological well-being in different contexts.

Practical Implications

The results of this study also have several practical implications. First, as racism affects African American women's psychological distress indirectly through its effect on psychological well-being, interventions for victims of racist events should add components that will enhance their overall positive functioning, in addition to providing guidance on coping strategies and resources. For example, Fava, Rafanelli, Cazzaro, Conti, and Grandi (1998) designed a "well-being therapy" based on Ryff's conceptualization, and found it was more effective than cognitive-behavioral therapy for reducing residual symptoms (i.e., symptoms persisting after successful treatment) among patients with affective disorders. Such therapy may also be valuable in preventing psychological distress by enhancing positive functioning. The present results also indicate that African American women should actively seek social support that is specifically related to racism. For example, having someone to talk to who has also experienced such events should decrease the stress level and enhance overall psychological well-being, which in turn may prevent the development of distress over time.

Limitations and Future Directions

There are several limitations of the study that should be noted. First, the sample was not representative of all African American individuals in the United States. The participants were only recruited from Iowa and Georgia originally. Multiple group analyses indicated that the results of modeling analyses did not vary for African American women from the two states. However, it is still possible that the associations among the study variables may vary for African American women from other regions of the country. In addition, most participants

in the study were middle-aged and had a child between 10 to 12 years old when the FACHS study began in 1997. These characteristics make it difficult to generalize the results to younger and older African Americans. Future research should examine these relationships using data from representative samples of African American adults as well as other minority individuals.

Second, the direction of the causal relationship between perceived racism and psychological well-being is not clear since these two variables were assessed at the same point in time. Therefore, one cannot argue that higher levels of perceived racism "cause" lower levels of psychological well-being. The results are consistent with a model that designates racism as the predictor and well-being as the outcome as implied by the "racial battle fatigue" effect (Smith et al., 2007). However, individuals who have very low levels of psychological well-being may be more sensitive to other people's racist behaviors leading to the association between these two variables as found in the present study. Had psychological well-being been assessed during the Wave 5 interviews then the delayed effect of racism could have been examined. Future studies should separate these two measures temporally thereby enhancing the ability to draw causal inferences.

Third, as mentioned by Clark et al. (1999) there are different pathways by which racism may affect one's health. This study did not include other factors that may also be important. For example, as suggested by Lazarus and Folkman (1984), personality and coping styles may also play important roles when examining the effect of racism on well-being and mental health. Also, this study did not test the role of general social support in affecting the association between racism and psychological well-being. Future studies should

include other relevant variables in the model and provide a more comprehensive examination

of the effect of racism on racial minority individuals' physical and mental health.

Conclusion

This study found that overall psychological well-being mediated the relationship

between perceived racism and subsequent change in psychological distress. That is, African

American women who experienced more racism reported lower levels of overall

psychological well-being, which in turn led to an increase in psychological distress over time.

Perceived racism uniquely predicted the environmental mastery and personal growth

dimensions of psychological well-being. In addition, racism-related social support directly

affected psychological well-being but did not buffer the effect of perceived racism on

psychological well-being. The findings from this study have both theoretical and practical

implications. Future studies should include representative samples of participants and

examine more comprehensive models related to African American and other ethnic minority

individuals' health and well-being.
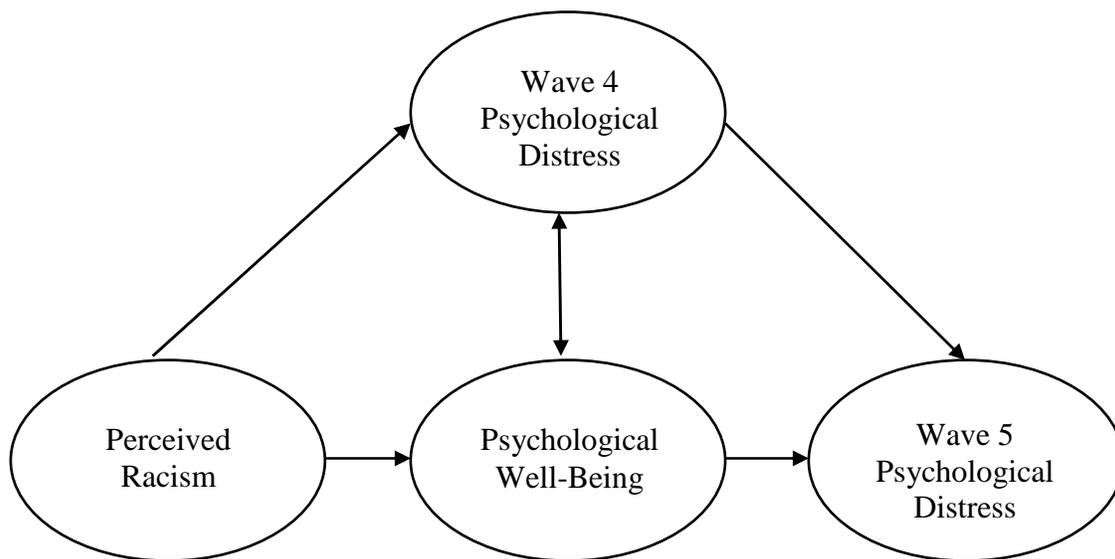
Figure 1. Psychological Well-Being Theoretical Model. All measures were assessed at Wave

