Journal of Marriage and Family

DAWNE M. MOUZON *Rutgers – The State University of New Jersey and Institute for Health, Health Care Policy, and Aging Research*

Can Family Relationships Explain the Race Paradox in Mental Health?

*Biomedical research consistently finds that Blacks have worse physical health than Whites, an expected pattern given Blacks' greater exposure to psychosocial stress, poverty, and discrimination. Yet there is surprising lack of consensus regarding race differences in mental health, with most scholars finding similar or better mental health outcomes among Blacks than Whites. Past research often attributes this ''race paradox in mental health'' to the notion that Blacks have stronger family networks than Whites, yet few studies have explicitly tested whether stronger family relationships among Blacks (if they exist) can account for these findings. Using data from the 2003 – 2005 National Survey of American Life (*N = *4,259) revealed that minimal race differences in family relationships fail to explain the race paradox in mental health. The results have implications for mental health measurement, the provision of culturally appropriate mental health care, and how scholars understand the nature of family relationships among Black Americans.*

Edward J. Bloustein School of Planning & Public Policy, Rutgers – The State University of New Jersey, 33 Livingston Ave., New Brunswick, NJ 08901 (dawne.mouzon@rutgers.edu.)

This article was edited by David H. Demo.

Key Words: Blacks, depression, family, mental health, race, social support.

Black Americans typically exhibit better mental health outcomes than Whites. Data from large population-based surveys reveal that Blacks have lower rates than Whites for most major psychiatric disorders (Breslau et al., 2006; Breslau, Kendler, Su, Gaxiola-Aguilar, & Kessler, 2005; Kessler et al., 1994; Williams et al., 2007; Zhang & Snowden, 1999). Blacks also have higher self-rated mental health than Whites (Zuvekas & Fleishman, 2008). Although less consistent results have been found for psychological distress (Bratter & Eschbach, 2005; Williams, Yu, Jackson, & Anderson, 1997) and psychological well-being (Ryff, Keyes, & Hughes, 2003; Williams et al., 1997), the majority of empirical evidence has led researchers to conclude that Blacks have better mental health than Whites. These findings can collectively be referred to as the *race paradox in mental health* because they are counterintuitive based on Blacks' historically lower socioeconomic standing and greater exposure to discrimination.

The most common argument to explain the race paradox in mental health is the notion that Blacks have stronger family networks that protect them against serious distress. Other researchers, however, have proposed that structural changes in the economy (i.e., deindustrialization) have undermined these ties (Roschelle, 1997). Therefore, it remains unclear whether these flourishing support networks still exist among Black families and, if they do, whether they explain the race paradox in mental health.

DOI:10.1111/jomf.12006

Social Support And Strain

House Umberson, and Landis (1988) proposed that a social relationship is composed of two objective structures and three subjective processes. The two structures are (a) social integration (e.g., existence, quantity, or type of relationship) and (b) social network structure (e.g., size, density, heterogeneity, frequency of interaction). Conversely, the processes comprise (a) social support (exchange of instrumental and emotional help), (b) relational demands and conflicts, and (c) social regulation (obligatory ties that compel individuals to make positive life choices). House et al. further suggested that social support operates primarily as a mediating mechanism that causally links stress and health outcomes.

Social relationships are associated with favorable mental health outcomes (e.g., Bertera, 2005; Kawachi & Berkman, 2001). More frequent contact with others is also positively associated with mental health (Lin & Peek, 1999). Emotional support and strain exert independent influences on health (Bertera; Gray & Keith, 2003), although some scholars have suggested that the health-damaging effects of emotional strain exceed the health-enhancing effects of emotional support (Lincoln, 2000; Rook, 2001). Results from studies with Black-only samples have suggested that Blacks simultaneously experience high levels of family support and strain (e.g., Neighbors, 1997). Moreover, others have found a low correlation between emotional support and strain (Gray & Keith), consistent with the idea that the positive and negative aspects of social relationships are two distinct constructs. Regardless of race, perceived support (the idea that help is available if needed) was found to have a stronger effect on mental health than objective features such as social network size and structure (Turner & Brown, 2009; Wethington & Kessler, 1986).

Neither the provision nor the receipt of support is universally salubrious to mental health. What appears to matter most is the level to which the recipient can reciprocate the support. For example, those who receive more support than they provide experience more distress and more frequent depressive symptoms than those who do not (Liang, Krause, & Bennett, 2001). An earlier study found that people who exchanged equal levels of support had better well-being than those who only received or only provided support (Maton, 1987). It is therefore important to consider the reciprocity of support exchange, not merely the receipt or provision of support.

Social Support in Black Families: Within-Race Comparisons

In one of the most influential analyses of Black family functioning, Stack (1983) conducted a comprehensive ethnography of a low-income Black community in the Midwest. In ''The Flats,'' systems of mutual obligation and reciprocity tied Black families together, allowing them to stretch meager resources in order to survive financial strain from job loss and marital/relationship transitions. Other ethnographic work has uncovered similar patterns of mutual aid within Black families in Chicago (Aschenbrenner, 1983) and Boston (Feagin, 1968).

Although influential for bringing a sociological lens to the previously understudied topic of Black family life, the aforementioned work has been applied universally with less consideration of how these patterns may vary across historical time and other segments of Black families (e.g., those of higher socioeconomic standing). As Roschelle (1997) argued, this distinction is important, because public policies limiting social service benefits to Black Americans have been designed on the premise that Black families are universally tight knit and self-reliant for instrumental support. Moreover, other researchers have suggested that an important flaw of ethnographic work is its reliance on snowball sampling that, by definition, captures only individuals who are involved in support networks (Taylor, Chatters, & Jackson, 1999). These limitations reduce the generalizability of Stack's (1983) ethnographic findings to Black families of different social classes and those who are not engaged in support networks.

The next generation of research in this area used landmark data from the National Survey of Black Americans (NSBA), a longitudinal survey conducted in four waves between 1979 and 1992. Wave 1 NSBA data revealed that subjective family closeness was associated with higher happiness and life satisfaction (Ellison, 1990; Taylor, Chatters, Hardison, & Riley, 2001). Relative to individuals who never needed help, those who received support from family members had lower happiness and life satisfaction; those who never received support had lower happiness only. Frequency

of family contact was associated with neither happiness nor life satisfaction. Overall, NSBA research consistently found strong associations between family closeness and mental health, with mixed findings regarding the receipt of family support. Because the NSBA sampled only Black respondents, it was not possible to determine the extent to which patterns of Black family organization and interaction were unique to this group.

Social Support in Families: Between-Race Comparisons

The third generation of research in the Stack tradition used panel data from the National Survey of Families and Households (NSFH) to examine racial – ethnic differences in patterns of family interaction. Silverstein and Waite (1993) found few race differences in the exchange of both emotional and instrumental family support among adults at midlife and beyond. For both men and women, there were no significant race differences in the odds of giving and receiving emotional support or the odds of receiving instrumental support. Although Black and White men had similar odds of providing instrumental support to others, Black women were less likely than White women to provide instrumental support to others. These findings—which run counter to Stack's (1983) work—could be attributed to the fact that it takes time, money, or financial resources to provide practical support, whereas emotional support can be provided with the investment of time but not money. It is important to note that this pattern was reversed at older ages; that is, older Black women were more likely than older White women to provide instrumental support.

