

2-2014

# The Effects of General Social Support and Social Support for Racial Discrimination on African American Women's Well-Being

Asani H. Seawell  
*Grinnell College*

Carolyn E. Cutrona  
*Iowa State University, ccutrona@iastate.edu*

Daniel W. Russell  
*Iowa State University, drussell@iastate.edu*

Follow this and additional works at: [http://lib.dr.iastate.edu/hdfs\\_pubs](http://lib.dr.iastate.edu/hdfs_pubs)

 Part of the [African American Studies Commons](#), [Ethnic Studies Commons](#), [Family, Life Course, and Society Commons](#), and the [Psychology Commons](#)

The complete bibliographic information for this item can be found at [http://lib.dr.iastate.edu/hdfs\\_pubs/14](http://lib.dr.iastate.edu/hdfs_pubs/14). For information on how to cite this item, please visit <http://lib.dr.iastate.edu/howtocite.html>.

---

This Article is brought to you for free and open access by the Human Development and Family Studies at Iowa State University Digital Repository. It has been accepted for inclusion in Human Development and Family Studies Publications by an authorized administrator of Iowa State University Digital Repository. For more information, please contact [digirep@iastate.edu](mailto:digirep@iastate.edu).

---

# The Effects of General Social Support and Social Support for Racial Discrimination on African American Women's Well-Being

## **Abstract**

The present longitudinal study examined the role of general and tailored social support in mitigating the deleterious impact of racial discrimination on depressive symptoms and optimism in a large sample of African American women. Participants were 590 African American women who completed measures assessing racial discrimination, general social support, tailored social support for racial discrimination, depressive symptoms, and optimism at two time points (2001-2002 and 2003-2004). Our results indicated that higher levels of general and tailored social support predicted optimism 1 year later; changes in both types of support also predicted changes in optimism over time. Although initial levels of neither measure of social support predicted depressive symptoms over time, changes in tailored support predicted changes in depressive symptoms. We also sought to determine whether general and tailored social support “buffer” or diminish the negative effects of racial discrimination on depressive symptoms and optimism. Our results revealed a classic buffering effect of tailored social support but not general support on depressive symptoms for women experiencing high levels of discrimination.

## **Keywords**

Psychology, racial discrimination, optimism, depressive symptoms, social support, African American

## **Disciplines**

African American Studies | Ethnic Studies | Family, Life Course, and Society | Psychology

## **Comments**

This is an author's accepted manuscript from *Journal of Black Psychology* 40 (2014): 3–26, doi:[10.1177/0095798412469227](https://doi.org/10.1177/0095798412469227). Posted with permission.



Published in final edited form as:

*J Black Psychol.* 2014 February ; 40(1): 3–26. doi:10.1177/0095798412469227.

## The Effects of General Social Support and Social Support for Racial Discrimination on African American Women's Well-Being

Asani H. Seawell,

Department of Psychology, Grinnell College

Carolyn E. Cutrona, and

Department of Psychology, Iowa State University

Daniel W. Russell

Department of Human Development and Family Studies, Iowa State University

### Abstract

The present longitudinal study examined the role of general and tailored social support in mitigating the deleterious impact of racial discrimination on depressive symptoms and optimism in a large sample of African American women. Participants were 590 African American women who completed measures assessing racial discrimination, general social support, tailored social support for racial discrimination, depressive symptoms, and optimism at two time points (2001–2002 and 2003–2004). Our results indicated that higher levels of general and tailored social support predicted optimism one year later; changes in both types of support also predicted changes in optimism over time. Although initial levels of neither measure of social support predicted depressive symptoms over time, changes in tailored support predicted changes in depressive symptoms. We also sought to determine whether general and tailored social support “buffer” or diminish the negative effects of racial discrimination on depressive symptoms and optimism. Our results revealed a classic buffering effect of tailored social support, but not general support on depressive symptoms for women experiencing high levels of discrimination.

### Keywords

racial discrimination; optimism; depressive symptoms; social support; African American

---

Racial discrimination and the stress that accompanies it have been conceptualized as chronic, potent, and extremely negative experiences that occur across multiple contexts (i.e., individual, institutional, and cultural levels; Harrell, 2000) and can be profoundly detrimental to African Americans' psychological health (for reviews see Paradies, 2006; Williams & Mohammed, 2009). Research indicates that during the course of their lifetimes, African Americans encounter multiple instances of racial discrimination (Clark, Anderson, Clark, & Williams, 1999). Indeed, longitudinal research has revealed the enduring negative impact that racial discrimination can have on psychological functioning. For instance, in a study by Brown and colleagues (2000) conducted among over 2,000 African Americans, self-reported racial discrimination at baseline predicted higher levels of depressive and anxiety symptoms one-to-two years later. Research suggests that African Americans frequently use social support to cope with racial discrimination (Brondolo, ver Halen, Pencille, Beatty, & Contrada, 2009). Although prior research has indicated that social

support is an adaptive coping strategy for African Americans facing the stress of racial discrimination, it is still not known what form support must take in order to benefit well-being. Hence, the purpose of the present study was to investigate whether social support that is tailored to address racial discrimination predicts changes in depressive symptoms and optimism as well as more general social support among a large sample of African American women. We also explored whether general and tailored social support work in direct or buffering ways to counteract the negative influence of racial discrimination on these outcomes over time.

Some research has suggested that the effects of racial discrimination on outcomes may be particularly detrimental for African American women. Researchers have used terms such as *gendered racism* (Essed, 1991) and the *double jeopardy* of gender and race (Beal, 1970; St. Jean & Feagin, 1998) to highlight the unique experience of sex- and race-based discrimination that African American women face. For instance, African American women may experience sexism from African American men as well as men from other ethnic backgrounds. In addition, African American women may encounter racial and ethnic prejudice from both men and women outside of their racial community (Thomas, Witherspoon, & Speight, 2008). These experiences with racial discrimination may be further compounded by negative societal perceptions of African American women's family and work lives, such as the matriarch stereotype (i.e., poor, single woman with many children) as well as expectations for higher social and economic attainment relative to African American men (Greer, Laseter, & Asiamah, 2009; Reid & Comas-Diaz, 1990). In addition, Bell (1992) proposed that African American women may be particularly vulnerable to racial discrimination because of societal perceptions that they have doubly benefited from affirmative action as a result of occupying two minority roles (i.e., sex and race). The stress of racial discrimination that arises from this double jeopardy may contribute to the deterioration or "weathering" of health that has been observed among African American women (Geronimus, 1992; Geronimus, Hicken, Keene, & Bound, 2006).