4 unless otherwise specified. The paths from control variables (age, education and marital

status) to all endogenous variables are not shown.
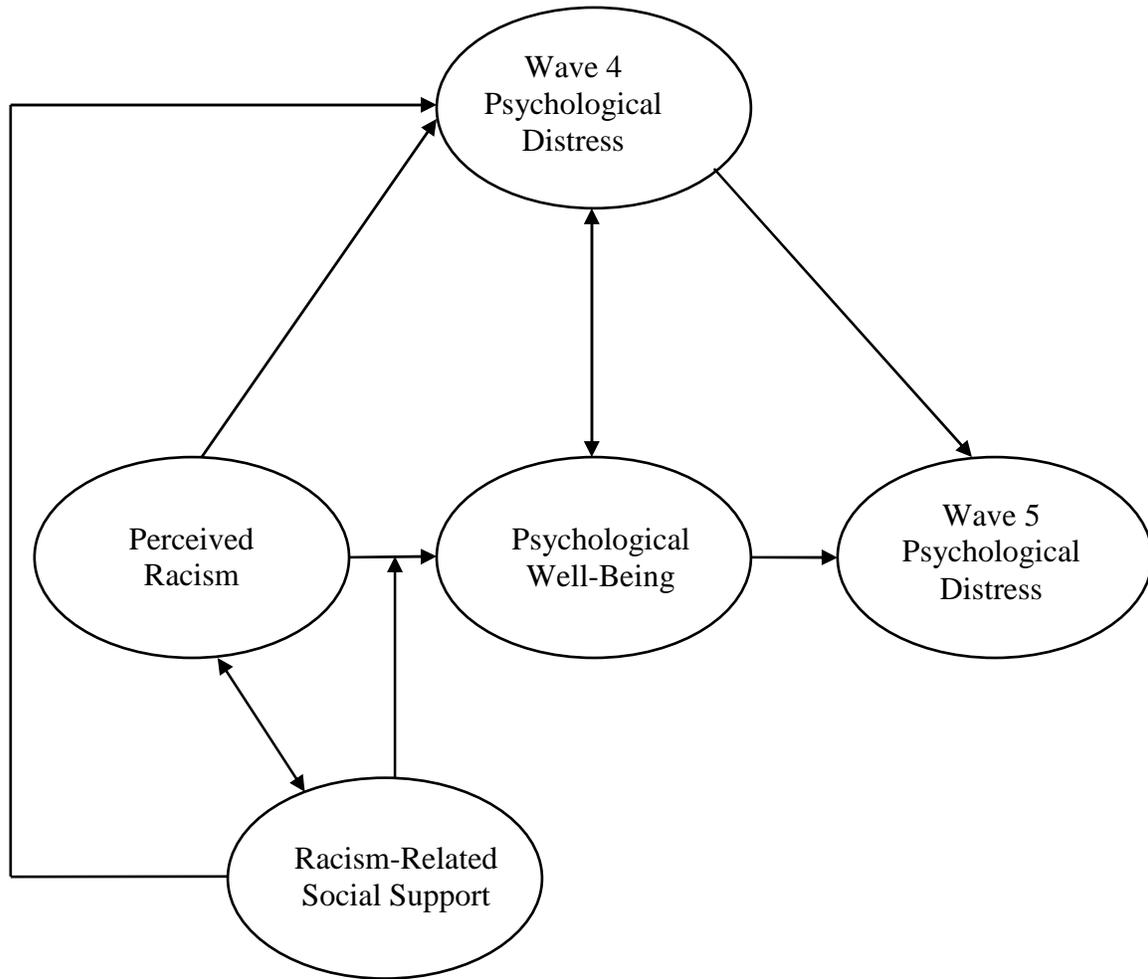
Figure 2. Racism-Related Social Support Theoretical Model. All measures were assessed at Wave 4 unless otherwise specified. The paths from control variables (age, education and marital status) to all endogenous variables are not shown.
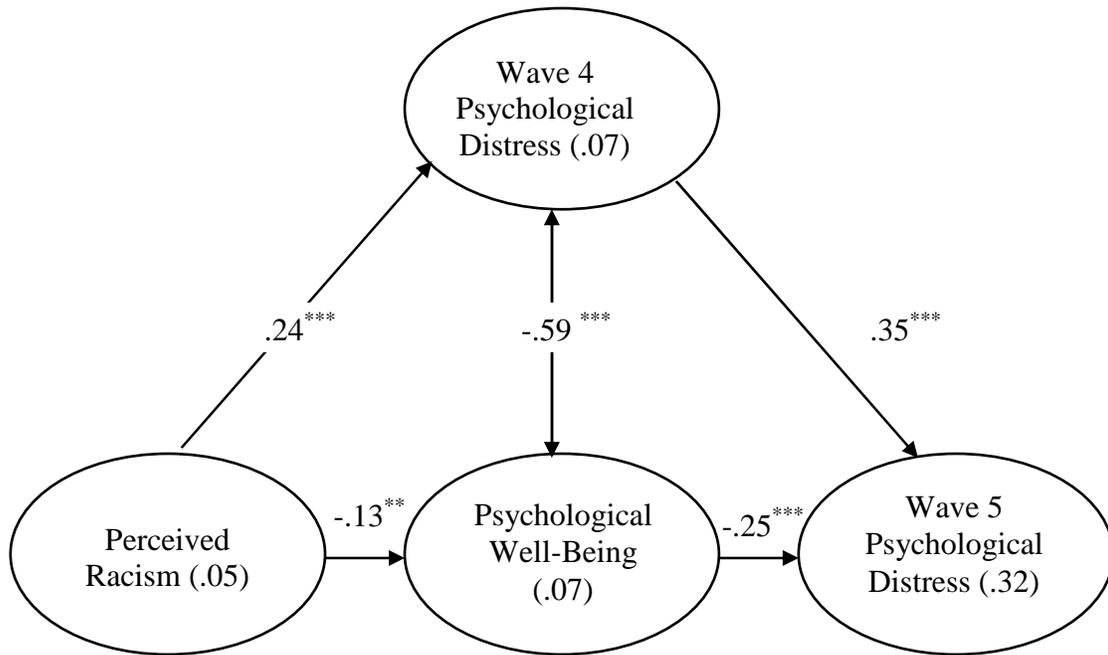
Figure 3. Psychological Well-Being Model. $N = 659$. All measures were assessed at Wave 4

