

# Race, Emotional Reliance, and Mental Health

Christy L. Erving<sup>1</sup> and Courtney S. Thomas<sup>2</sup>

## Abstract

Prior research shows that emotional reliance, an indicator of interpersonal dependence, is an important psychosocial risk factor for mental health problems. However, few have considered black-white differences in emotional reliance or the role it may play in racial variations in mental health outcomes. Using a community epidemiologic sample of adults in Nashville, Tennessee, the current study builds on the small literature on emotional reliance by exploring three aims. First, we evaluate racial differences in emotional reliance. Second, we examine the association between emotional reliance and mental health. Last, we assess the relationships among race, emotional reliance, and mental health. Findings reveal that emotional reliance is generally associated with higher depressive symptoms, more anxiety symptoms, and lower levels of life satisfaction. However, the magnitude of these relationships is greater for blacks compared to whites. We discuss the implications of these findings and areas of promising future research.

## Keywords

emotional reliance, mental health, race/ethnicity, Nashville Stress and Health Study

Evidence from epidemiologic studies indicates that relative to whites, blacks report similar or lower rates of psychiatric disorders and fewer depressive symptoms, even after accounting for differences in socioeconomic status (SES) (Breslau et al. 2006; Hudson et al. 2013; Kessler, Bergland, et al. 2005; Kessler, Chiu, et al. 2005; Kiecolt, Hughes, and Keith 2008; Lewinsohn et al. 2000; Mezuk et al. 2010; Mouzon 2013, 2014; Riolo et al. 2005). These findings, collectively described as the “race paradox in mental health” (Mouzon 2013, 2014), are somewhat surprising given blacks’ higher lifetime exposure to social stressors and economic adversity (Lewis, Coghurn, and Williams 2015; Williams and Mohammed 2009). In an effort to identify the mechanisms producing positive mental health outcomes among black Americans, scholars have examined the role of psychosocial factors that may diminish or enhance psychological well-being (Jackson, Knight, and Rafferty 2010; Kiecolt et al. 2008, 2009; Mouzon 2013, 2014). Nevertheless, current models for understanding the

relationship between race and mental health have rarely considered the role of *emotional reliance*, which is the need to closely associate with and rely on the appraisals of valued others for one’s sense of personal worth (Hirschfeld et al. 1977). Prior research has demonstrated that emotional reliance is associated with depression (Cox et al. 2004; Redmond and Barrett 2015) and is more prevalent among the socially disadvantaged (H. Turner and Turner 1999). Still, very few studies have considered its links to mental health outcomes within diverse samples (for an exception,

---

<sup>1</sup>University of North Carolina at Charlotte, Charlotte, NC, USA

<sup>2</sup>University of California, Los Angeles, Los Angeles, CA, USA

## Corresponding Author:

Christy L. Erving, Department of Sociology, University of North Carolina at Charlotte, 9201 University City Blvd, 490L Fretwell Building, Charlotte, NC 28223, USA.

Email: cerving@uncc.edu

see R. J. Turner, Taylor, and Van Gundy 2004); the role of emotional reliance in the race paradox in mental health also remains unclear.

Although the health significance of emotional reliance has long been recognized (Hirschfeld et al. 1977), it remains relatively understudied compared to “positive” factors such as social support, mastery, and self-esteem. These dimensions are considered “psychosocial resources” as they are known to enhance mental health (R. J. Turner 2013). Despite growing evidence that the availability of psychosocial resources varies among blacks and whites (Gray-Little and Hafdahl 2000; R. J. Turner et al. 2004), only a limited number of studies have assessed racial differences in emotional reliance. For example, while prior research has shown that blacks tend to have higher self-esteem and lower levels of personal mastery relative to whites (Gray-Little and Hafdahl 2000; Kiecolt et al. 2009; Pearlin et al. 2005; Twenge and Crocker 2002), the prevalence of emotional reliance in populations is unclear. Moreover, racial contrasts in “positive” psychosocial resources (e.g., social support) do not explain blacks’ mental health advantage vis-à-vis whites (Kiecolt et al. 2009; Mouzon 2013, 2014). Yet, given the limited focus on emotional reliance in past research, it may be an important contributor to racial differences in mental health.