Discrimination, particularly racial discrimination, negatively influences African American women's psychological health. For instance, in a cross-sectional study, Greer and colleagues (2009) found that whereas African American men reported more racial discrimination, the stress of racism was related to poorer mental health outcomes (i.e., anxiety and obsessive compulsive symptoms) only for women. In a study of 112 African American female college students, King (2003) found that attributing negative events to either racism or ethgender prejudice (i.e., the interaction of racism & sexism) predicted lower self-esteem and greater feelings of worry and anger. Another study found that the combination of being an African American woman and reporting high levels of racism predicted anxiety and depressive symptoms (Klonoff, Landrine, & Ullman, 1999). Whereas the evidence for relationships between racial forms of discrimination and psychological outcomes (e.g., anxiety and depressive symptoms) has been well-established, research has failed to find evidence for interactive effects of racism and sexism on outcomes. Significant correlations and direct effects have been found for both racial discrimination and sexism, but to date no evidence supports a disproportionate negative impact of the combination of the two (Moradi & Subich, 2003; Szymanski & Stewart, 2010).

Research reveals that the experience of racism may be powerful enough to alter not only African American women's psychological health but also their outlook for the future. The social-cognitive perspective of personality posits that contextual factors (e.g., racial discrimination) can significantly alter behavior and thinking (Bandura, 1999). For instance, Mattis, Fontenot, and Hatcher-Kay (2003) found that African American women's encounters with racism had a negative impact on optimism, which as defined by Scheier and Carver (1985) reflects the tendency to expect positive events in the future. Whereas

optimism has been conceptualized as a stable dispositional characteristic (Scheier & Carver, 1985), some research suggests that changes in personal outlook can occur as a result of life events. For instance, declines in optimism have been observed among women recovering from coronary artery surgery (King, Rowe, Kimble, & Zerwic, 1998), caregivers of stroke patients (Schulz, Tompkins, & Rau, 1988), as well as among individuals experiencing recent family role stress (Atienza, Stephens, & Townsend, 2004). In sum, evidence suggests that significant life events, particularly those that are negative and stressful, have the power to alter one's perceptions of the future.

Research also suggests that the sting of racial discrimination may be eased by relying on the support of one's social network. For African American women "leaning on shoulders" (Shorter-Gooden, 2004) may involve relying on the support of a range of individuals, including family members and friends. Swim, Hyers, Cohen, Fitzgerald, and Bylsma (2003) found that African American women were more likely to report talking to friends about a racist incident than were African American men. Similarly, Utsey, Ponterotto, Reynolds, and Cancelli (2000) found that in an African American sample women used social support as a strategy to cope with racial discrimination more than men.

Whereas it is clear that African American women frequently use social support in order to cope with racial discrimination (Brondolo et al., 2009; Shorter-Gooden, 2004; Thompson, 2006), it is unclear what form social support must take in order to effectively reduce the negative impact of racial discrimination. For example, tailored social support (i.e., support that directly addresses racial discrimination) may be more effective in addressing these unique stressors than generalized forms of support. According to the optimal matching model (Cutrona & Russell, 1990), social support works best when it meets the specific needs imposed by a stressor. Previous research among African Americans has tended to rely on generalized measures of social support that may fail to take into account the uniqueness of racial discrimination (Pieterse & Carter, 2007). Social support that directly addresses racist stressors may be more effective in counteracting the negative influence of racial discrimination on psychological health and personal outlook than more generalized forms of support.

According to Cohen and Wills (1985) social support can diminish the effects of stress in one of two ways. Social support can work in a buffering fashion, such that the benefits of social support are most apparent when support is provided during times of high stress; when stress is high, a high level of social support weakens the impact of the stressor on the outcome variable (e.g., depressive symptoms). Social support matters less when stress is low. In contrast, social support can work in a direct effect fashion, benefiting individuals during both stressful and non-stressful periods of time. Research regarding the buffering and direct effects of social support among African Americans has been mixed. Social support has been shown to buffer against the negative effects of racial discrimination, enabling individuals with high levels of support to experience less strain and cope more successfully (Utsey, Lanier, Williams, Bolden, & Lee, 2006). Yet social support has also been shown to work directly, decreasing depression (Lincoln, Chatters, & Taylor, 2005) and anxiety in the face of both high and low racial discrimination (Black, Cook, Murry, & Cutrona, 2005; Smith, Fernengel, Holcroft, Gerald, & Marien, 1994). From the literature, it is not clear whether support that is specialized and specifically bolsters coping with racial discrimination (as opposed to generalized support) works in a buffering or direct fashion.

Thus, we addressed three primary research questions in the current large longitudinal study of African American women. First, we investigated the extent to which social support tailored to address racial discrimination at one point in time predicts subsequent depression and optimism net of more general social support two years later. Next, we investigated the

extent to which *increases over time* in social support tailored to address racial discrimination predicts changes in depressive symptoms and optimism over time as well as more general social support. Based on our review of the literature, we hypothesized that over time social support for racial discrimination would make a unique contribution in reducing depressive symptoms and enhancing optimism. Finally, we explored whether general social support and social support for racial discrimination buffer or work directly to counteract the negative influence of racial discrimination on these outcomes. We chose to investigate these issues among a large sample of African American women who were followed over a two-year time period since our review of the literature revealed a paucity of longitudinal research examining these issues among African American women. Indeed, the majority of published research has been cross-sectional (e.g., Mattis et al., 2003; St. Jean & Feagin, 1998). The current research seeks to fill this gap.

## Method

### Participants

Data were drawn from a sample of 889 African American women enrolled in the Family and Community Health Study (FACHS; Cutrona et al., 2003; Cutrona, Russell, Hessling, Brown, & Murry, 2000). The FACHS is a large-scale longitudinal study of African American families residing in rural and suburban Georgia and Iowa. To be eligible for the study adults had to be the primary caregiver for a 10–12 year-old African American child. Most of the primary caregivers (93%) were female. For the current research, we selected female primary caregivers who provided complete data on our study variables, which required participation in Waves 3 (2001–2002) and 4 (2003–2004) of the study. We could not use data from earlier waves because the measure of social support for coping with racial discrimination was not added to the interview protocol until Wave 3. This resulted in a final study sample of 590 African American women. The mean age of participants at Wave 3 was 39.25 years ( $SD = 8.34$ ); age ranged from 24 to 80 years. Nineteen percent had less than a high school education, 42% were high school graduates, 30% had some college or technical training, 5% had a bachelor's degree, and 4% had an advanced graduate degree.