unless otherwise specified. Standardized coefficients are presented. Coefficients of regression

paths from control variables (age, education and marital status) to all endogenous variables

are shown in Table 6. R squares for endogenous variables are shown in parentheses.

$^*p < .05.$ $^{**}p < .01.$ $^{***}p < .001.$

Figure 4. Effect of Perceived Racism on Psychological Well-Being Dimensions. *N* = 659. All

measures were assessed at Wave 4 unless otherwise specified. The standardized path

coefficients and factor loadings are presented.

*p < .05. **p < .01. ***p < .001.
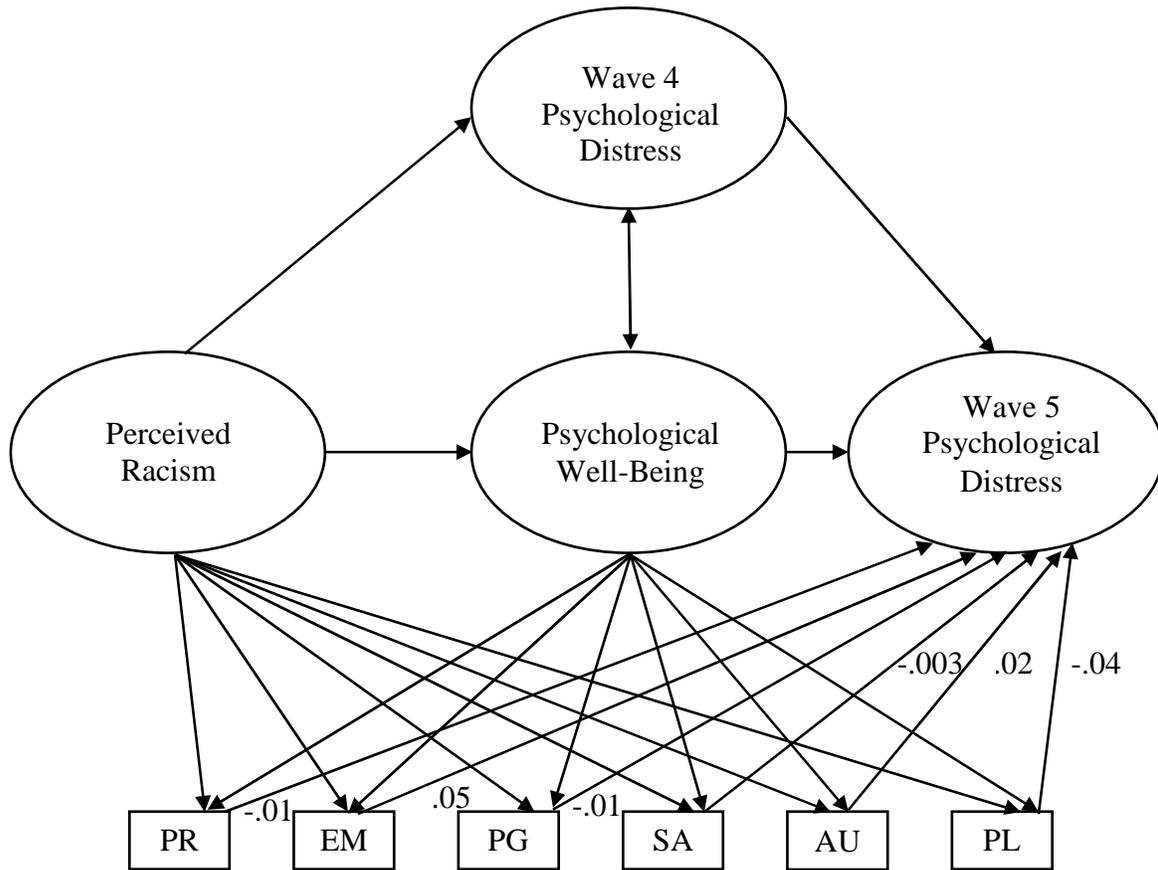
Figure 5. Effect of Dimensions of Psychological Well-Being on Psychological Distress. *N* =