In light of the paradoxical racial patterns in mental health, we contend that accounting for emotional reliance is necessary for three reasons. First, as a negative psychosocial factor, emotional reliance constitutes an additional source of risk often neglected in studies examining the race paradox in mental health. Prior research in this area has focused on positive psychosocial resources. For instance, the role of social support has been explored in recent research; however, evidence suggests it does not explain the paradox (Mouzon 2013, 2014). Other factors such as mastery and self-esteem have also been included in prior work. Given that positive psychosocial resources do not account for observed racial differences, it is possible that negative psychosocial factors such as emotional reliance play an even greater role. Specifically, the failure to account for negative psychosocial factors may be obscuring actual racial disparities in mental health. In other words, the positive mental health observed among blacks in many epidemiologic studies may not persist with the consideration of emotional reliance. As such, emotional reliance could potentially

suppress the association between race and mental health.

Second, others have suggested that racial minority status limits the development and maintenance of positive psychosocial resources that improve mental health across the life course (Lincoln, Chatters, and Taylor 2005; Umberson et al. 2014; Williams, Priest, and Anderson 2016). Thus, it is possible that negative factors such as emotional reliance would not only be more prevalent among blacks but that it would also have a more detrimental impact on their psychological well-being. Third, prior studies of emotional reliance and mental health have only considered depression or depressive symptoms as outcomes (Cox et al. 2004; Hirschfeld et al. 1977; Redmond and Barrett 2015; H. Turner and Turner 1999; R. J. Turner et al. 2004). However, emotional reliance may trigger other psychological responses such as anxiety or anger. Additional research is needed to examine the relationships between emotional reliance and other mental health outcomes as well as potential racial variations in these linkages.

In this study, we address these issues to clarify the ways emotional reliance may contribute to paradoxical black-white differences in mental health. Specifically, we evaluate racial differences in emotional reliance within a diverse sample of adults. We also examine associations among race, emotional reliance, and three mental health outcomes: depressive symptoms, anxiety symptoms, and life satisfaction. In addition, we explore the role of emotional reliance in the paradox by assessing the extent to which emotional reliance mediates or suppresses black-white differences in mental health; we also consider whether the emotional reliance-mental health linkage varies for blacks and whites.

## BACKGROUND

Emotional reliance is one dimension of the broader concept of interpersonal dependency. In general, interpersonal dependency refers to “a complex of thoughts, feelings, and behaviors, which revolve around the need to associate closely with, interact with, and rely upon valued other people” (Hirschfeld et al. 1977:610). Emotional reliance in particular concerns an emphasis on others’ appraisals for one’s sense of personal worth (Hirschfeld et al. 1977). Prior research has established that emotional reliance is an influential

psychosocial factor that shapes psychological well-being such that high levels of emotional reliance are associated with poor mental health (Hirschfeld et al. 1976, 1977; R. J. Turner et al. 2004; H. Turner and Turner 1999). Although emotional reliance remains relatively understudied compared to other psychosocial factors such as mastery (Pearlin et al. 2007) and self-esteem (Hughes and Demo 1989), there are good grounds to suggest that levels of emotional reliance may vary across racial groups. Furthermore, clarification of potential racial differences in emotional reliance may enhance understanding of black-white differences (or lack thereof) in mental health. Below, we review the small literature on emotional reliance and mental health, highlighting expected racial differences in these relationships. Then, we describe how race might condition the associations between emotional reliance and mental health.