Data from adults aged 18 and older in the second wave of NSFH (1992 – 1994) also indicated stronger race differences in support among women than men. Black women were more likely than White women to engage in reciprocal exchanges of transportation, child care, and household help, but White women were more likely than Black women to be involved in reciprocal exchanges of emotional support (Sarkisian & Gerstel, 2004). These results contradict those of Silverstein and Waite (1993), likely because they studied only respondents age 40 and older. Finally, data from the 1990 – 1992 National Comorbidity Survey indicated that Blacks and Whites showed more similarities than differences in terms of social integration (Kiecolt, Hughes, & Keith, 2008). Although Blacks were more likely to reside with extended kin, there were no race differences in frequency of contact with kin, spouse/partner support, spouse/partner strain, kin support, or kin strain.

In a direct rebuttal to Stack's (1983) ethnographic work, Roschelle (1997) used NSFH data to investigate both race differences in the exchange of child care services among women and race differences in the provision and receipt of household assistance among men (i.e., home/car repairs and other work around the house). Contrary to Stack's well-accepted thesis, nativity status and proximity to siblings and adult children entirely explained the higher propensity for Black women to provide child care to family. Black women were less likely than White women to provide child care to nonfamily (e.g., friends, neighbors, coworkers); they were also less likely to receive child care help from both family and nonfamily. Black men exhibited less network involvement than White men on three of the four household assistance measures (Roschelle). Roschelle's findings suggest that Black families currently demonstrate either similar or lower levels of support than White families.

Similar findings have emerged from longitudinal data on elderly residents in Chicago (Barnes, Mendes de Leon, Bienias, & Evans, 2004). Blacks had significantly smaller social networks than Whites, measured separately as the number of children, relatives, and friends respondents reported seeing at least monthly. Data on adults age 60 and older from the 1992 – 1993 Survey of Social Relations also revealed that Blacks had smaller social networks than Whites (Ajrouch, Antonucci, & Janevic, 2001). Despite smaller networks, Blacks had more family members in their social networks and more frequent contact with network members, although these differences narrowed with increasing age. This disaggregation is important, because past research suggests that exclusive family networks among elderly individuals are more damaging to health than diverse or friend-only networks (Litwin, 2001). These findings suggest diminished mental health benefits among Blacks, who tend to have more family-centered networks, relative to Whites, who have more friendship-centered social networks. Other sociological research has found that heterogeneous social networks confer a wider range of

support than less diverse networks (Granovetter, 1973; McPherson, Smith-Lovin, & Cook, 2001).

As a whole, newer research using samples of Blacks and Whites (Kiecolt et al., 2008; Roschelle, 1997; Sarkisian & Gerstel, 2004; Silverstein & Waite, 1993) tends to contradict earlier findings from Stack (1983) and the NSBA, which documented Blacks' heavy involvement in informal support networks (Ellison, 1990; Taylor, 1986; Taylor et al., 1999, 2001). As Roschelle proposed, it is highly probable that these networks previously existed in specific segments of the Black community but were subsequently weakened by factors such as the labor market disadvantage of Black men following deindustrialization and the influx of crack cocaine and ensuing violence in many low-income Black communities.

Other Important Influences

It was important to consider in this study other factors that are related to both race and mental health. For example, married individuals have better mental health compared to those who are unmarried (Waite, 1995), and Blacks are less likely than Whites to be married (U.S. Census Bureau, 2004). Physical health is positively correlated with mental health (Schnittker, 2005), and Blacks have worse physical health than Whites (Williams, 2005). Parents exhibit significantly more depressive symptoms than nonparents (Evenson & Simon, 2005), and Blacks display higher fertility rates than Whites (Centers for Disease Control and Prevention, 2009). Individuals with higher socioeconomic status (SES) have better mental health outcomes, and Blacks have lower SES than Whites (Eaton & Muntaner, 1999). Finally, Southerners demonstrate the strongest feelings of filial responsibility, and disproportionately more Blacks live in the South (Burr & Mutchler, 1999). All of these measures served as control variables in this analysis.

Research Objective

In sum, the literature has evolved from early work suggesting stronger family networks among Blacks to recent inquiries that have found more similar levels of family support between Blacks and Whites. The race paradox in mental health has been demonstrated across a wide array of studies. In this study, I melded these separate bodies of research to explore the extent to which various aspects of family relationships explain the race paradox in mental health.

I extended past research in five critical ways. First, Stack (1983) focused on the exchange of instrumental support for finances, child care, and temporary shelter. Likewise, analyses from the NSBA emphasized the receipt of instrumental support from family (Ellison, 1990; Taylor, 1986; Taylor et al., 1999, 2001). In this study, I examined the roles of emotional support and strain in addition to instrumental support. Second, Stack and the ensuing body of NSBA research focused on the provision and receipt of actual (objective) instrumental support. I explored the role of potential support in addition to objective support. Third, there has been relatively little investigation of support reciprocity among family members. In response to this gap in the literature, I examined the balance of instrumental support exchange between family members. Fourth, there is a dearth of literature on the interactive effects of emotional support and emotional strain on mental health. Any mental health benefits of emotional support may be attenuated if the relationship is also characterized by high levels of emotional strain; likewise, emotional strain may not be as harmful to mental health if it is accompanied by high levels of emotional support. I built on past research by examining the interactive effects of emotional support and emotional strain. Finally, I employed data from the National Survey of American Life (NSAL), a nationally representative sample that is more heterogeneous than most other surveys in terms of both race and SES.

Method

I used secondary data from the 2001–2003 NSAL, a multistage national probability sample designed to explore racial–ethnic differences in mental disorders, psychological distress, informal and formal service use, and a variety of presumed risk and protective factors (Heeringa et al., 2004). NSAL comprised nationally representative samples of African Americans and Afro-Caribbeans. The non-Hispanic White sample was drawn from the same census tracts as the African American sample, a strategy devised to minimize any systematic residential and socioeconomic differences between the groups. The relatively smaller sample of Whites was part

of the survey's design and primarily intended for Black–White statistical contrasts rather than a descriptive analysis of non-Hispanic Whites as a whole (Heeringa et al.). The majority of the NSAL respondents were between ages 30 and 53, and 62% of the full sample were women. Roughly 39% were married or cohabiting, and 42% had completed their education beyond high school. The overall response rate of the survey was 72%.