659. All measures were assessed at Wave 4 unless otherwise specified. Standardized path

coefficients are presented.

*p < .05. **p < .01. ***p < .001.
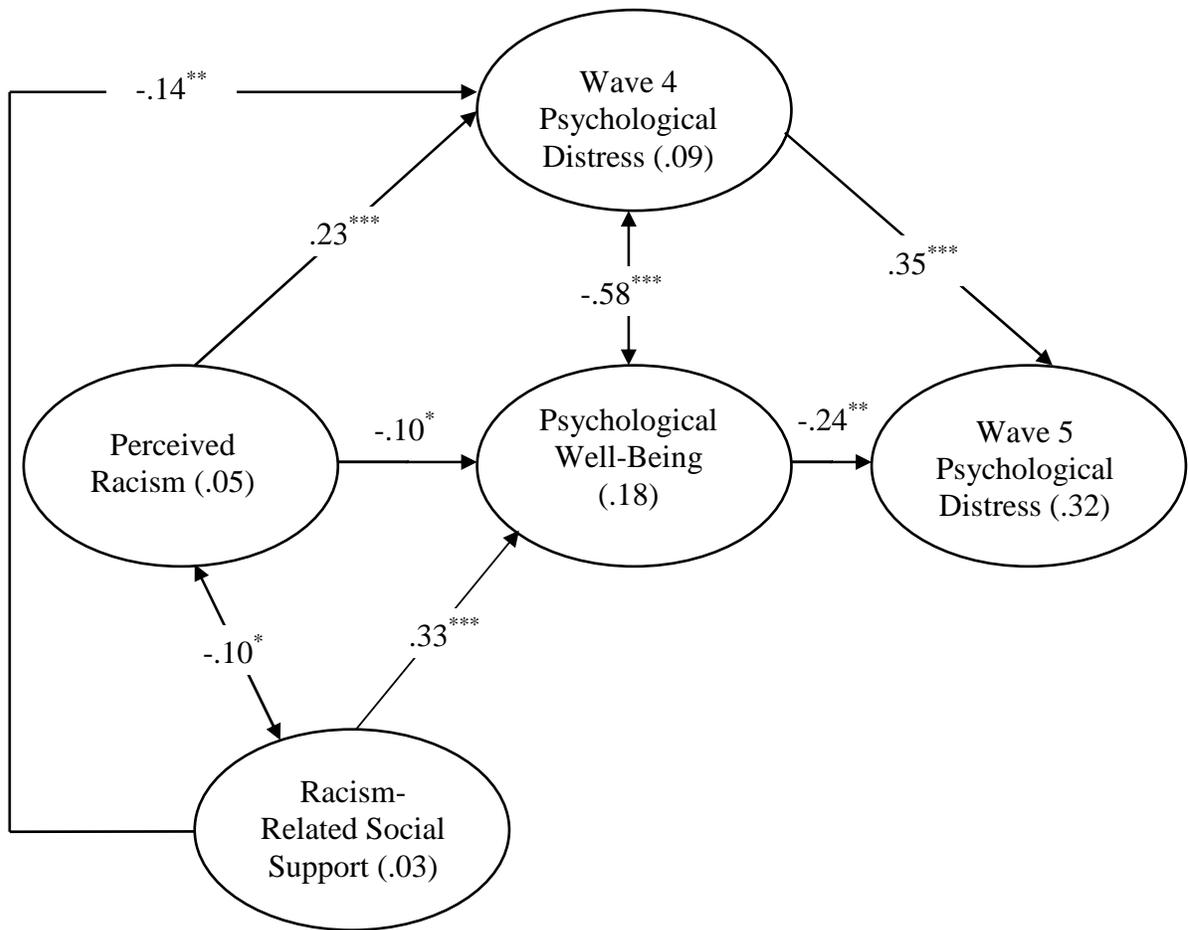
Figure 6. Racism-Related Social Support Model. *N* = 659. All measures were assessed at

Wave 4 unless otherwise specified. Standardized path coefficients are presented. Coefficients

of regression paths from control variables (age, education and marital status) to all

endogenous variables are shown in Table 11. R squares for endogenous variables are shown

in parentheses.