### Measures

**Racial discrimination**—To assess racial discrimination, we used 13 items from the Lifetime Racist Events Scale of the Schedule of Racist Events (Landrine & Klonoff, 1996; Simons et al., 2002). The items assess the frequency of racial discrimination experiences (e.g., “How often have you been treated unfairly just because of your race or ethnic background?”); we slightly modified the wording of the instructions so that participants considered their experiences since the prior assessment. Participants responded to the items using a Likert scale ranging from (1) *never* to (4) *frequently*. The scale is scored by summing responses to the items; higher scores indicate greater racial discrimination. This scale has been used widely in studies with African American samples and has strong psychometric properties. A cross-validation study by Klonoff and Landrine (1999) revealed that the frequency of lifetime racism reported was positively associated with number of psychiatric symptoms reported. Cronbach's alpha of .94 was reported for this scale by Landrine and Klonoff (1996). In the current study, Cronbach's alpha was .90 for Wave 3 and .93 for Wave 4.

**Depressive symptoms**—Depressive symptoms were measured using the General Distress-Depression subscale of the Mini-Mood and Anxiety Symptom Questionnaire (Clark & Watson, 1995). Participants responded to five questions assessing their depressive symptoms over the previous week (e.g., “During the past week, how much have you felt depressed?”) on a scale ranging from (1) *not at all* to (3) *extremely*. The scale is scored by

summing responses to the items with higher scores indicating more depressive symptoms. Coefficient alpha was .83 for Wave 3 and .83 for Wave 4. Validity of the measure has been documented through significant associations with diagnoses of major depression assessed at earlier waves of the current investigation using the University of Michigan Composite International Diagnostic Instrument (UM-CIDI; Kessler, 1991), an instrument designed for administration by lay interviewers in large-scale community studies.

**Optimism**—We used the Life Orientation Test (LOT; Scheier & Carver, 1985) to measure optimism. The LOT consists of 8 statements that assess the degree to which individuals expect positive outcomes (e.g., “During uncertain times, I usually expect the best”). Participants responded to the items using a Likert scale ranging from (1) *strongly disagree* to (4) *strongly agree*. The scale is scored by summing the items after the 3 negatively worded statements are reverse coded (e.g., “If something can go wrong for me, it will”). Higher scores indicate greater optimism. The LOT has been used with a variety of clinical and non-clinical samples (Carver, Scheier, & Segerstrom, 2010). In tests of predictive and discriminant validity, Scheier, Carver, and Bridges (1994) found that scores on the LOT predicted both depressive symptoms and coping after controlling for anxiety, mastery, and self-esteem. A Cronbach’s alpha coefficient of .76 has been reported (Scheier & Carver, 1985). The Cronbach’s alpha coefficient for the current study was .75 for Wave 3 and .78 Wave 4.

**Social support**—We examined generalized social support by using a 14-item measure from Cohen and Hoberman (1983). Participants responded to questions related to social support from their best friend (7 items) or the relative (7 items) to whom they felt closest (e.g., “How much can you depend on your best friend?”). Participants responded to the items using scales ranging from (1) *not at all* to (3) *a lot* or (1) *never* to (3) *often*. The scale was scored by summing responses to the items, with higher scores indicating greater social support. For the current study, we found a Cronbach’s alpha of .76 at Wave 3 and .78 at Wave 4.

To examine support tailored to coping with racial discrimination we used Boyce’s (1996) Satisfaction Score from the Social Support Questionnaire for Racial Situations (SSQ-RS). Participants were asked to respond to five items related to their satisfaction with support provided by their social network related to experiences of racial discrimination (e.g., “There is someone I can really count on to help me deal with a racial incident”) on a Likert scale ranging from (1) *strongly disagree* to (4) *strongly agree*. The scale is scored by summing responses to the items with higher scores indicating greater social support. The scale was developed specifically for use among African American samples and correlates highly with other social support measures, such as the Brief Social Support Questionnaire (Boyce, 1996). A Cronbach’s alpha of .88 has been reported for this scale (Boyce, 1996). Coefficient alpha in the current study was .94 at Wave 3 and .95 at Wave 4.

**Demographic characteristics**—The demographic variables included in the current study were self-reported education and age. Respondents indicated their level of education from a list of educational levels (less than high school through advanced graduate degree) and reported their current age in years. As noted below, age and education correlated significantly with a number of predictor variables and one or both of the outcome variables; thus, it was important to statistically control for their effects in the regression analyses.

## Procedures

We recruited families from neighborhoods that varied on demographic characteristics, specifically racial composition (percent African American) and economic level (percent of

families with children living below the poverty line). In selecting neighborhoods from which to draw the sample we examined neighborhood characteristics at the level of block group areas (BGAs). Using 1990 census data block group areas (BGAs) were identified in both Iowa and Georgia in which the proportion of African American families was high enough to make recruitment economically practical (10% or higher) and in which the proportion of families with children living below the poverty line varied widely to assure a wide range of income levels in our sample families.

Recruitment strategies differed in Georgia and Iowa. In Georgia, sampling procedures were similar to those used in earlier investigations of African American families (Brody & Flor, 1997, 1998). BGAs in northeast Georgia that excluded inner-city Atlanta and met the criteria for racial composition and extent of poverty were identified. Within each BGA, community members who agreed to serve as liaisons between the University of Georgia researchers and the neighborhood residents were identified. These community liaisons compiled rosters of children within each BGA who met the sampling criteria. In addition to their own direct knowledge, the liaisons used information from parents, teachers, pastors, youth groups, and community organizations in compiling the rosters. Families were then randomly selected from these rosters and contacted to determine their interest in participating in the research project. Families who declined participation were removed from the rosters, and other families were randomly selected until the required number of families from each BGA had been recruited.

In Iowa, we first identified BGAs that met the criteria for the proportion of African American residents, all of which were in two areas: Waterloo, with a population of 65,000, and Des Moines, with a population of 193,000. Families with African American children between the ages of 10 and 12 were identified through the public schools in these two cities, which provided us with the names and addresses of all African American students in grades four through six. A very small proportion (3%) of African American students in Iowa attended nonpublic schools in 1996/97 (Iowa Department of Education, 1998), so we believe that this strategy did not significantly bias our sample.

We conducted analyses in Iowa and Georgia that compared census tracts included in the FACHS sample to other census tracts in each state based on average family income from the 1990 census. For Iowa no statistically significant differences were found between included and excluded census tracts. For Georgia average family incomes were found to be lower among the census tracts included in the FACHS sample than among excluded census tracts. The family income difference in Georgia was due to an underrepresentation of high-income census tracts (i.e., \$45,000 or higher in 1990 income) among the FACHS neighborhoods. Thus, in Georgia the highest income census tracts are underrepresented. It should be noted, however, that the FACHS sample includes large numbers of both lower- and middle-class census tracts from Georgia. We thus believe that our sampling strategy yielded a fairly representative set of neighborhoods for the states from which we recruited participants.