### *Emotional Reliance and Mental Health*

Although research on emotional reliance is limited, this psychosocial factor may influence mental health through several proposed mechanisms. The central hypothesis proposed in prior work is that individuals who tend to rely primarily on the love and attention of others to maintain their self-esteem are more prone to poor mental health (Hirschfeld et al. 1976, 1977). This is reasonable given that emotional reliance is distinguished from other psychosocial factors by the strong need to closely associate with others (R. J. Turner et al. 2004). Individuals with elevated emotional reliance may be more likely to have unhealthy attachment styles and an excessive need to feel emotionally connected with other people, even through superficial associations (Wei et al. 2005). Consequently, these traits may actually hinder the social relationships that emotionally reliant individuals seek to maintain (Mikulincer et al. 2005). For instance, a preoccupation with feeling close to valued others may cause these individuals to excessively seek confirmation that they are valued and lead them to unintentionally place strain on relationships. Among highly emotionally reliant individuals, this is also typically paired with a strong dependence on others' appraisals for self-esteem (Hirschfeld et al. 1976). Together, these attributes may lead to circumstances in

which individuals desire close social connections but their need for external validation to maintain a positive sense of self-worth may produce elevated responsiveness to both positive and negative social interactions due to constant efforts to assess the nature of their relationships (H. Turner and Turner 1999; Willin 2007). This suggests that those with high emotional reliance may also be particularly vulnerable to the effects of stressful events because their self-evaluations are heavily conditioned by unpredictable circumstances (R. J. Turner et al. 2004). Overall, this process can be emotionally distressing for the individual and result in intense feelings of fear, rejection, helplessness, abandonment, and emotional vulnerability, all of which diminish mental health (R. J. Turner et al. 2004). Accordingly, studies have shown that increased emotional reliance is associated with higher levels of depressive symptoms (Redmond and Barrett 2015; H. Turner and Turner 1999) and major depression (Cox et al. 2004). Nevertheless, how this association might vary across diverse populations has not been empirically assessed in prior research.

### *Race and Emotional Reliance*

The small literature on emotional reliance has noted evidence of status differences therein. Specifically, women, married individuals, and those with fewer years of education experience higher levels of emotional reliance than men, the unmarried, and those with higher educational attainment, respectively (Sanathara et al. 2003; Taylor 2015; H. Turner and Turner 1999). Taken together, these findings suggest higher prevalence of emotional reliance among lower status groups, which is consistent with prior work on psychosocial factors more broadly.<sup>1</sup> Given that the availability of positive, mental health-enhancing psychosocial factors tends to be higher among the socially advantaged (R. J. Turner 2013; R. J. Turner and Roszell 1994), it is not surprising that emotional reliance, a negative psychosocial dimension linked to poor mental health outcomes, would be highest among those at the bottom of the status hierarchy. Prior research has suggested that these psychosocial factors develop out of individuals' life experiences across the life course (Pearlin et al. 2005). Thus, those in low status positions may be at particular risk for developing negative psychosocial "resources" such as emotional reliance because

they may lack the social or material resources that aid in the development of a positive sense of self (R. J. Turner and Roszell 1994). For instance, the financial hardship and social stigma often associated with the experience of low SES may contribute to a sense of emotional insecurity that leads to heightened reliance on others' appraisals for self-esteem. Thus, the social conditions and feelings of powerlessness that low status brings may produce higher risk for emotional reliance among the socially disadvantaged.

While the prevalence of emotional reliance has been examined across multiple statuses, including SES, gender, and age (R. L. Brown 2014; Sanathara et al. 2003; H. Turner and Turner 1999), studies of racial differences in this psychosocial factor are relatively rare. The marginalized social positions of black Americans, independent of SES (Williams et al. 2016), may foster increased feelings of emotional reliance among this group. Prior studies have also suggested that blacks experience heightened exposure to stressors and adversity throughout the life course, which may result in the development of more negative psychosocial factors (Umberson et al. 2014; Williams and Mohammed 2009).