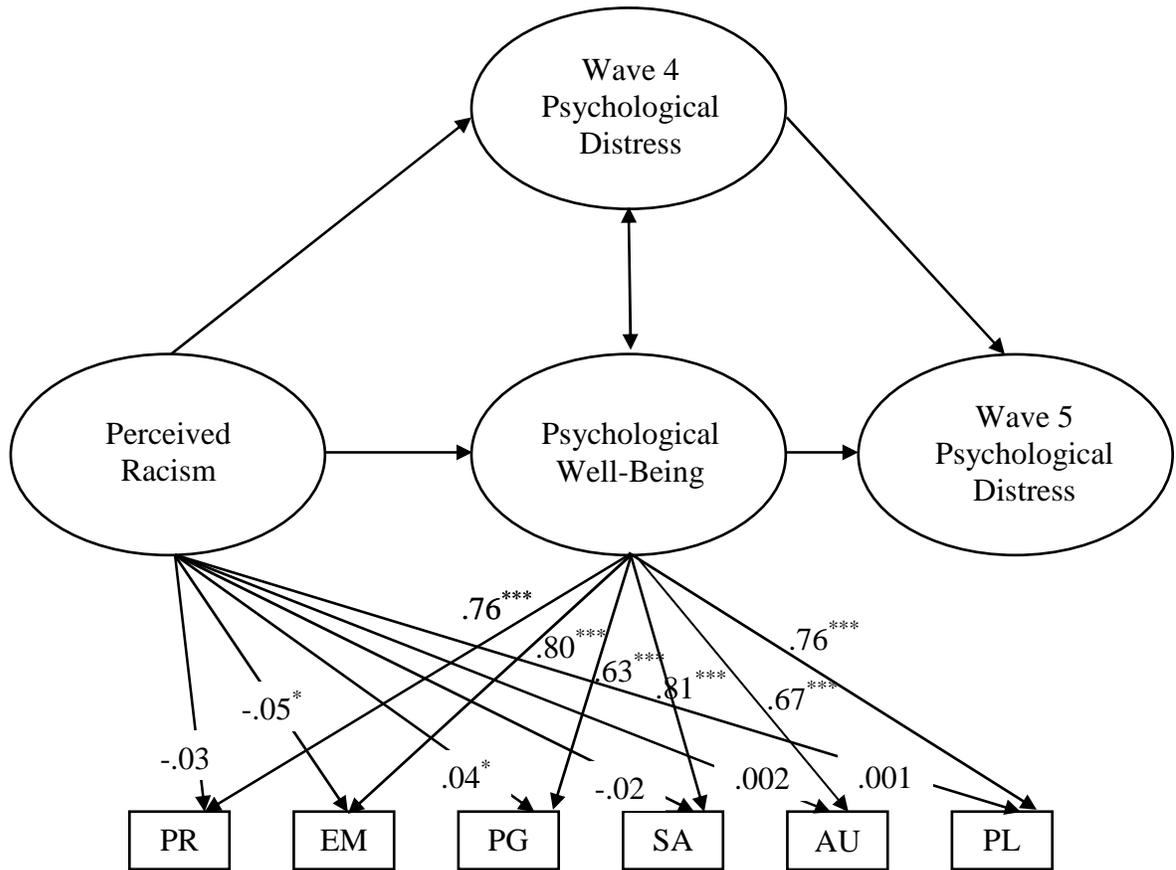$^*p < .05.$ $^{**}p < .01.$ $^{***}p < .001.$

Table 1

Descriptive Statistics for Measured Variables

Variable	Valid *N*	Possible Score Range	*M*	*SD*
Age	659	_	44.94	8.11
Education	659	0-20	12.72	2.37
Marital Status	659	0-1	0.41	0.49
Perceived Racism 1	659	1-4	1.66	0.60
Perceived Racism 2	658	1-4	1.97	0.81
Perceived Racism 3	659	1-4	1.83	0.71
Average Perceived Racism	659	1-4	1.82	0.66
Racism-Related Social Support 1	654	1-4	3.59	0.60
Racism-Related Social Support 2	655	1-4	3.63	0.61
Racism-Related Social Support 3	654	1-4	3.67	0.59
Average Racism-Related Social Support	655	1-4	3.62	0.57
Positive Relations with Others	659	1-6	5.12	0.76
Environmental Mastery	659	1-6	4.93	0.78
Personal Growth	659	1-6	4.97	0.77
Self-Acceptance	659	1-6	4.97	0.80
Autonomy	659	1-6	5.08	0.72
Purpose in Life	659	1-6	5.01	0.79
Anxious Arousal	659	1-3	1.15	0.24
Non-Specific Anxiety	659	1-3	1.39	0.46
Depression	659	1-3	1.27	0.37
Wave 5 Anxious Arousal	600	1-3	1.17	0.24
Wave 5 Non-Specific Anxiety	600	1-3	1.41	0.48
Wave 5 Depression	600	1-3	1.27	0.38

Note: All measures were assessed at Wave 4 unless otherwise specified.