Respondents were reimbursed \$100 at each wave of interviews for participating in the study. Of eligible families, we successfully recruited 57%. The overall refusal rate was 26%; we were unable to locate 19% and we could not schedule 5%. Our recruitment rate was similar to that achieved in the National Survey of Black Americans (Jackson, 1991), which recruited a national probability sample of African American adults. Participants in our study were interviewed in their homes by African American interviewers with data collection for Waves 3 and 4 was separated by approximately 2 years. Each assessment included an extensive battery of self-report measures, a subset of which (i.e., racial discrimination, social support, depressive symptoms, optimism, demographics) was used in the current study. Participants

were asked to respond to the items in the measures as they related to their experiences since the prior assessment.

### Analytic Strategy

We conducted a series of hierarchical regression analyses to examine our research questions regarding: (1) the unique contribution of initial level and change in tailored social support to depressive symptoms and optimism net of generalized support, and (2) evidence for the buffering and direct effects of general and tailored social support. To test our first research question regarding the role of tailored and general social support in depressive symptoms and optimism over time, we conducted hierarchical regression analyses predicting Wave 4 depressive symptoms and optimism from predictors assessed at Wave 3. We entered the demographic control variables of age and education in Step 1, followed by the Wave 3 predictor variables in Step 2. The Wave 3 depressive symptoms were also entered in Step 2 as a control for depressive symptoms' concurrent associations with the other Wave 3 predictors. For example, Wave 3 depressive symptoms could bias reports of both racist events and social support. We also entered Wave 3 racial discrimination, social support for racial discrimination, and general social support on this second step. The resulting beta weights reflect the effects of each predictor variable controlling for the effects of every other variable in the equation. We repeated this procedure for optimism, substituting Wave 3 optimism for Wave 3 depressive symptoms as a predictor variable and Wave 4 optimism for Wave 4 depressive symptoms as the outcome variable.

We also tested for the effects of *change* in the predictor variables from Wave 3 to 4 by computing residual terms. Residual values for the depressive symptoms, optimism, racial discrimination, social support for racial stressors, and general social support measures were created by first computing predicted values at Wave 4 for each of these measures based on the Wave 3 scores on that measure. So, for example, a regression analysis was conducted employing scores on the Wave 3 depressive symptoms measure to predict scores on the Wave 4 depressive symptoms measure. Residual depressive symptom scores at Wave 4 were then computed for each participant by subtracting their actual Wave 4 depressive symptoms score from their predicted Wave 4 score. The same process was employed in computing the residual scores for the other four measures. The residualized scores represent change from Wave 3 to Wave 4 without the reliability problems associated with simple arithmetic change scores.

Finally, to examine our second research question regarding moderation of the effects of discrimination (i.e., buffering vs. direct) on depression and optimism by social support, we conducted a final set of hierarchical linear regressions (Baron & Kenny, 1986; MacKinnon, 2008). Depressive symptoms and optimism at Wave 4 served as our outcome variables. For example, in an analysis testing for moderation of racial discrimination by social support for racist events in the prediction of depressive symptoms, on our first step we entered the demographic control variables, Wave 3 depressive symptoms, racial discrimination, and support for racist events. In the second step we entered the interaction between racial discrimination and social support for racist events. Both of these variables were centered, then multiplied together to form the interaction term. Parallel analyses were conducted to test for interactions between general social support and racist events in the prediction of depressive symptoms. The analyses were repeated, substituting Wave 3 optimism and the optimism by racial discrimination term as predictors and substituting Wave 3 optimism as the outcome. A significant interaction term signifies that the association between the racist experiences measure and the outcome measure differs as a function of the level of social support. Simple effects analyses were then conducted to examine the nature of the interaction between discrimination and support.

## Results

Table 1 presents descriptive statistics for all the variables. Our sample of African American women reported relatively low levels of racial discrimination relative to those reported elsewhere (e.g.,  $M = 41.22$ ,  $SD = 16.82$ ; Greer et al., 2009). The results also indicated high levels of optimism relative to other research (e.g.,  $M = 14.52$ ,  $SD = 2.99$ ; Mattis et al., 2003). Our sample also reported low levels of depressive symptoms (at Wave 3  $M = 6.24$ ,  $SD = 1.76$  on a 15-point scale) and high levels of both social support for racial discrimination (at Wave 3  $M = 17.45$ ,  $SD = 3.55$  on a 20-point scale) and general social support (at Wave 3  $M = 46.69$ ,  $SD = 2.91$  on a 52-point scale).

Correlations were also computed among all study variables (see Table 2). Education was found to correlate positively with optimism and racial discrimination at both Waves 3 and 4. The latter correlation may be due to the higher exposure to European Americans at higher education and (presumably) income levels (Fuller-Rowell, Doan, & Eccles, 2011). For example, although day-to-day experiences of racially-based discrimination were lower among those with higher levels of education, major lifetime perceived discrimination was found to be higher among those with high rather than low levels of education in a national sample of 3,000 midlife adults (Kessler, Mickelson & Williams, 1999).

At Wave 3, education correlated positively with both types of social support and negatively with depressive symptoms. Age correlated positively with optimism at Wave 3 and with racial discrimination and general social support at Wave 4. Because of their significant correlations with key study variables age and education were used as demographic control variables in the regression analyses. Results also revealed positive associations between racial discrimination and depressive symptoms. Social support for racial discrimination and general social support were inversely related to depressive symptoms and positively associated with optimism. Finally, social support for racial discrimination was positively related to racial discrimination and general social support was positively related to social support for racial discrimination.

### Level of support predicting outcomes

As indicated in Table 3 the Wave 3 variables significantly predicted depressive symptoms at Wave 4,  $F(6, 584) = 25.59$ ,  $p < .001$ ,  $R^2 = .22$ . However, only higher levels depressive symptoms at Wave 3 predicted depressive symptoms at Wave 4; the other predictors were not statistically significant. Our Wave 3 variables also significantly predicted optimism at Wave 4,  $F(6, 584) = 30.31$ ,  $p < .001$ ,  $R^2 = .50$  (see Table 4). Three of the variables emerged as significant predictors: optimism, social support for racial discrimination, and general social support. Higher levels of each of these Wave 3 variables predicted higher levels of optimism at Wave 4.