Alternatively, there is also a possibility that whites may experience higher levels of emotional reliance. Research findings show that whites, on average, have lower levels of self-esteem in comparison to blacks (Twenge and Crocker 2002). Greater emotional reliance is linked to difficulty in developing a positive sense of self (Hirschfeld et al. 1976; Willin 2007). As such, since blacks tend to experience higher levels of self-esteem relative to whites, perhaps they are less likely to experience high levels of emotional reliance. Furthermore, relative to blacks, whites are more likely to be married (Mouzon 2013; Raley, Sweeney, and Wondra 2015), and married individuals experience higher levels of emotional reliance in comparison to those who are unmarried (H. Turner and Turner 1999). This suggests that overall, whites could experience higher levels of emotional reliance in comparison to their black counterparts. As such, race may be another important determinant of emotional reliance.

To our knowledge, only one study has considered black-white differences in emotional reliance. R. J. Turner et al. (2004) assessed racial patterns in emotional reliance within a diverse sample of young adults. Their results showed that black young adults reported higher emotional reliance

than did their white counterparts. While this study provided evidence to suggest that emotional reliance may vary by race, it is limited by its focus on young adults, who may rely more closely on the evaluations of peers to define self-worth (Litwack, Aikins, and Cillessen 2012; Thomas and Daubman 2001). Thus, further research is needed to evaluate racial differences in emotional reliance among those beyond the young adult stage of the life course.

### *Race, Emotional Reliance, and Mental Health*

There are also good grounds to examine the role of emotional reliance in shaping the relationship between race and mental health. Prior studies have shown that the effects of emotional reliance on depression was conditional on social status, particularly gender (R. L. Brown 2014; Sanathara et al. 2003; H. Turner and Turner 1999). For example, H. Turner and Turner (1999) found that the positive association between emotional reliance and depression was greater for women relative to men. This may be due to women's lower social position and greater emotional dependence on others, which some suggest may have synergistic effects that increase risk of poor health (R. J. Turner and Lloyd 1999; H. Turner and Turner 1999). Given these differences by gender, logic would follow that the emotional reliance–mental health association might also differ by other social statuses, including race. The marginalized social location of black Americans relative to whites may predispose this group to higher levels of emotional reliance while heightened exposure to stress and discrimination may amplify the effects of emotional reliance on mental health for black Americans. It is also possible that emotional reliance will suppress the association between race and mental health. For instance, emotional reliance may alter observed paradoxical patterns in mental health among blacks and whites. This would suggest that positive mental health outcomes among blacks might be obscured by our failure to consider this negative psychosocial factor. Thus, after taking into account emotional reliance, blacks could experience relatively worse mental health compared to whites.

As noted earlier, we could only identify one previous study of racial differences in emotional reliance; this study also considered how this

psychosocial factor might contribute to black-white differences in mental health. Specifically, R. J. Turner et al. (2004) found that relative to whites, black young adults reported greater depressive symptoms, based on a modified Center for Epidemiologic Studies-Depression (CES-D) scale. Moreover, the authors found evidence of partial mediation, that is, that emotional reliance partially explained the black-white difference in depressive symptoms. Given the findings from the study conducted by R. J. Turner and colleagues (2004), it is plausible that emotional reliance could mediate the association between race and mental health.

Although this study and the broader literature provide some important insights, our understanding of the ways emotional reliance shapes mental health among blacks and whites remains limited for several reasons. First, empirical research on emotional reliance has lacked racial and age diversity. For instance, the focus on young adults in prior studies, while insightful, does not capture emotional reliance in other stages of the life course. Second, studies of emotional reliance have typically examined a single mental health outcome (usually depression or depressive symptoms). This narrow scope of mental health, however, may only provide partial evidence of the broader impacts of emotional reliance on psychological well-being above and beyond depression and depressive symptomatology. Furthermore, it is possible that emotional reliance, like other psychosocial factors, has a distinct influence on different mental health outcomes. Third, it also provides little clarity for the race paradox in mental health as the associations among race, emotional reliance, and mental health are further complicated by the fact that racial patterns in mental health depend on the way in which mental health is operationalized. Although empirical evidence indicates that blacks tend to have similar or lower rates of mental disorder relative to their white counterparts, the findings for subjective measures of mental health have suggested otherwise. For example, blacks tend to report fewer depressive symptoms than whites (Mouzon 2013, 2014), whereas whites report higher levels of life satisfaction and happiness compared to blacks (Hughes and Demo 1989; Hughes and Thomas 1998). Given that the black-white mental health paradox is outcome dependent, the current study includes two measures of psychological distress (depressive symptoms and anxiety symptoms) and one