Outcomes

I considered three mental health outcomes. The first was based on diagnostic categories from the fourth version of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM–IV*; American Psychiatric Association, 1987). I examined a composite measure (*any DSM mood or anxiety disorder*) of whether respondents met the criteria for any *DSM* mood disorder (major depressive disorder with hierarchy, major depressive episode, dysthymia, dysthymia with hierarchy, mania, hypomania, bipolar I, bipolar II) or any *DSM* anxiety disorder (generalized anxiety disorder, generalized anxiety disorder with hierarchy, panic attacks, panic disorder, social phobia, agoraphobia without panic disorder, agoraphobia with panic disorder) in the past 12 months. The hierarchy rule requires that symptoms not occur during a higher order diagnosis. For example, to meet the criteria for generalized anxiety disorder with hierarchy, symptoms must not occur during a depressive episode, a higher order diagnosis. The goal of this approach is to avoid a dual diagnosis for conditions with overlapping symptoms. Respondents were categorized as having any disorder (1) if they met criteria for at least one disorder in the past 12 months and 0 if they did not meet criteria for any disorder. Other disorders (e.g., substance abuse) could not be assessed because only Black respondents answered these survey modules.

To complement the clinical indicator of psychiatric disorder, I used two outcomes that tapped general indicators of distress. *Depressive symptoms* was based on the 12-item version of the Center for Epidemiologic Studies for Depression scale (CES–D; Radloff, 1977) and asked respondents how often in the past week they had experienced the following symptoms: felt depressed, had crying spells, felt hopeful about the future, felt [I] was just as good as other people, was happy, enjoyed life, had trouble keeping [my] mind on what [I] was doing, [my] sleep was restless, people were unfriendly, felt people disliked [me], felt everything [I] did was an effort, and could not get ''going.'' Response categories for each item ranged from 0 (*rarely/none of the time/less than one day*) to 3 (*most/all of the time/5–7 days*). After reverse-coding four items so that higher values corresponded with more frequent depressive symptoms, I created a scale of depressive symptoms based on the average of the answered items ($\alpha = .77$). *Self-rated mental health* was initially measured using five categories: (a) excellent, (b) very good, (c) good, (d) fair, and (e) poor. Because of small cell sizes, I collapsed ''poor'' and ''fair'' into one category and coded this variable so that higher values indicated less favorable self-rated mental health.

Key Independent Variable: Race

Race was originally measured using four categories for (a) African American, (b) Afro-Caribbean, (c) non-Hispanic White, and (d) Hispanic/Latino. In this project, I focused only on U.S.-born respondents who were non-Hispanic Whites ($n = 785$) or non-Hispanic Blacks ($n = 3{,}474$), a category that included both African Americans ($n = 3{,}129$) and Afro-Caribbeans ($n = 345$). Regarding the unequal proportions of Blacks and Whites, sensitivity analyses using all Whites and a 25% random sample of African Americans yielded identical results to those presented here. I excluded respondents who were born outside the United States ($n = 1{,}065$) because of the unique experiences of immigration and acculturation. I also excluded Latinos because of their small sample size ($n = 183$) and because the largest and most consistent paradoxes in mental health are found between Blacks and Whites.

Potential Mediators: Family Relationships

Based on the work by House and colleagues (1988), I considered nine potential mediators to explain the race paradox in mental health. These mediators tapped both objective structures and two of three subjective processes of social relationships. This set of mediators was also presumed to serve as causal mechanisms to link race and mental health.

Frequency of interaction was measured using the survey question, ''How often do you see, write, or talk on the telephone with your family or relatives who do not live with you?'' Because of small cell sizes, I collapsed this variable into four categories: (a) rare interaction (a few times a year, hardly ever, or never), (b) monthly interaction (a few times a month or at least once a month), (c) weekly interaction (at least once a week), and (d) daily interaction (nearly every day).

Instrumental support. *Frequency of instrumental support received* was measured with the question, ''How often do people in your family—including children, grandparents, aunts, uncles, in-laws and so on—help you out?'' and included categories for very often, fairly often, not too often, and never. Some respondents also volunteered that they ''never needed help'' and ''[I] have no family.'' I excluded respondents who reported never needing help from their family ($n = 314$) because of past findings that they are empirically and theoretically distinct from those who participate in support networks (Taylor, 1990). *Frequency of instrumental support given* was measured using the question, ''How often do you help out people in your family—including children, grandparents, aunts, uncles, in-laws and so on?'' and used the same categories. Because of small cell sizes for both measures (and because these individuals have the lowest levels of support), I collapsed the latter three categories into a single category for not too often/never/have no family.

In addition to examining the frequency of support provision and receipt among family members, I created a composite measure to assess *balanced instrumental support*, using three categories: (a) balanced exchange, (b) I help family more, and (c) family helps me more. Finally, I considered *potential instrumental support* using an open-ended question: ''How many people in your family would help you out if you needed help?'' with a reported range of 0 to 97 individuals. I top-coded this measure at 25, which represented roughly the top 5% of values.

Emotional support and strain. I used four measures of emotional support and emotional strain to complement the indicators for instrumental support. *Subjective family closeness* was assessed with the survey question, ''How close do you feel towards your family members?'' and included categories for very close, fairly close, not too close, and not close at all. Because of small cell sizes, I collapsed the latter two categories into ''not too close/not close at all'' and reverse-coded the variable so that higher values indicated higher levels of subjective closeness.

Emotional support was based on three questions that asked respondents how often family members (other than one's spouse or partner) provided the following three acts of support: (a) make [you] feel loved and cared for, (b) listen when [you] talk about [your] private problems or concerns, and (c) express interest and concern for [your] well-being. *Emotional strain* was based on three questions that asked respondents how often family members (other than one's spouse or partner) engaged in the following three behaviors: (a) make too many demands on [you], (b) criticize [you] and the things [you] do, and (c) try to take advantage of [you]. All six measures included response choices for ''very often,'' ''fairly often,'' ''not too often,'' and ''never.''

I recoded these variables into three categories: (a) never/not too often, (b) fairly often, and (c) very often and reverse-coded all variables such that higher values indicated higher emotional support and strain. I then created two scales for emotional strain and emotional support based on the average of the answered items, resulting in scales ranging from 1 (*low support/strain*) to 3 (*high support/strain*). This approach is consistent with that of Gray and Keith (2003), who averaged both supportive and problematic aspects of social relationships separately for five social relationships. Both the emotional support and strain scales were internally consistent (αs = .76 and .69, respectively). I also calculated a single interaction term for emotional support × emotional strain in light of the possibility that the effect of social support on mental health may vary on the basis of the level of social strain and vice versa (Schuster, Kessler, & Aseltine, 1990).

Control Variables

Marital status was originally measured using three categories for married/cohabiting, divorced/separated/widowed, or never married. It was not possible to disaggregate the married/cohabiting category using the public use data. *Self-rated health* was measured on a 5-point scale: (a) excellent, (b) very good, (c) good, (d) fair, or (e) poor. Because of small cell sizes in the last two categories, I recoded

this measure into four categories for excellent, very good, good, or fair/poor health. *Number of children* and *number of adults living in the household* were measured continuously. *Education* was measured using four categories: (a) less than high school, (b) high school graduate, (c) some college, and (d) college graduate or more. *Household income* was originally measured in dollars and top-coded at $200,000; I subsequently transformed this variable using a started logarithm (+$1,000) to reduce skew. *Region* was measured using categories for Northeast, Midwest, West, and South. *Age* was measured in years, and *gender* was measured using a dummy variable for men.