Table 2

Factor Loadings of Latent Variables Included in the Psychological Well-Being Model

Latent Variable	Measured Indicators	Unstandardized Loadings	SE	Standardized Loadings
Perceived Racism	Perceived Racism 1	1.00	0.00	.93
	Perceived Racism 2	1.24	0.04	.85
	Perceived Racism 3	1.15	0.03	.91
Psychological Well-Being	Positive Relations with Others	1.00	0.00	.76
	Environmental Mastery	1.09	0.06	.80
	Personal Growth	0.83	0.06	.62
	Self-Acceptance	1.12	0.06	.81
	Autonomy	0.84	0.06	.67
	Purpose in Life	1.04	0.06	.76
Wave 4 Psychological Distress	Anxious Arousal	1.00	0.00	.53
	Non-Specific Anxiety	2.79	0.26	.76
	Depression	2.55	0.25	.87
Wave 5 Psychological Distress	Anxious Arousal	1.00	0.00	.52
	Non-Specific Anxiety	2.79	0.26	.71
	Depression	2.55	0.25	.84

Note. $N = 659$. All measures were assessed at Wave 4 unless otherwise specified. All of the factor loadings were statistically significant, $p < .001$. The unstandardized loadings of the measured variables on the psychological distress latent variable for Waves 4 and 5 were constrained to be identical over time. Due to differences in the variances of these variables, the standardized loadings were not identical over time.

Table 3

Correlations Among the Variables in the Psychological Well-Being Model

	Age	Edu	Mar	Rac	PWB	PD4	PD5
Age	—						
Edu	-.02	—					
Mar	-.05	.15***	—				
Rac	.07	.22***	.02	—			
PWB	.06	.22***	.12**	-.07	—		
PD4	-.07	-.10*	-.04	.21***	-.60***	—	
PD5	-.10*	-.15**	-.11*	.15*	-.48***	.50***	—

Note. $N = 659$. All measures were assessed at Wave 4 unless otherwise specified by the wave number after the variable name. Edu = Education, Mar = Marital Status, Rac = Perceived Racism, PWB = Psychological Well-Being, PD = Psychological Distress.

*p < .05. **p < .01. ***p < .001.

Table 4

Correlations between Perceived Racism and Dimensions of Psychological Well-Being

	Rac	PR	EM	PG	SA	AU	PL
Rac	__						
PR	-.10*	__					
EM	-.16**	.62***	__				
PG	.15***	.50***	.41***	__			
SA	-.08	.61***	.69***	.44***	__		
AU	.01	.49***	.53***	.50***	.56***	__	
PL	.01	.58***	.59***	.62***	.58***	.50***	__

Note. $N = 659$. All measures were assessed at Wave 4. Rac = Perceived Racism, PR = Positive Relations with Others, EM = Environmental Mastery, PG = Personal Growth, SA = Self-Acceptance, AU = Autonomy, PL = Purpose in Life.

*p < .05. **p < .01. ***p < .001.

Table 5

Correlations between Dimensions of Psychological Well-Being and Psychological Distress

	PR	EM	PG	SA	AU	PL
PD5	-.37***	-.39***	-.28***	-.40***	-.28***	-.38***

Note. $N = 659$. All measures were assessed at Wave 4 unless otherwise specified by the wave number after the variable name. PR = Positive Relations with Others, EM = Environmental Mastery, PG = Personal Growth, SA = Self-Acceptance, AU = Autonomy, PL = Purpose in Life, PD = Psychological Distress.

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

Table 6

Paths between Control and Endogenous Variables in Psychological Well-Being Model

Endogenous	Age			Education			Marital Status		
	b	*SE*	β	*b*	*SE*	β	*b*	*SE*	β
Perceived Racism	0.01[*]	0.003	.08	0.05[***]	0.01	.22	-0.01	0.04	-.01
Psychological Well-Being	0.01[*]	0.003	.08	0.06[***]	0.01	.23	0.11[*]	0.05	.09
Wave 4 Psychological Distress	-0.001[*]	0.001	-.09	-0.01[**]	0.003	-.15	-0.01	0.01	-.03
Wave 5 Psychological Distress	-0.001	0.001	-.06	-0.003	0.002	-.06	-0.02	0.01	-.06

Note. N = 659. All measures were assessed at Wave 4 unless otherwise specified.

[*]*p* < .05. [**]*p* < .01. [***]*p* < .001.

Table 7

Unstandardized Model Results in Figure 3

Predictors	Psychological Well-Being		Wave 4 Psychological Distress		Wave 5 Psychological Distress	
	b	*SE*	*b*	*SE*	*b*	*SE*
Perceived Racism	-0.14[**]	0.05	0.06[***]	0.01		
Psychological Well-Being			-0.04[a***]	0.01	-0.05[***]	0.02
Wave 4 Psychological Distress					0.34[***]	0.08

Note. $N = 659$. All measures were assessed at Wave 4 unless otherwise specified.