measure of subjective well-being (life satisfaction). Use of these diverse outcome measures allows us to gain a more comprehensive understanding of how emotional reliance impacts different dimensions of mental health.

## *The Present Study*

While prior research suggests that emotional reliance is socially distributed across statuses and is an important factor that shapes mental health, our understanding of the ways it may contribute to racial differences in mental health is limited. Therefore, the overall goal of this study is to advance the small literature on emotional reliance and provide new insights into the psychosocial processes that influence black-white differences in mental health.

We use data from the Nashville Stress and Health Study (NSAHS) to address three main objectives: (1) Evaluate racial differences in emotional reliance, (2) examine the association between emotional reliance and mental health, and (3) explore the relationships between race, emotional reliance, and mental health by considering (a) the extent to which emotional reliance explains the race-mental health association and (b) whether emotional reliance-mental health association varies among blacks and whites.

## DATA

### *Sample*

The NSAHS is a population-based sample of black and white adults ages 21 to 69 from the city of Nashville and surrounding areas within Davidson County, Tennessee. A random sample was obtained using a multistage, stratified sampling approach. Although black households were oversampled to achieve a final sample with similar proportions of racial and sex groups, a sampling weight allowed for generalizability of sample characteristics to the county population. American Association for Public Opinion Research (AAPOR) rates were used to evaluate success across screening and interviewing phases: The Response Rate 1 is 30.2, the Cooperation Rate 1 is 74.2, the Refusal Rate 1 is 30.2, and the Contact Rate 1 is 40.7.

Between 2011 and 2014, 1,252 respondents were interviewed about their personal and family

backgrounds, stress and coping experiences, health behaviors, and health histories during three-hour computer-assisted interviews. Participants provided informed consent, and interviews were conducted by trained study staff of the same race as the respondent. All study procedures were approved by the Vanderbilt University Institutional Review Board and have been described in detail elsewhere (T. N. Brown, Turner, and Moore 2016; R. J. Turner 2013; R. J. Turner, Thomas, and Brown 2016). The present analyses include data from all 1,252 respondents: 627 African American and 625 whites.

## Measures

**Mental Health.** Three measures of mental health were included: two measures of psychological distress (depressive symptoms and anxiety symptoms) and one measure of subjective well-being (life satisfaction). Past-month *depressive symptoms* ( $\alpha = .92$ ;  $\alpha_{\text{Blacks}} = .89$ ;  $\alpha_{\text{Whites}} = .94$ ) were measured by the 20-item CES-D scale (Radloff 1977). Examples of items included “could not shake off the blues,” “felt depressed,” “sleep was restless,” and “had crying spells.” Response categories included not at all (0), occasionally (1), frequently (2), and almost all the time (3). Items were summed, and scores ranged from 0 to 60, with higher values indicating higher depressive symptoms. Past-month *anxiety symptoms* ( $\alpha = .83$ ;  $\alpha_{\text{Blacks}} = .83$ ;  $\alpha_{\text{Whites}} = .84$ ) was assessed as the sum of five items including “felt worried over possible misfortunes,” “felt over-excited,” “felt tense,” “felt anxious,” and “felt nervous.” Response options ranged from not at all (0) to very much (3), and total scores were between 0 and 15. Higher values corresponded with higher levels of anxiety symptoms. *Life satisfaction* ( $\alpha = .79$ ;  $\alpha_{\text{Blacks}} = .71$ ;  $\alpha_{\text{Whites}} = .85$ ) was measured by summing the following five items: “in most ways my life is close to my ideal,” “the conditions of my life are excellent,” “I am satisfied with my life,” “so far I have gotten the important things I want in life,” and “if I could live my life over, I would change almost nothing.” Response options included not at all (0), a little (1), somewhat (2), and a lot (3). Total scores ranged between 0 and 15, with higher values indicative of higher levels of life satisfaction.