Analytic Strategy

I first ran descriptive and bivariate statistics to describe the analytic sample. I then followed the detailed causal steps approach outlined by Baron and Kenny (1986) to identify potential mediators. I considered nine potential mediators for family relationships: (a) frequency of instrumental support received, (b) frequency of instrumental support given, (c) balance of instrumental support exchange, (d) emotional support, (e) emotional strain, (f) an interaction term for emotional support × emotional strain, (g) number of potential instrumental support providers, (h) subjective closeness, and (i) frequency of interaction. All variance inflation factors were below 2.5 and all tolerance values exceeded 0.40, allaying multicollinearity concerns (Allison, 1999). Race was the key predictor in all analyses. All multivariate models controlled for gender, age, marital status, self-rated physical health, household structure (number of adults and number of children residing in the household), region, and SES (education, household income).

The NSAL consisted of 4,692 U.S.-born African Americans, Afro-Caribbeans, and Whites. After excluding cases with missing data on the outcomes, I created three preliminary analytic samples for any *DSM* mood or anxiety disorder in the past 12 months ($n = 4{,}692$), CES–D depressive symptoms in the past week ($n = 4{,}285$), and self-rated mental health ($n = 4{,}544$). Of the 407 cases with missing data on depressive symptoms, more than two thirds of these cases were missing by design, representing White respondents who were not reinterviewed. In addition, there were minimal missing data on covariates; after eliminating cases listwise, the sample sizes were $n = 4{,}538$ for both any *DSM* mood/anxiety disorder and self-rated mental health and $n = 4{,}268$ for depressive symptoms. Excluding self-reliants who never needed help resulted in final sample sizes of $N = 4{,}259$ for any mood/anxiety disorder and self-rated mental health and $N = 4{,}005$ for depressive symptoms.

There was minimal loss of data on covariates and two of the three mental health outcomes. A considerable proportion of data on depressive symptoms were missing by design, not at random (a requirement of multiple-imputation procedures). Therefore, the current results reflect listwise deletion of cases. Nevertheless, a wide range of sensitivity analyses using multiply imputed data yielded virtually identical results.

I used Baron and Kenny's (1986) approach to mediation, as outlined below. A drawback of this approach is that it does not quantify the proportions of direct and indirect effects. To address this limitation, I conducted multiple sensitivity tests using the binary mediation program in Stata, a powerful bootstrapping technique that—unlike most bootstrapping methods — allows for the use of multiple mediators and mediators that are both continuous and categorical. Because the binary mediation program requires a dummy outcome, I used various cutpoints of self-rated mental health (e.g., dummies for excellent/very good and excellent/very good/good) and depressive symptoms (e.g., 75th percentile, 90th percentile, median cutpoint). The total indirect effect failed to reach statistical significance across all bootstrapping analyses, indicating that none of the potential mediators could explain the race paradox in any outcome. Notably, the race paradox in mental health remained robust in all mediation models, whether using multiply imputed data, unimputed data, or bootstrapping (results available upon request).

Consistent with the statistical literature (Winship & Radbill, 1994), I used sampling weights (including poststratification adjustment) to conduct descriptive and bivariate statistics but present unweighted multivariate results. All analyses adjusted for complex sampling design using the survey estimation procedures in Stata 12.0.

Results

The weighted demographic characteristics of the study sample are displayed in Table 1. Bivariate statistics assessed race differences, both on the overall variable and separately for each category of the variable, where appropriate. Almost 45% of respondents were men, with no race differences found. This is important because Black men are historically underrepresented in data collection efforts. The mean age of the sample was 43, although Blacks were slightly younger ($p < .05$). Fewer Blacks than Whites were married or cohabiting ($p < .001$). Roughly half of the respondents reported excellent physical health, with no race differences found. Whites were more educated and had higher average household income than Blacks ($p < .01$ for both). Approximately 18% of the sample met the criteria for any *DSM* mood or anxiety disorder in the past year. Blacks had fewer depressive symptoms in the past week than Whites ($p < .001$) and were more likely than Whites to report excellent self-rated mental health ($p < .001$).

A few significant race differences were found regarding family relationships. Blacks were more likely than Whites to provide instrumental support to their family members very often (48% vs. 39%, $p < .05$). Blacks also had more frequent family interaction than Whites. Whites, however, reported significantly more potential support providers ($p < .01$) and less emotional strain ($p < .001$) than Blacks. No significant bivariate race differences were found regarding frequency of support received, subjective family closeness, or emotional support.

Mediation Analyses

The first stage of Baron and Kenny's (1986) causal steps approach directly tested the race paradox in mental health. Multivariate regression models found that race significantly predicted all three mental health outcomes ($p < .001$ for all). Step 2 tested race differences in family relationships, and Step 3 tested whether family relationships significantly predicted mental health, net of all controls for both steps. As specified in Baron and Kenny's approach, a variable qualified as a potential mediator only if it reached statistical significance in both Steps 2 and 3. Any variable that did not qualify as a potential mediator was not considered further.

Four variables emerged as potential mediators for any *DSM* mood or anxiety disorder (balanced instrumental support, number of potential instrumental support providers, subjective family closeness, and emotional strain). Five variables qualified as potential mediators for depressive symptoms (instrumental support given, balanced instrumental support, subjective family closeness, frequency of family interaction, and emotional strain), and four variables met the criteria as potential mediators for self-rated mental health (number of potential instrumental support providers, subjective family closeness, frequency of family interaction, and emotional strain). The final step of the mediation analysis was to enter the potential mediator into a multivariate regression model with all controls. I performed this step both for each potential mediator individually and then with all potential mediators jointly.

Any mood or anxiety disorder. In the baseline model for any *DSM* mood or anxiety disorder in the past 12 months (see Table 2), Blacks had 33% lower odds of mental disorder than Whites, confirming the race paradox in mental health. This association was not present in bivariate analysis, indicating a suppression effect that emerged after adding control variables (MacKinnon, Krull, & Lockwood, 2000). Men, older individuals, Southerners, and those with better self-rated health and higher incomes had lower odds of having a *DSM* disorder. There were no significant associations among marital status, household structure, education, and odds of a *DSM* disorder (results not shown).