### Change in support predicting outcomes

As illustrated in Table 5, the Step 1 predictors significantly predicted residual/change in depressive symptoms,  $F(2, 587) = 3.44$ ,  $p < .05$ ,  $R^2 = .01$ . In particular, older age was related to decreases in depressive symptoms over the two waves. The Step 2 predictor variables accounted for an additional 2.4% of the variance in residual depressive symptoms, which was also statistically significant,  $F(3, 584) = 4.75$ ,  $p < .05$ . As in Step 1, we found a similar association between age and change in depressive symptoms. In addition, consistent with prior work the experience of racial discrimination was deleterious to participants' psychological health; increases in racial discrimination from Wave 3 to Wave 4 predicted increases in depressive symptoms over this time period. Of the social support variables that were entered, only one emerged as a significant predictor of change in depressive symptoms.

As predicted, an increase in social support for racial discrimination from Wave 3 to Wave 4 predicted a decrease in depressive symptoms. Changes in general social support (i.e., from a close relative or best friend) did not significantly predict change in depressive symptoms.

As shown in Table 6 the Step 1 predictors did not predict residual/change in optimism,  $F(2, 587) = 1.65, p = .194, R^2 = .06$ . However, the Step 2 predictor variables accounted for an additional 6.2% of the variance in residual optimism which was statistically significant,  $F(3, 584) = 12.85, p < .001$ . Increases in racial discrimination predicted decreases in optimism over time. In addition, increases in both social support for racial discrimination and general social support from Wave 3 to Wave 4 predicted increases in optimism over the same period.

### Tests for moderation

Finally, we examined whether general social support and social support for racial discrimination work directly or in a buffering fashion to counteract the negative influence of racial discrimination on depressive symptoms and optimism. We first tested for an interaction between racial discrimination and general social support in the prediction of depressive symptoms. A hierarchical regression analysis was conducted entering the Wave 3 assessments of age, education, depressive symptoms, racial discrimination, general social support and social support for racial discrimination in Step 1 followed by the entry of the interaction between racial discrimination and general social support in Step 2. We employed an identical strategy to test for the interaction between racial discrimination and social support for racism in the prediction of depressive symptoms. The results indicated that the interaction between general social support and racial discrimination was non-significant,  $B = .05, t(582) = .67$ . By contrast, the interaction between the experience of racial discrimination and social support for racism was statistically significant,  $B = -.16, t(582) = -2.29, p < .05$ . This interaction between the discrimination and support for racism is portrayed in Figure 1. Following the methods described by Aiken and West (1995), we conducted analyses to test the simple effects of racial discrimination on depressive symptoms for individuals who reported low levels of support (i.e., one standard deviation below the mean, labeled “Low” in the figure) and high levels of support (i.e., one standard deviation above the mean, labeled “High” in the figure). The results indicated that the relationship between the experience of discrimination was significantly related to depressive symptoms among individuals who reported low levels of support for racism ( $B = .26, t[582] = 2.47, p < .05$ ) whereas the relationship between discrimination and depressive symptoms was non-significant for individuals who reported high levels of support for racism ( $B = -.05, t[582] = -.58$ ).

Using the procedure described above, two additional analyses were conducted testing for interactions between the experience of discrimination and the two measures of social support in the prediction of optimism. A hierarchical regression analysis was conducted entering the Wave 3 assessments of age, education, optimism, racial discrimination, general social support and social support for racial discrimination in Step 1 followed by the entry of the interaction between racial discrimination and one of the measures of social support (i.e., general social support or social support for racism) in Step 2. The results indicated that the interaction between general social support and racial discrimination was non-significant,  $B = -.06, t(582) = -.43$ . Similarly, the interaction between the experience of racial discrimination and social support for racism was non-significant,  $B = -.19, t(582) = 1.50$ .

### Discussion

The purpose of the present research was to examine the impact of general social support and social support for racial discrimination on optimism and depressive symptom among a large

sample of African American women that was followed over time. Despite reporting racial discrimination our sample was very optimistic, reported relatively few depressive symptoms, and indicated they were receiving high levels of both types of social support. In general, our sample was well-adjusted, yet consistent with prior work (e.g., Paradies, 2006) racial discrimination had a deleterious impact on their well-being; we found that increases in racial discrimination over two years predicted increases in depressive symptoms and decreases in optimism over the same period. These findings regarding the effects of racial discrimination not only corroborate research linking race-related events to negative psychological sequelae like depressive symptoms (Clark et al., 1999) but also suggest that significant negative life events can alter levels of dispositional optimism (Atienza et al., 2004).

We hypothesized that social support for racial discrimination would make a unique contribution to reducing depressive symptoms and enhancing optimism. We found mixed evidence regarding our predictions. For instance, our results indicated that the unique effect of tailored social support was apparent in its ability to decrease depressive symptoms over time if it increased over the same period. Consistent with the optimal matching hypothesis (Cutrona & Russell, 1990), this finding suggests that for African American women coping with the stress of racial discrimination increases in social support must be directed specifically at addressing racial discrimination in order to improve depressive symptoms over time; an increase in generalized support alone is not enough. It may be that in order to improve negative emotional states like depressive symptoms over time individuals must see an actual increase in support for coping with racial discrimination. An increase may promote the psychological salience of this type of support and allow them to believe that they have a network of support that can readily and specifically help them cope with racial stress.

Our results suggest that the optimal matching hypothesis may only hold true for the relationship between tailored social support and depressive symptoms. Indeed, both discrimination-specific support and generalized support made unique contributions to optimism. It is rare that social support studies include measures of both generalized and tailored support; typically only one or the other is tested. The results of the current study reveal that for the stress of racially-based discrimination, general and tailored support have an additive effect: greater optimism results when both types of support are available. Social support of multiple types can work to alter outlook for the future in positive ways. For African American women, having a positive support network that consists of a range of individuals from close relatives and best friends providing a range of support resources may help to improve thoughts about the future even in the face of racial discrimination (Mattis et al., 2003).

Finally, we sought to determine whether general and tailored social support buffer the negative effects of racial discrimination on depressive symptoms and optimism. Our results indicated that African American women who received high levels of social support for racial stressors were protected from the negative impact of racial discrimination on their depressive symptoms. In contrast, women who received low levels of race-related social support and reported high levels of racial discrimination experienced the highest level of depressive symptoms. We did not observe these relationships for general social support or for optimism. These findings corroborate research which has found that tailored support, like social support for racial discrimination, is needed to effectively cope with the mental health consequences of stressors (Cutrona & Russell, 1990). Consistent with this view, it appears that for African American women support from network members that targets the experience of racism is beneficial because it provides positive input to counteract pervasive societal racism and a position of respect in a caring community of individuals who understand the stress of racial prejudice. Whereas this support may be able to stave off the

deleterious impact of depressive symptoms, it did not change their outlook for the future. It could be that other forms of coping may be necessary to alter levels of optimism as well as the type of support that network members provide. For instance, avoidant coping has been found to be a primary way that African American women chose to cope with racial discrimination (Utsey et al., 2000).