**Emotional Reliance.** Emotional reliance was assessed with a four-item scale ( $\alpha = .67$ ;  $\alpha_{\text{Blacks}} = .69$ ;  $\alpha_{\text{Whites}} = .66$ ) that included “the

idea of losing a close friend is terrifying to you,” “you think most people do not realize how easily they can hurt you,” “you would be completely lost if you did not have someone special,” and “you would feel helpless if you were deserted by someone you love.” Each item utilized a 1 (strongly disagree) to 5 (strongly agree) scale (H. Turner and Turner 1999). Scores were derived from the sum of the items, and higher values corresponded with higher levels of emotional reliance. In the present analyses, emotional reliance was categorized based on the 25th and 75th percentiles of emotional reliance scores (for a similar approach, see Taylor 2015). Scores below the 25th percentile were considered “low” (coded as 0), those between the 25th and 75th percentiles were considered “moderate” (coded as 1), and those at or above the 75th percentile were considered “high” emotional reliance (coded as 2). We operationalized emotional reliance as a three-category measure given prior research that suggests that the influence of psychosocial resources may be curvilinear such that low, moderate, and high levels of resources may differentially shape mental health (Kiecolt et al. 2009). Thus, this approach allows us to assess the mental health risk associated with these thresholds rather than simply assuming that risk increases linearly with increases in emotional reliance.

**Race.** Respondents’ race was measured by self-reported racial group identification as (0) black (reference) or (1) white.

**Other Sociodemographic Correlates.** Given their associations with emotional reliance and/or mental health, all analysis controlled for age, gender, marital status, whether the respondent has children, and SES. Respondents’ *age* was measured in years and ranged from 21 to 69 years. *Gender* distinguished between (0) women (reference) and (1) men. Respondents’ current *marital status* was also assessed and coded as married (reference), never married, and other (e.g., widowed, separated, or divorced). Having *children* was measured as having no children (reference) or having children. Finally, respondents’ *SES* was measured using a standardized index of educational attainment, annual household income, and level of occupational prestige. Education was assessed by years of education completed. Annual household income was self-reported across five categories ranging from less than

\$35,000 to \$95,000 and higher. Occupational prestige was determined by scores based on the Nam-Powers-Boyd occupational scores for 2000, with higher scores corresponding to higher occupational levels (Nam and Boyd 2004). Additional information of the NSAHS coding procedure for occupational prestige can be found elsewhere (see R. J. Turner et al. 2016). In the present study, SES scores were calculated for each respondent by first standardizing and summing the three dimensions; scores were then divided by the number of dimensions on which data were available (R. L. Brown 2014; Gayman, Brown, and Cui 2011). This resulted in an SES score that represents the number of standard deviations above or below the sample's mean SES, with higher values indicating greater SES. By equally weighting education, income, and occupational prestige, this approach provides a comprehensive assessment of SES while reducing data loss on individual indicators (R. L. Brown 2014). As such, this consideration of SES may better capture individuals' placement within a social hierarchy, which is based on their simultaneous positions in multiple social locations.