None of the four potential mediators (individually or jointly) explained the race paradox in any *DSM* mood or anxiety disorder in the past 12 months (see Table 2). Regarding reciprocity, Blacks were more likely than Whites to report giving more help than they received, a pattern that was associated with higher odds of a *DSM* mood or anxiety disorder, and therefore this did not explain the race paradox in mental disorder. Although more potential support providers and lower emotional strain were associated with lower odds of a mood or anxiety disorder, Blacks reported fewer support providers and more emotional strain than Whites, which explains why these measures did not account for the race paradox. Blacks reported more subjective family closeness than Whites, and higher family closeness was associated with lower odds of a mood

Table 1. *Descriptive and Bivariate Statistics of Key Demographic and Family Characteristics by Race, 2001–2003 National Survey of American Life (*N = *4,259)*

Variables	Whites ($n = 785$) *M* (*SD*) or %	Blacks ($n = 3,474$) *M* (*SD*) or %	Total ($N = 4,259$) *M* (*SD*) or %
Men	45.9	42.8	44.4
Age	44.4 (9.0)*	41.4 (18.7)*	43.0 (14.8)
Marital status			
Married or cohabiting	54.1***	40.5***	47.5
Separated/divorced/ widowed	24.3	26.2	25.2
Never married	21.6***	33.3***	27.3
Self-rated physical health			
Excellent	51.1	49.0	50.1
Very good	30.4	30.0	30.2
Good	13.4	16.9	15.1
Fair/poor	5.1	4.1	4.6
Education**			
Less than high school	15.3**	24.4**	19.8
High school graduate	31.0*	37.7*	34.2
Some college	24.8	24.2	24.5
College graduate	28.9**	13.7***	21.5
Household income (in $1,000s)	47.1 (19.0)**	36.6 (37.7)**	41.8 (30.8)
Mental health outcomes			
Any *DSM* mood or anxiety disorder, past 12 months	18.4	17.5	18
Mean depressive symptoms[a]	0.74 (0.27)***	0.58 (0.56)***	0.65 (0.47)
Self-rated mental health**			
Excellent	20.4***	30.5***	25.3
Very good	42.6**	35.1**	39
Good	26.3	22.8	24.6
Poor/fair	10.7	11.6	11.1
Family relationships			
Instrumental support received			
Never/have no family	10.3	12.4	11.3
Not too often	29.4	27.4	28.5
Fairly often	29.3	27.4	28.4
Very often	31.0	32.8	31.8
Instrumental support given*			
Never/have no family	2.3	3.1	2.7
Not too often	18.6*	14.7*	16.7
Fairly often	40.0	34.4	37.3
Very often	39.1*	47.8*	43.3
Balanced instrumental support			
Balanced support	53.6	56.1	54.8
Family helps more	12.5	7.9	10.3
You help family more	33.9**	36.0**	34.9
No. potential instrumental support providers[b]	8.2 (3.6)**	7.3 (7.4)**	7.8 (5.9)
Frequency of family interaction			
Rarely/have no family	3.7*	7.1*	5.4
About monthly	17.2	14.4	15.8
About weekly	38.3***	28.0***	33.3
Nearly every day	40.8**	50.5**	45.5

Table 1. *Continued*

Variables	Whites ($n = 785$) *M* (*SD*) or %	Blacks ($n = 3,474$) *M* (*SD*) or %	Total ($N = 4,259$) *M* (*SD*) or %
Subjective family closeness			
Not close/have no family	5.8	6.8	6.3
Fairly close	25.4	22	23.7
Very close	68.8	71.2	70.0
Emotional support[c]	2.4 (0.3)	2.3 (0.7)	2.3 (0.6)
Emotional strain[c]	1.2 (0.2)***	1.3 (0.6)***	1.2 (0.4)

Note: The results represent weighted data that are adjusted for complex survey design. Asterisks represent bivariate race differences (both overall and separately for each category, where appropriate). *DSM = Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 1994).

[a]The Center for Epidemiological Studies Depression Scale has a range from 0 (low) to 3 (high). The sample size for this measure was 4,005. [b] Represents the average number of family members who could help out if needed. [c]Emotional support and strain scales ranged from 1 (low) to 3 (high).

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

Table 2. *Odds Ratios From Mediation Models for Any* DSM *Mood or Anxiety Disorder (12 Months) and Family Relationships, 2001–2003 National Survey of American Life (*N = *4,259)*

Variable	Baseline Model	Balanced Instrumental Support	No. Potential Instrumental Support Providers	Subjective Family Closeness	Emotional Strain	All
Black	0.67***	0.65***	0.66***	0.68**	0.64***	0.64***
Balanced instrumental support[a]						
Family helps you more		1.02				1.01
You help family more		1.36**				1.14
No. potential instrumental support providers			0.98*			1.00
Subjective family closeness[b]				0.74		
Fairly close				0.50***		0.81
Very close						0.61***
Emotional strain[c]					1.82***	1.68***

Note: Data are adjusted for complex survey design. All models control for gender, age, marital status, self-rated physical health, number of children residing in the household, number of adults residing in the household, region, education, and household income. *DSM = Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 1994).

[a]Reference category: balanced support. [b]Reference category: not close/not too close. [c]Emotional strain scale ranged from 1 (low) to 3 (high).

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

or anxiety disorder. These differences, however, were not sufficient to explain the race paradox in any mood or anxiety disorder.

CES–D depressive symptoms. In the baseline model for depressive symptoms, Blacks scored roughly one quarter point lower on the depressive symptom scale than Whites ($b = -0.27$, $p < .001$). The race paradox in depressive symptoms persisted whether potential mediators were considered individually or simultaneously (see Table 3). Three of the five potential mediators could have explained the race paradox in mental health; that is, Blacks were more likely to report giving help to their family very often and had stronger subjective family closeness and more frequent family interaction than Whites. Although these measures were associated with fewer depressive symptoms, race differences in these measures were not sufficient to explain the race paradox in depressive symptoms.

Table 3. *Unstandardized Regression Coefficients From Mediation Models for Center for Epidemiologic Studies Scale of Depression Symptoms and Family Relationships, 2001–2003 National Survey of American Life* (N = *4,005)*

Variable	Baseline Model	Instrumental Support Given to Family	Balanced Instrumental Support	Subjective Family Closeness	Frequency of Family Interaction	Emotional Strain	All
Black	−0.27***	−0.27***	−0.27***	−0.26***	−0.26***	−0.28***	−0.27***
Instrumental support given to family[a]							
Not too often		−0.14*					−0.08
Fairly often		−0.15**					−0.07
Very often		−0.15**					−0.07
Balanced instrumental support[b]							
Family helps you more			0.08**				0.08**
You help family more			0.08***				0.04**
Subjective family closeness[c]							
Fairly close				−0.11**			−0.05
Very close				0.23***			−0.12***
Frequency of family interaction[d]							
About monthly					−0.08		−0.03
About weekly					−0.16***		−0.10*
Nearly every day					−0.19***		−0.11*
Emotional strain[e]						0.17***	0.15***

Note: Data are adjusted for the complex survey design. All models control for gender, age, marital status, self-rated physical health, number of children residing in the household, number of adults residing in the household, region, education, and household income. The depressive symptom scale ranged from 0 (low) to 3 (high).

[a]Reference category: never/have no family. [b]Reference category: balanced support. [c]Reference category: not close/not too close. [d]Reference category: rarely. [e]The emotional strain scale ranged from 1 (low) to 3 (high).

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

Both higher emotional strain and receiving more support than given—both more common among Blacks than Whites—were associated with more depressive symptoms, resulting in a failure of these measures to explain the race paradox in depressive symptoms.

Self-rated mental health. The mediation results based on ordinal logistic regression models for self-rated mental health are shown in Table 4. Blacks had 32% lower odds of reporting a worse mental health category than Whites at baseline ($p < .001$). Similar to the results for both any mood/anxiety disorder and depressive symptoms, none of the potential mediators could explain the race paradox in self-rated mental health, whether entered individually or jointly. Fewer potential support providers and higher emotional strain—which were more common among Blacks—did not account for the race paradox. Although Blacks had higher subjective closeness and more frequent family interaction, patterns that were associated with higher self-rated mental health, these differences were not strong enough to explain the race paradox in self-rated mental health.