Taken together, our results suggest that African American women should be encouraged to develop and maintain social support networks that provide tailored support. Whereas general social support may improve women's outlook for the future, social support that specifically addresses and helps diffuse the stress surrounding racist events could be particularly useful in lowering depressive symptoms for women encountering racial discrimination. Hence, African American women should strive to cultivate and maintain social networks that include close relatives and friends, particularly individuals that can specifically help them cope with racial stressors. Beyond friends and family, clinicians who strive to be multiculturally competent may be important support providers for African American women by helping them make sense of and cope with the racial discrimination that they face (Arredondo et al., 1996) and contributing general support. Clinicians can provide their African American clients with positive, supportive therapeutic experiences that serve to mitigate the negative effects of racial discrimination (Arredondo et al., 1996) and help develop a sense of agency and autonomy that may contribute to a positive future outlook.

Limitations of the study include the recruitment of participants from only two states, Georgia and Iowa. Our participants may not be representative of African American women residing in other areas of the country. Whereas we acknowledge that African American women are likely to face other types of discrimination in addition to that associated with race over the course of their lifetimes (e.g., St. Jean & Feagin, 1998), the current study only assessed racial discrimination. Research that examines varying types of discrimination (e.g., gendered racism) among African American women is still needed. In our study, the restricted range on some of the study variables (e.g., depressive symptoms) could have affected our results by limiting the magnitude of the associations between the predictor variables and depression. Finally, future research on these topics should include African American men since some research suggests that they report more racial discrimination than do women (Greer et al., 2009) but are less likely to use social support (Utsey, et al., 2000).

Despite these limitations, our study is noteworthy for several reasons. First, we employed a large sample of African American women that was followed over time. Given the longitudinal nature of the data we were able to examine how changes in support over time predicted changes in depressive symptoms and optimism. Importantly, our results indicated that in coping with the stress of racial discrimination both general and tailored social support contributes to African American women's psychological health and personal outlook but in unique ways. In particular, support for racial discrimination diminishes the negative impact of racial events on psychological well-being.

## Acknowledgments

This research was supported in part by NIMH grant R01MH62666.

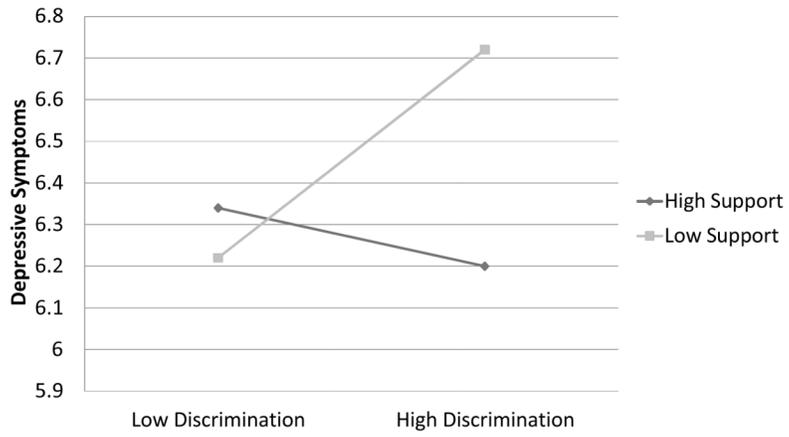
## References

- Aiken, L.S.; West, S.G. Multiple regression: Testing and interpreting interactions. Thousand Oaks, CA: Sage Publications, Inc; 1991.
- Arredondo P, Toporek R, Brown SP, Sanchez J, Locke DC, Sancez J, Stadler H. Operationalization of the multicultural counseling competencies. *Journal of Multicultural Counseling and Development*. 1996; 24:42–78.

- Atienza AA, Stephens MAP, Townsend AL. Role stressors as predictors of changes in women's optimistic expectations. *Personality and Individual Differences*. 2004; 37:471–484.
- Bandura, A. Social cognitive theory of personality. In: Pervin, LA.; John, OP., editors. *Handbook of personality: Theory and research*. 2. New York: The Guilford Press; 1999. p. 154-196.
- Baron RM, Kenny DA. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*. 1986; 51:1173–1182. [PubMed: 3806354]
- Beal, FM. Double jeopardy: To be Black and female. In: Cade, T., editor. *The Black woman: An anthology*. New York: Signet; 1970. p. 90-100.
- Bell EL. Myths, stereotypes, and realities of Black women: A personal reflection. *Journal of Applied Behavioral Science*. 1992; 28:363–376.
- Black AR, Cook JL, Murray VM, Cutrona CE. Ties that bind: implications of social support for rural, partnered African American women's health functioning. *Women's Health Issues*. 2005; 15:216–223. [PubMed: 16165007]
- Boyce, CA. Social support questionnaire for racial situations. In: Jones, RL., editor. *Handbook of tests and measurements for Black populations*. Vol. 2. Hampton, VA: Cobb & Henry; 1996. p. 411-417.
- Brody GH, Flor DL. Maternal psychological functioning, family processes, and child adjustment in rural, single-parent African American families. *Developmental Psychology*. 1997; 33:1000–1011. [PubMed: 9383622]
- Brody GH, Flor DL. Maternal resources, parenting practices, and child competence in rural, single-parent African American families. *Child Development*. 1998; 69:803–816. [PubMed: 9680686]
- Brondolo E, ver Halen NB, Pencille M, Beatty D, Contrada RJ. Coping with racism: A selective review of the literature and a theoretical and methodological critique. *Journal of Behavioral Medicine*. 2009; 32:64–88. [PubMed: 19127420]
- Brown TN, Williams DR, Jackson JS, Neighbors HW, Torres M, Sellers SL, Brown K. Being black and feeling blue: The mental health consequences of racial discrimination. *Race and Society*. 2000; 2:117–131.
- Carver CS, Scheier MF, Segerstrom SC. Optimism. *Clinical Psychology Review*. 2010; 30:879–889. [PubMed: 20170998]
- Clark R, Anderson NB, Clark VR, Williams DR. Racism as a stressor for African Americans: A biopsychosocial model. *American Psychologist*. 1999; 54:805–816. [PubMed: 10540593]
- Clark, LA.; Watson, D. Unpublished manuscript. University of Iowa; Iowa City: 1995. The Mini Mood and Anxiety Symptom Questionnaire (mini-MASQ).
- Cohen S, Hoberman HM. Positive events and social supports as buffers of life change stress. *Journal of Applied Psychology*. 1983; 13:99–125.
- Cohen S, Wills TA. Stress, social support, and the buffering hypothesis. *Psychological Bulletin*. 1985; 98:310–357. [PubMed: 3901065]
- Cutrona, CE.; Russell, DW. Type of social support and specific stress: Toward a theory of optimal matching. In: Sarason, BR.; Sarason, IG.; Pierce, GR., editors. *Social support: An interactional view*. New York: J. Wiley & Sons; 1990. p. 319-366.
- Cutrona C, Russell DW, Hessling RM, Brown PA, Murry VM. Direct and moderating effects of community context on the psychological well-being of African American women. *Journal of Personality and Social Psychology*. 2000; 79:135–152.
- Cutrona C, Russell DW, Abraham WT, Gardner KA, Melby JN, Bryant C, Conger RD. Neighborhood context and financial strain as predictors of marital interaction and marital quality in African American couples. *Personal Relationships*. 2003; 10:389–409. [PubMed: 17955056]
- Essed, P. *Understanding everyday racism: An interdisciplinary theory*. Thousand Oaks, CA: Sage; 1991.
- Fuller-Rowell TE, Doan SN, Eccles JS. Differential effects of perceived discrimination on the diurnal cortisol rhythm of African Americans and whites. *Psychoneuroendocrinology*. 2011; 37:107–118. [PubMed: 21689889]
- Geronimus AT. The weathering hypothesis and the health of African-American women and infants: Evidence and speculations. *Ethnicity and Disease*. 1992; 2:207–221. [PubMed: 1467758]