[a]It is a correlation instead of a regression coefficient.

[*]$p < .05.$ [**]$p < .01.$ [***]$p < .001.$

Table 8

Unstandardized Model Results in Figure 4

Dimension of Psychological Well-Being	Perceived Racism	
	b	SE
PR	-0.04	0.03
EM	-0.06[*]	0.03
PG	0.05[*]	0.03
SA	-0.04	0.03
AU	0.003	0.03
PL	0.001	0.03

Note. N = 659. All measures were assessed at Wave 4. PR = Positive Relations with Others,

EM = Environmental Mastery, PG = Personal Growth, SA = Self-Acceptance, AU =

Autonomy, PL = Purpose in Life.

[*]*p* < .05. [**]*p* < .01. [***]*p* < .001.

Table 9

Unstandardized Model Results in Figure 5

Dimension of Psychological Well-Being	Wave 5 Psychological Distress	
	b	*SE*
PR	-0.001	0.01
EM	0.01	0.01
PG	-0.002	0.01
SA	0.000	0.01
AU	0.003	0.01
PL	-0.01	0.01

Note. $N = 659$. All measures were assessed at Wave 4 unless otherwise specified. PR = Positive Relations with Others, EM = Environmental Mastery, PG = Personal Growth, SA = Self-Acceptance, AU = Autonomy, PL = Purpose in Life.

[*]$p < .05.$ [**]$p < .01.$ [***]$p < .001.$

Table 10

Correlations between Racism-Related Social Support and the Other Variables Included in

the Racism-Related Social Support Model

	Age	Edu	Mar	Rac	PWB	PD4	PD5
Racism-Related Social Support	.03	.16***	.03	-.06	.37***	-.17**	-.12*

Note. $N = 659$. All measures were assessed at Wave 4 unless otherwise specified by the wave

number after the variable name. Edu = Education, Mar = Marital Status, Rac = Perceived

Racism, PWB = Psychological Well-Being, PD = Psychological Distress.

*p < .05. **p < .01. ***p < .001.

Table 11

Paths between Control and Endogenous Variables in Racism-Related Social Support Model

Endogenous	Age			Education			Marital Status		
	b	*SE*	β	*b*	*SE*	β	*b*	*SE*	β
Perceived Racism	0.01[*]	0.003	.08	0.05[***]	0.01	.22	-0.01	0.04	-.01
Racism-Related Social Support	0.002	0.003	.03	0.04[***]	0.01	.16	0.01	0.05	.004
Psychological Well-Being	0.01	0.003	.07	0.04[***]	0.01	.17	0.11[*]	0.05	.09
Wave 4 Psychological Distress	-0.001[*]	0.001	-.08	-0.01[**]	0.003	-.12	-0.01	0.01	-.03
Wave 5 Psychological Distress	-0.001	0.001	-.06	-0.003	0.002	-.06	-0.02	0.01	-.06

Note. N = 659. All measures were assessed at Wave 4 unless otherwise specified.

[*]*p* < .05. [**]*p* < .01. [***]*p* < .001.

Table 12

Unstandardized Model Results in Figure 6

Predictors	Racism-Related Social Support		Psychological Well-Being		Wave 4 Psychological Distress		Wave 5 Psychological Distress	
	b	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
Perceived Racism	-0.03^{a*}	0.01	-0.10*	0.05	0.05***	0.01		
Racism-Related Social Support			0.34***	0.05	-0.03**	0.01		
Psychological Well-Being					-0.04^{a***}	0.01	-0.05**	0.02
Wave 4 Psychological Distress							0.35***	0.08

Note. $N = 659$. All measures were assessed at Wave 4 unless otherwise specified.

^{a}It is a correlation instead of a regression coefficient.

$^{*}p < .05.$ $^{**}p < .01.$ $^{***}p < .001.$

Table 13

Unstandardized Paths between Control and Endogenous Variables in Racism-Related Social

Support Moderation Model

Endogenous	Age		Education		Marital Status	
	b	*SE*	*b*	*SE*	*b*	*SE*
Perceived Racism	0.01[*]	0.003	0.05[***]	0.01	-0.01	0.04
Racism-Related Social Support	0.002	0.003	0.04[***]	0.01	0.01	0.05
Psychological Well-Being	0.01	0.003	0.04[***]	0.01	0.11[*]	0.05
Wave 4 Psychological Distress	-0.001[*]	0.001	-0.01[**]	0.003	-0.01	0.01
Wave 5 Psychological Distress	-0.001	0.001	-0.003	0.002	-0.02	0.01

Note. $N = 659$. All measures were assessed at Wave 4 unless otherwise specified.

[*]$p < .05$. [**]$p < .01$. [***]$p < .001$.