Discussion

Blacks experience better mental health than Whites, which is an unexpected pattern given their lower socioeconomic standing and greater exposure to discrimination. Most studies attribute these findings to stronger family relationships among Blacks than among Whites, as documented by a separate (early) body of research. To the best of my knowledge, only one previous study explicitly tested this notion. Using data from the 1990–1992 National Comorbidity Survey, Kiecolt and colleagues (2008) found that family relationships could not explain lower psychological distress and lower rates of psychiatric disorder among Blacks. I extended their analysis by using newer data from a more diverse sample, additional

Table 4. *Odds Ratios From Mediation Models for Self-Rated Mental Health and Family Relationships, 2001 – 2003 National Survey of American Life (*N = *4,259)*

Variable	Baseline Model	No. Potential Instrumental Support Providers	Subjective Family Closeness	Frequency of Family Interaction	Emotional Strain	All
Black	0.68***	0.66***	0.70***	0.69***	0.66***	0.67***
No. potential instrumental support providers		0.97***				0.98*
Subjective family closeness[a]						
Fairly close			0.88			1.02
Very close			0.50			0.67**
Frequency of family interaction[b]						
About monthly				0.70**		0.77
About weekly				0.66**		0.81
Nearly every day				0.53***		0.71*
Emotional strain[c]					1.43***	1.31**

Note: Data are adjusted for complex survey design. All models control for gender, age, marital status, self-rated physical health, number of children residing in the household, number of adults residing in the household, region, education, and household income. Self-rated mental health ranged from 1 (*excellent*) to 4 (*poor/fair*).

[a]Reference category: not close/not too close/have no family. [b]Reference category: rarely. [c]The emotional strain scale ranged from 1 (*low*) to 3 (*high*).

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

measures of family relationships, and multiple mental health outcomes.

I replicated past research showing better mental health status among Blacks (e.g., Breslau et al., 2005, 2006) but found little support for Stack's (1983) findings of denser and more supportive family relationships among Blacks. For example, there were no race differences in instrumental support received, and Blacks reported fewer potential support providers than Whites, a measure that was associated with better mental health across all three outcomes. It is important to note that Blacks and Whites reported equal levels of emotional support, but Blacks consistently reported higher strain. Neither the interaction of emotional support and strain nor interaction terms for instrumental support given × instrumental support received (results not shown) emerged as potential mediators. These findings suggest, for example, that emotional strain—regardless of whether it is accompanied by high levels of emotional support—is consistently damaging to mental health. The crux of the mediation findings was that none of the family measures could explain why Blacks had lower odds of any *DSM* mood or anxiety disorder, fewer depressive symptoms, and better self-rated mental health than Whites.

The premise of this study was the notion that Blacks objectively have better mental health than Whites—that is, that the race paradox in mental health is objectively true. It is crucial for future research to explore other resilience mechanisms to explain the race paradox in mental health. However, Jackson and Knight (2006) proffered another explanation for the race paradox in mental health. Their *theory of self-regulation* suggests that, relative to Whites, Blacks have higher rates of coping with stress through poor health behaviors such as smoking, drinking alcohol, and eating unhealthy foods. These coping strategies interrupt the physiological stress response, which can buffer against poor mental health outcomes. Of note is that these poor health behaviors (and the environmental stressors that gave rise to them) work together to contribute to the persistent physical health disparities found by race. This argument would simultaneously explain both the mental health advantage and the physical health disadvantage among Blacks relative to Whites. It is noteworthy that this is not a theory proposing ''cultural differences,'' or the idea

that Blacks have greater predisposition toward negative health behaviors than Whites. Instead, because Blacks are more likely to be exposed to stressors associated with lower socioeconomic standing, there are higher proportions of Blacks who engage in such behaviors.

New research has tested this innovative theory empirically. Using longitudinal data from the Baltimore Epidemiologic Catchment Area, Mezuk et al. (2010) found that Blacks with high levels of distress who engaged in poor health behaviors had a lower risk of depression 12 years later than Blacks with high levels of distress who did not engage in poor health behaviors, a statistical interaction that was not found among Whites. An analysis of data from the Americans' Changing Lives study yielded similar results, supporting the theory of self-regulation (Jackson, Knight, & Rafferty, 2010).

Despite these findings, it is also paramount that scholars consider the possibility that the race paradox is an artifact of culturally biased measurement tools. Past research in this regard has assessed depressive symptoms using the CES–D scale. Some scholars have found that Blacks are more likely than Whites to endorse somatic or bodily symptoms (e.g., poor appetite), whereas Whites are more likely to endorse mood symptoms such as feeling lonely or sad (Iwata, Turner, & Lloyd, 2002). Others have indicated that Blacks are more likely to endorse interpersonal items (e.g., ''people were unfriendly to me''; Cole, Kawachi, Maller, & Berkman, 2000). Although the 12-item version used in NSAL included both interpersonal relations items (more commonly reported by Blacks), it included fewer than half of the somatic symptoms from the complete 20-item scale, items that are more commonly endorsed among Blacks (Iwata et al.). To the extent that somatic symptoms are underrepresented (or mood symptoms are overrepresented) in various versions of the CES–D, the measure could underestimate both the mental health status and needs of Black Americans. Nonetheless, the consistent results across all three mental health outcomes weaken this concern.

There are many strengths to this work. In addition to considering standard clinical diagnoses that are thought to be the gold standard in most psychiatric research, I examined both a general indicator of psychological distress (depressive symptoms) and a self-reported measure of mental/emotional health. I also examined nine indicators of family relationships, reflecting both instrumental and emotional support as well as actual and potential support. There was remarkable consistency both in the findings for the race paradox in mental health across these disparate measures and in the failure of multiple aspects of family relationships to explain this paradox, which bolsters confidence in the results.

Nonetheless, this analysis has important limitations to consider. Most important, there was a dearth of measures available to assess the availability and quality of spousal support. Tempering this limitation is the knowledge that Blacks have lower marital quality than Whites (Broman, 2005), which reduces the probability that this social tie could explain the race paradox in mental health. Second, the data did not contain any measure for availability or receipt of financial support from family members. This is not a major concern, given past findings that Whites are more likely than Blacks to participate in the exchange of financial support (Sarkisian & Gerstel, 2004). Therefore, it is unlikely that the inclusion of this measure would have explained the race paradox in mental health. Finally, as with all cross-sectional approaches, reverse causation is a potential concern. It may not be that social support mediates psychological distress; instead, perhaps distress activates processes of social support to cope with the crisis.

The present analysis posits a main/direct effect of social support on mental health. Future research should consider the buffering argument, or the possibility that social support may exert a stronger protective influence on mental health in the presence of specific acute or chronic stressors. It is also highly plausible that the association between family relationships and mental health varies by race; for example, because emotional strain from family members is less common among Whites, perhaps it operates more strongly among Whites than Blacks. Future research should test whether these family support variables interact with race to produce meaningful differences in mental health. It is also important to test whether social class and life course stage moderate the effect of family relationships on the race paradox in mental health.