- Geronimus AT, Hicken M, Keene D, Bound J. “Weathering” and age patterns of allostatic load scores among blacks and whites in the United States. *American Journal of Public Health*. 2006; 96:826–833. [PubMed: 16380565]
- Greer TM, Laseter A, Asiamah D. Gender as a moderator of the relation between race-related stress and mental health symptoms for African Americans. *Psychology of Women Quarterly*. 2009; 33:295–307.
- Harrell SP. A multidimensional conceptualization of racism-related stress: Implications for the well-being of people of color. *American Journal of Orthopsychiatry*. 2000; 70:42–57. [PubMed: 10702849]
- Iowa Department of Education. Annual condition of education report: Enrollment. 1998. Retrieved from <http://www.state.ia.us/educate/publications/coe.html>
- Jackson, JS. *Life in black America*. Thousand Oaks, CA: Sage; 1991.
- Kessler, RC. UM-CIDI Training Guide for the National Survey of Health and Stress, 1991–1992. Ann Arbor, MI: University of Michigan, Institute for Social Research; 1991.
- Kessler RC, Mickelson KD, Williams DR. The prevalence, distribution, and mental health correlates of perceived discrimination in the United States. *Journal of Health and Social Behavior*. 1990; 40:208–230. [PubMed: 10513145]
- King KB, Rowe MA, Kimble LP, Zerwic JJ. Optimism, coping, and long-term recovery from coronary artery surgery in women. *Research in Nursing & Health*. 1998; 21:15–26. [PubMed: 9472234]
- King KR. Racism or sexism? Attributional ambiguity and simultaneous membership in multiple oppressed groups. *Journal of Applied Social Psychology*. 2003; 33:223–247.
- Klonoff EA, Landrine H. Cross-validation of the schedule of racist events. *Journal of Black Psychology*. 1999; 25:231–254.
- Klonoff EA, Landrine H, Ullman JB. Racial discrimination and psychiatric symptoms among blacks. *Cultural Diversity and Ethnic Minority Psychology*. 1999; 5:329–339.
- Landrine H, Klonoff EA. The schedule of racist events: A measure of racial discrimination and a study of its negative physical and mental health consequences. *The Journal of Black Psychology*. 1996; 22:144–168.
- Lincoln KD, Chatters LM, Taylor RJ. Social support, traumatic events, and depressive symptoms among African Americans. *Journal of Marriage and Family*. 2005; 67:754–766. [PubMed: 16429592]
- MacKinnon, DP. *Introduction to statistical mediation analysis*. New York: Lawrence Erlbaum Associates; 2008.
- Mattis JS, Fontenot DL, Hatcher-Kay CA. Religiosity, racism, and dispositional optimism among African American. *Personality and Individual Differences*. 2003; 34:1025–1038.
- Moradi B, Subich LM. A concomitant examination of the relations of perceived racist and sexist events to psychological distress for African American women. *The Counseling Psychologist*. 2003; 31:451–469.
- Paradies Y. A systematic review of empirical research on self-reported racism and health. *Ethnicity and Health*. 2006; 35:888–901.
- Pieterse AL, Carter RT. An examination of the relationship between general life stress, racism-related stress, and psychological health among black men. *Journal of Counseling Psychology*. 2007; 54:101–109.
- Reid PT, Comas-Diaz L. Gender and ethnicity: Perspectives on dual status. *Sex Roles*. 1990; 22:397–408.
- St Jean, Y.; Feagin, JR. *Double burden: Black women and everyday racism*. Armark, NY: M. E. Sharpe; 1998.
- Scheier MF, Carver CS. Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology*. 1985; 4:219–247. [PubMed: 4029106]
- Scheier MF, Carver CS, Bridges MW. Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*. 1994; 67:1063–1078. [PubMed: 7815302]

- Schulz R, Tompkins CA, Rau MT. A longitudinal study of the psychosocial impact of stroke on primary support persons. *Psychology and Aging*. 1988; 3:131–141. [PubMed: 3268251]
- Shorter-Gooden K. Multiple resistance strategies: How African American women cope with racism and sexism. *The Journal of Black Psychology*. 2004; 30:406–425.
- Simons RL, Murry V, McLoyd V, Lin K-H, Cutrona C, Conger RD. Discrimination, crime, ethnic identity, and parenting as correlates of depressive symptoms among African American children: A multilevel analysis. *Development and Psychopathology*. 2002; 14:371–393. [PubMed: 12030697]
- Smith CE, Fernengel K, Holcroft C, Gerald K, Marien L. Meta-analysis of the associations between social support and health outcomes. *Annals of Behavioral Medicine*. 1994; 16:352–362.
- Swim JK, Hyers LL, Cohen LL, Fitzgerald DC, Bylsma WH. African American college students' experiences with everyday racism: Characteristics of and responses to these incidents. *Journal of Black Psychology*. 2003; 29:38–67.
- Szymanski DM, Stewart DN. Racism and sexism as correlates of African American women's psychological distress. *Sex Roles*. 2010; 63:226–238.
- Thomas AJ, Witherspoon KM, Speight SL. Gendered racism, psychological distress, and coping styles of African American women. *Cultural Diversity and Ethnic Minority Psychology*. 2008; 14:307–314. [PubMed: 18954166]
- Thompson VLS. Coping responses and the experience of discrimination. *Journal of Applied Social Psychology*. 2006; 36:1198–1214.
- Utsey SO, Lanier Y, Williams O, Bolden M, Lee A. Moderator effects of cognitive ability and social support on the relation between race-related stress and quality of life in a community sample of Black Americans. *Cultural Diversity and Ethnic Minority Psychology*. 2006; 12:334–346. [PubMed: 16719581]
- Utsey SO, Ponterotto JG, Reynolds AL, Cancelli AA. Racial discrimination, coping, life satisfaction, and self-esteem among African Americans. *Journal of Counseling and Development*. 2000; 78:72–80.
- Williams DR, Mohammed SA. Discrimination and racial disparities in health: Evidence and needed research. *Journal of Behavioral Medicine*. 2009; 32:20–47. [PubMed: 19030981]