Table 14

Unstandardized Model Results of Racism-Related Social Support Moderation Model

Predictors	Racism-Related Social Support		Psychological Well-Being		Wave 4 Psychological Distress		Wave 5 Psychological Distress	
	b	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
Perceived Racism	-0.03[a]*	0.01	-0.12	0.07	0.05***	0.01		
Racism-Related Social Support			0.31***	0.09	-0.03**	0.01		
Racism * Support			0.03	0.07				
Psychological Well-Being					-0.04[a]***	0.01	-0.05**	0.02
Wave 4 Psychological Distress							0.35***	0.08

Note. $N = 659$. All measures were assessed at Wave 4 unless otherwise specified.

Unstandardized coefficients of paths between control variables and endogenous variables

were shown in Table 13.

[a]It is a correlation instead of a regression coefficient.

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

APPENDIX A

MEASURES[3]

Experiences of Racism Scale

(adapted from Murry et al., 2001; Landrine & Klonoff, 1996)

An important part of this study is to learn about racial issues faced by the families in our study.

Response Options: (1) never (2) once or twice (3) a few times (4) frequently

1. How often has someone said something derogatory or insulting to you just because of your race or ethnic background? Has it been...

2. How often has a store owner, sales clerk, or person working at a place of business treated you in a disrespectful way just because of your race or ethnic background? Has it been...

3. How often have the police hassled you just because of your race or ethnic background? Has it been...

4. How often has someone ignored you or excluded you from some activity just because of your race or ethnic background? Has it been...

5. How often has someone suspected you of doing something wrong just because of your race or ethnic background? Has it been...

6. How often has someone yelled a racial slur or racial insult at you? Has it been...

7. How often has someone threatened to harm you physically just because of your race or ethnic background? Has it been...

8. How often have you encountered people who are surprised that you, given your race or ethnic background, did something really well? Has it been...

9. How often have you been treated unfairly just because of your race or ethnic background? Has it been...

10. How often have you encountered people who did not expect you to do well just because of your race or ethnic background? Has it been...

11. How often has someone discouraged you from trying to achieve an important goal just because of your race or ethnic background? Has it been...

12. How often have close friends of yours been treated unfairly just because of their race or ethnic background? Has it been...

13. How often have members of your family been treated unfairly just because of their race or ethnic background? Has it been...

Social Support Questionnaire for Racial Situations

(Adapted from Boyce, 1996)

Please indicate if you agree or disagree with the following statements.

Response Options: (1) strongly agree (2) somewhat agree (3) somewhat disagree (4) strongly disagree

1. There is someone I can count on to help me feel better after I have experienced a racial incident. Do you?

2. There is someone with whom I can talk comfortably about racial issues. Do you?

3. There is someone I can really count on to help me deal with a racial incident. Do you?

4. There is someone to whom I can go for advice on how to handle racial issues. Do you?

5. There is someone who helps me cope with encounters I perceive as racist. Do you?

APPENDIX B

IRB EXEMPT STATUS

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
1138 Pearson Hall
Ames, Iowa 50011-2207
515 294-4566
FAX 515 294-4267

Date: 5/31/2013

To: Jiong Yang
70 Lebaron Hall

CC: Dr. Daniel Russell
1085 Elm Hall

From: Office for Responsible Research

Project Title: Perceived Racism and Psychological Distress among African American Women: the Role of Psychological Well-Being and Racism-Related Social Support

The Co-Chair of the ISU Institutional Review Board (IRB) has reviewed the project noted above and determined that the project:

☐ Does not meet the definition of research according to federal regulations.

☒ Is research that does not involve human subjects according to federal regulations.

Accordingly, this project does not need IRB approval and you may proceed at any time. We do, however, urge you to protect the rights of your participants in the same ways you would if IRB approval were required. For example, best practices include informing participants that involvement in the project is voluntary and maintaining confidentiality as appropriate.

If you modify the project, we recommend communicating with the IRB staff to ensure that the modifications do not change this determination such that IRB approval is required.

FOOTNOTES

[1]Two cases were interviewed twice under different ID numbers each time. For one pair of the duplicated cases, there were no data for the Wave 5 psychological distress measures under one ID but these data were available under another ID, so data associated with the ID that had relatively complete information were used for that case. For another pair of duplicated cases, one ID was randomly selected, and data associated with the selected ID were used.

[2]Those who responded to their educational level as "other" and provided specific answers were assigned a best fit category as specified in the response options. The recoded responses were: "2 years of general studies" was recoded as 14 ("2 years college, Associate Degree, 2nd year"); "some college" and "licensed cosmetologist" were both recoded as 13 ("1 year college, vocational, or tech training"); "EDS degree" was recoded as 19 ("Master's plus").

[3]Ryff's (1989b) "Scales of Psychological Well-Being" and Clark and Watson's (1995) "The Mini Mood and Anxiety Symptom Questionnaire" were not included due to the authors' request.

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