In terms of implications for family and public policy more generally, policymakers should not romanticize the nature of Black family relationships. Current scholarship largely indicates more

similarities than differences between contemporary Black and White families. There must be far more attention to analyzing potential cultural bias in mental health measurement, specifically in understanding whether Blacks may present with different manifestations of illness than Whites. This line of work is similar to related inquiries on gender that largely has found that men and women exhibit the same rates of mental illness but differ in the types of mental health problems they manifest. For example, women more often display internalizing disorders, such as depression and anxiety, but men are more likely to evidence externalizing symptoms, such as aggression, violence, and substance abuse (e.g., Rosenfield & Mouzon, 2013). It is highly plausible that the types of mental health problems Black Americans experience are largely missed by current measurement tools. Therefore, clinicians should be made aware of the possibility for cultural bias and not disregard or minimize the clinical needs of Black patients if they do not meet the standard diagnostic criteria of disorder.

Note

I appreciate the detailed and constructive feedback provided on earlier drafts by Allan V. Horwitz, Sarah Rosenfield, Kristen W. Springer, and Verna Keith.

References

Ajrouch, K. J., Antonucci, T. C., & Janevic, M. R. (2001). Social networks among Blacks and Whites: The interaction between race and age. *Journals of Gerontology: Series B: Psychological Sciences and Social Sciences*, *56B*, S112 – S118. doi:10.1093/geronb/56.2.S112

Allison, P. (1999). *Multiple regression: A primer*. Thousand Oaks, CA: Pine Forge Press.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Aschenbrenner, J. (1983). *Lifelines: Black families in Chicago*. Prospect Heights, IL: Waveland.

Barnes, L. L., Mendes de Leon, C. F., Bienias, J. L., & Evans, D. A. (2004). A longitudinal study of Black – White differences in social resources. *Journals of Gerontology: Series B: Psychological Sciences and Social Sciences*, *59B*, S146 – S153. doi:10.1093/geronb/59.3.S146

Baron, R. M., & Kenny, D. A. (1986). The moderator – mediator variable distinction in social research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173 – 1182.

Bertera, E. M. (2005). Mental health in U.S. adults: The role of positive social support and social negativity in personal relationships. *Journal of Social and Personal Relationships*, *22*, 33 – 48. doi:10.1177/0265407505049320

Bratter, J. L., & Eschbach, K. (2005). Race/ethnic differences in nonspecific psychological distress: Evidence from the National Health Interview Survey. *Social Science Quarterly*, *86*, 620 – 644. doi:10.1111/j.0038-4941.2005.00321.x

Breslau, J., Aguilar-Gaxiola, S., Kendler, K. S., Su, M., Williams, D., & Kessler, R. C. (2006). Specifying race – ethnic differences in risk for psychiatric disorder in a USA national sample. *Psychological Medicine*, *36*, 57 – 68. doi:10.1017/S0033291705006161

Breslau, J., Kendler, K. S., Su, M., Gaxiola-Aguilar, S., & Kessler, R. C. (2005). Lifetime risk and persistence of psychiatric disorders across ethnic groups in the United States. *Psychological Medicine*, *35*, 317 – 327. doi:10.1017/S0033291704003514

Broman, C. L. (2005). Marital quality in Black and White marriages. *Journal of Family Issues*, *26*, 431 – 441. doi:10.1177/0192513X04272439

Burr, J. A., & Mutchler, J. E. (1999). Race and ethnic variation in norms of filial responsibility among older persons. *Journal of Marriage and the Family*, *61*, 674 – 687.

Centers for Disease Control and Prevention. (2009). *Births: Final data for 2006*. Hyattsville, MD: National Center for Health Statistics.

Cole, S. R., Kawachi, I., Maller, S. J., & Berkman, L. F. (2000). Test of item-response bias in the CES – D scale: Experience from the New Haven EPESE study. *Journal of Clinical Epidemiology*, *53*, 285 – 289.

Eaton, W. W., & Muntaner, C. (1999). Socioeconomic stratification and mental disorder. In T. L. Scheid & T. N. Brown (Eds.), *A handbook for the study of mental health: Social context, theories, and systems* (pp. 226 – 255). New York: Cambridge University Press.

Ellison, C. G. (1990). Family ties, friendships, and subjective well-being among Black Americans. *Journal of Marriage and the Family*, *52*, 298 – 310.

Evenson, R. J., & Simon, R. W. (2005). Clarifying the relationship between parenthood and depression. *Journal of Health and Social Behavior*, *46*, 341 – 358. doi:10.1177/002214650504600403

Feagin, J. R. (1968). The kinship ties of Negro urbanites. *Social Science Quarterly*, *49*, 660 – 665.

Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, *78*, 1360 – 1380.

Gray, B. A., & Keith, V. M. (2003). The benefits and costs of social support for African American women. In D. Brown & V. Keith (Eds.), *In and out of our right minds: The mental health of*

African American women (pp. 742 – 775). New York: Columbia University Press.

Heeringa, S. G., Wagner, J., Torres, M., Duan, N., Adams, T., & Berglund, P. (2004). Sample designs and sampling methods for the Collaborative Psychiatric Epidemiology Studies (CPES). *International Journal of Methods in Psychiatric Research*, *13*, 221 – 240.

House, J. S., Umberson, D., & Landis, K. R. (1988). Structures and processes of social support. *Annual Review of Sociology*, *14*, 293 – 318.

Iwata, N. R., Turner, R. J., & Lloyd, D. A. (2002). Race/ethnicity and depressive symptoms in community-dwelling young adults: A differential item functioning analysis. *Psychiatry Research*, *110*, 281 – 289. doi:10.1016/S0165-1781(02)00102-6

Jackson, J. S., & Knight, K. M. (2006). Race and self-regulatory health behaviors: The role of the stress response and the HPA axis in physical and mental health disparities. In K. W. Schaie & L. L. Carstensen (Eds.), *Social structures, aging, and self-regulation in the elderly* (pp. 189 – 239). New York: Springer.

Jackson, J. S., Knight, K. M., & Rafferty, J. A. (2010). Race and unhealthy behaviors: Chronic stress, the HPA axis, and physical and mental health disparities over the life course. *American Journal of Public Health*, *100*, 933 – 939. doi:10.2105/AJPH.2008.143446

Kawachi, I., & Berkman, L. F. (2001). Social ties and mental health. *Journal of Urban Health*, *78*, 458 – 467. doi:10.1093/jurban/78.3.458

Kessler, R. C., McGonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M., Eshleman, S., & Kendler, S. (1994). Lifetime and 12-month prevalence of *DSM – III – R* psychiatric disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry*, *51*, 8 – 19. doi:10.1001/archpsyc.1994.03950010008002

Kiecolt, K. J., Hughes, M., & Keith, V. (2008). Race, social relationships and mental health. *Personal Relationships*, *15*, 229 – 245. doi:10.1111/j.1475-6811.2008.00195.x

Liang, J., Krause, N. M., & Bennett, J. M. (2001). Social exchange and well-being: Is giving better than receiving? *Psychology and Aging*, *16*, 511 – 523. doi:10.1037//0882-7974.16.3.511

Lin, N., & Peek, M. J. (1999). Social networks and mental health. In A. V. Horwitz & T. L. Scheid (Eds.), *A handbook for the study of mental health: Social contexts, theories, and systems* (pp. 241 – 258). Cambridge, UK: Cambridge University Press.