**Figure 1.** Depressive symptoms predicted by racial discrimination and social support for racial discrimination.

**Table 1**

## Means and Standard Deviations for the Study Variables

<b>Variable</b>	<b>Mean</b>	<b>SD</b>	<b>Range</b>
Age (Wave 3)	39.25	8.34	24–80
Education (Wave 3)	12.51	2.22	>12yrs – <16yrs
Racial discrimination (Wave 3)	23.81	7.68	13–49
Racial discrimination (Wave 4)	23.44	8.44	13–49
Depressive symptoms (Wave 3)	6.24	1.76	5–15
Depressive symptoms (Wave 4)	6.37	1.85	5–15
Optimism (Wave 3)	23.83	3.11	11–32
Optimism (Wave 4)	24.36	3.32	14–32
Social support – Racial (Wave 3)	17.45	3.55	5–20
Social support – Racial (Wave 4)	17.88	3.11	5–20
Social Support – General (Wave 3)	46.69	2.91	14–52
Social Support – General (Wave 4)	46.80	2.93	14–52

Table 2

## Correlations among the Study Variables

	1	2	3	4	5	6	7	8	9	10	11
1. Age (W3)											
2. Education (W3)	.02										
3. Depressive symptoms (W3)	-.04	-.10**									
4. Depressive symptoms (W4)	-.07	-.06	.44**								
5. Optimism (W3)	.10**	.13**	-.30**	-.22**							
6. Optimism (W4)	.03	.09*	-.19**	-.29**	.47**						
7. Racial discrimination (W3)	.04	.11**	.13**	.09*	.08*	.07					
8. Racial discrimination (W4)	.08*	.10**	.05	.11**	.10*	-.01	.59**				
9. Social support – Racial (W3)	.03	.09*	-.22**	-.11**	.28**	.21**	.09*	.05			
10. Social support – Racial (W4)	-.01	.05	-.12**	-.17**	.19**	.24**	-.00	-.00	.21**		
11. Social support – General (W3)	.16**	.09*	-.30**	-.21**	.24**	.21**	-.035	.01	.17**	.16**	
12. Social support – General (W4)	.06	.08	-.29**	-.19**	.23**	.30**	-.018	-.04	.16**	.27**	.44**

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

**Table 3**

Hierarchical Multiple Regression Analysis Predicting Wave 4 Depressive Symptoms from Wave 3 Variables

Variable	<i>b</i>	<i>SE</i>	$\beta$	<i>t</i>
<i>Step 1</i>				
Age (Wave 3)	-.03	.01	-.12	-3.03*
Education (Wave 3)	-.07	.03	-.08	-1.94
<i>Step 2</i>				
Age (Wave 3)	-.02	.01	-.09	-2.53*
Education (Wave 3)	-.02	.03	-.03	-.72
Depressive symptoms (Wave 3)	.46	.04	.43	10.49**
Racial discrimination (Wave 3)	.01	.01	.05	1.19
Social support – Racial (Wave 3)	-.01	.02	-.03	-.70
Social Support – General (Wave 3)	-.15	.14	-.04	-1.01

\*  $p < .05$ ,\*\*  $p < .01$  N=590

**Table 4**

Hierarchical Multiple Regression Analysis s Predicting Wave 4 Optimism from Wave 3 Variables

Variable	<i>b</i>	<i>SE</i>	$\beta$	<i>t</i>
<i>Step 1</i>				
Age (Wave 3)	.01	.02	.03	.84
Education (Wave 3)	.24	.06	.16	3.89**
<i>Step 2</i>				
Age (Wave 3)	-.00	.02	-.01	-.19
Education (Wave 3)	.09	.06	.06	1.51
Optimism (Wave 3)	.44	.04	.41	10.79**
Racial discrimination (Wave 3)	.00	.02	.01	.19
Social support – Racial (Wave 3)	.11	.04	.12	3.27**
Social Support – General (Wave 3)	.58	.26	.08	2.24*

\*  
*p* < .05.\*\*  
*p* < .01. N=590.

**Table 5**

Residual Change Regression Analysis Predicting Residual Depressive Symptoms from Wave 3 to Wave 4

<b>Variable</b>	<b><i>b</i></b>	<b><i>SE</i></b>	<b><math>\beta</math></b>	<b><i>t</i></b>
<i>Step 1</i>				
Age (Wave 3)	-.02	.01	-.10	-2.52*
Education (Wave 3)	-.02	.03	-.02	-.59
<i>Step 2</i>				
Age (Wave 3)	-.02	.01	-.10	-2.51*
Education (Wave 3)	-.02	.03	-.02	-.54
Residual Racial Discrimination	.02	.01	.10	2.33*
Residual Social support – Racial	-.06	.02	-.11	-2.75*
Residual Social Support – General	-.10	.23	-.02	-.43

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

**Table 6**

Residual Change Regression Analysis Predicting Residual Optimism from Wave 3 to Wave 4

Variable	<i>b</i>	<i>SE</i>	$\beta$	<i>t</i>
<i>Step 1</i>				
Age (Wave 3)	-.00	.02	-.00	-.05
Education (Wave 3)	.10	.06	.08	1.81
<i>Step 2</i>				
Age (Wave 3)	-.01	.02	-.02	-.41
Education (Wave 3)	.08	.05	.06	1.41
Residual Racial Discrimination	-.03	.02	-.08	-2.00*
Residual Social support – Racial	.11	.04	.11	2.67**
Residual Social Support – General	1.83	.42	.18	4.42**

\*  
*p* < .05,\*\*  
*p* < .01