Lincoln, K. D. (2000). Social support, negative social interactions, and psychological well-being. *Social Service Review*, *74*, 231 – 252.

Litwin, H. (2001). Social network type and morale in old age. *The Gerontologist*, *41*, 516 – 524. doi:10.1093/geront/41.4.516

MacKinnon, D. P., Krull, J. L., & Lockwood, C. M. (2000). Equivalence of the mediation, confounding, and suppression effect. *Prevention Science*, *1*, 173 – 181.

Maton, K. I. (1987). Patterns and psychological correlates of material support within a religious setting: The bidirectional support hypothesis. *American Journal of Community Psychology*, *15*, 185 – 207. doi:10.1007/BF00919278

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, *27*, 415 – 444.

Mezuk, B., Rafferty, J. A., Kershaw, K. N., Hudson, D., Abdou, C. M., Lee, H., Eaton, W., & Jackson, J. S. (2010). Reconsidering the role of social disadvantage in physical and mental health: Stressful life events, health behaviors, race, and depression. *American Journal of Epidemiology*, *172*, 1238 – 1249. doi:10.1093/aje/kwq283

Neighbors, H. W. (1997). Husbands, wives, family, and friends: Sources of stress, sources of support. In R. J. Taylor, J. S. Jackson, & L. M. Chatters (Eds.), *Family life in Black America* (pp. 277 – 292). Thousand Oaks, CA: Sage.

Radloff, L. S. (1977). The CES – D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, *1*, 385 – 401.

Rook, K. S. (2001). Emotional health and positive versus negative social exchanges: A daily diary analysis. *Applied Developmental Science*, *5*, 86 – 97. doi:10.1207/S1532480XADS0502_4

Roschelle, A. R. (1997). *No more kin: Exploring race, class, and gender in family networks*. Thousand Oaks, CA: Sage.

Rosenfield, S. & Mouzon, D. (2013). Gender and mental health. In C. S. Aneshensel & J. C. Phelan (Eds.), *Handbook of the sociology of mental health* (2nd ed., pp. 277 – 296). New York: Springer.

Ryff, C. D., Keyes, C. L. M., & Hughes, D. L. (2003). Status inequalities, perceived discrimination, and eudaimonic well-being: Do the challenges of minority life hone purpose and growth? *Journal of Health and Social Behavior*, *44*, 275 – 291.

Sarkisian, N., & Gerstel, N. (2004). Kin support among Blacks and Whites: Race and family organization. *American Sociological Review*, *69*, 812 – 837. doi:10.1177/000312240406900604

Schnittker, J. (2005). When mental health becomes health: Age and the shifting meaning of self-evaluations of general health. *The Milbank Quarterly*, *83*, 397 – 423. doi:10.1111/j.1468-0009.2005.00407.x

Schuster, T. L., Kessler, R. C., & Aseltine, R. H., Jr. (1990). Supportive interactions, negative

interactions, and depressed mood. *Journal of American Community Psychology*, *18*, 423 – 438. doi:10.1007/BF00938116

Silverstein, M., & Waite, L. J. (1993). Are Blacks more likely than Whites to receive and provide social support in middle age? Yes, no, and maybe so. *Journals of Gerontology*, *48*, S212 – S222. doi:10.1093/geronj/48.4.S212

Stack, C. B. (1983). *All our kin: Strategies for survival in a Black community*. New York: Harper & Row.

Taylor, R. J. (1986). Receipt of support from family among Black Americans: Demographic and familial differences. *Journal of Marriage and the Family*, *48*, 67 – 77.

Taylor, R. J. (1990). Need for support and family involvement among Black Americans. *Journal of Marriage and the Family*, *52*, 584 – 590.

Taylor, R. J., Chatters, L. M., Hardison, C. B., & Riley, A. (2001). Informal social support networks and subjective well-being among African Americans. *Journal of Black Psychology*, *27*, 439 – 463. doi:10.1177/0095798401027004004

Taylor, R. J., Chatters, L. M., & Jackson, J. S. (1999). Changes over time in support network involvement among Black Americans. In R. J. Taylor, J. S. Jackson, & L. M. Chatters (Eds.), *Family life in Black America* (pp. 293 – 316). Thousand Oaks, CA: Sage.

Turner, R. J., & Brown, R. L. (2009). Social support and mental health. In T. L. Scheid & T. N. Brown (Eds.), *A handbook for the study of mental health: Social context, theories, and systems* (pp. 200 – 225). New York: Cambridge University Press.

U.S. Census Bureau. (2004). *Marital status of the population 15 and older by sex, race, and Hispanic origin: 2004 (Detailed Table B12002A-1)*. Washington, DC: U.S. Census Bureau.

Waite, L. J. (1995). Does marriage matter? *Demography*, *32*, 483 – 507. doi:10.2307/2061670

Wethington, E., & Kessler, R. C. (1986). Perceived support, received support, and adjustment to stressful life events. *Journal of Health and Social Behavior*, *27*, 78 – 89.

Williams, D. R. (2005). The health of the U.S. racial and ethnic populations. *The Journals of Gerontology: Series B: Psychological Sciences and Social Sciences*, *60B*, 53 – 62. doi:10.1093/geronb/60.Special_Issue_2

Williams, D. R., Gonzalez, H. M., Neighbors, H., Nesse, R., Abelson, J. M., Sweetman, J., & Jackson, J. S. (2007). Prevalence and distribution of major depressive disorder in African Americans, Caribbean Blacks, and non-Hispanic Whites: Results from the National Survey of American Life. *Archives of General Psychiatry*, *64*, 305 – 315. doi:10.1001/archpsyc.64.3.305

Williams, D. R., Yu, R., Jackson, J. S., & Anderson, N. B. (1997). Racial differences in physical and mental health: Socioeconomic status, stress, and discrimination. *Journal of Health Psychology*, *2*, 335 – 351. doi:10.1177/135910539700200305

Winship, C., & Radbill, L. (1994). Sampling weights and regression analysis. *Sociological Methods & Research*, *23*, 230 – 257. doi:10.1177/0049124194023002004

Zhang, A. Y., & Snowden, L. R. (1999). Ethnic characteristics of mental disorders in five U.S. communities. *Cultural Diversity & Ethnic Minority Psychology*, *5*, 134 – 146.

Zuvekas, S. H., & Fleishman, J. A. (2008). Self-rated mental health and racial/ethnic disparities in mental health service use. *Medical Care*, *46*, 915 – 992. doi:10.1097/MLR.0b013e31817919e5