### Analytic Strategy

To address the study's objectives, we utilized a four-phase analysis plan. First, weighted means and proportions of study variables were calculated for the full sample and within each racial group (Table 1). Chi-square and *t* tests were used to examine significant differences by race. Second, we used ordinary least square (OLS) regression models to assess the relationships between emotional reliance and each of the three mental health outcomes (Table 2). For each outcome, the base model (Models 1, 3, and 5) considered the association between race and mental health, controlling for other sociodemographic characteristics (i.e., age, gender, marital status, parental status, and SES). The full model (Models 2, 4, and 6) estimated additional coefficients for the relationship between emotional reliance and health. We considered the potential mediating role of emotional reliance in the race-mental health association by examining differences across race coefficients in the full and base models. The third phase of the analysis focused on potential racial differences in these relationships (Table 3). We estimated race-stratified models to examine the emotional

reliance-mental health relationship among blacks and whites. We chose this stratified modeling approach based on prior research on status and emotional reliance, which suggests that there are divergent processes linking status to emotional reliance among blacks versus whites (R. J. Turner et al. 2004). Thus, we considered these processes *separately* and then used Chow tests to evaluate significant differences in the impact of emotional reliance across racial groups. The Chow test assesses whether the effect size of a particular coefficient varies significantly across models by testing the interaction of the coefficient and group variable (e.g., race) in a pooled model. In our case, an interaction between emotional reliance and race was tested in a pooled model for each mental health outcome. A statistically significant *F* statistic indicates that there are indeed significant differences in the impact of emotional reliance on mental health outcomes across racial groups. All analyses were conducted in STATA 14 to account for complex survey weighting (StataCorp 2015).

## RESULTS

Table 1 displays weighted means and proportions for the study variables. In examining variations in mental health outcomes, we found no significant racial differences in depressive symptoms or anxiety symptoms. However, whites in this sample reported significantly higher levels of life satisfaction. Furthermore, while a majority of the sample reported either moderate (45 percent) or high (25 percent) emotional reliance, there were no significant black-white differences in levels of emotional reliance. The sample was, on average, middle-aged and evenly split by gender. There were large racial differences in marital status, with more than 66 percent of whites married relative to 35 percent of blacks. There were also racial differences in parental status and SES as a higher proportion of blacks were parents and had lower SES compared to whites.

Table 2 shows the estimated relationships among race, emotional reliance, and each of the three outcomes: depressive symptoms, anxiety symptoms, and life satisfaction. For depressive symptoms, results from Model 1 indicated no significant racial differences in symptom levels, net of controls. In other words, blacks and whites reported similar levels of depressive symptoms. This is consistent with the race paradox in mental

**Table 1.** Sample Characteristics by Race,<sup>a</sup> Nashville Stress and Health Study (2011-2014).

N	Full Sample 1,252	Blacks 627	Whites 625
<b>Mental health</b>			
Depressive symptoms (range, 0-60)	13.41 (.42)	14.33 (.86)	13.04 (.45)
Anxiety symptoms (range, 0-15)	4.45 (.13)	4.17 (.26)	4.55 (.15)
Life satisfaction (range, 0-15)	9.45 (.15)	8.27*** (.15)	9.91 (.17)
<b>Emotional reliance (ER)</b>			
Low ER	.30	.26	.31
Moderate ER	.45	.46	.45
High ER	.25	.28	.24
<b>Social status</b>			
Age (range, 22-69)	44.32 (.49)	43.57 (.93)	44.61 (.56)
<b>Gender</b>			
Women (reference)	.52	.55	.50
Men	.48	.45	.50
<b>Marital status</b>			
Married (reference)	.57	.35***	.66
Never married	.24	.39***	.18
Other	.19	.26***	.17
<b>Parental status</b>			
Non-parent (reference)	.31	.22**	.34
Parent	.70	.78**	.66
Socioeconomic status <sup>b</sup>	-.004 (.05)	-.47*** (.10)	.18 (.05)

<sup>a</sup>Weighted means and proportions are shown; for continuous variables, standard deviations are in parentheses.

<sup>b</sup>Standardized.

\*\* $p < .01$ . \*\*\* $p < .001$  significant black-white differences (two-tailed tests).

health, which suggests that blacks have similar or better mental health relative to whites. Once emotional reliance was added to Model 2, findings showed that moderate and high levels of emotional reliance were associated with elevated symptoms. Specifically, those with moderate emotional reliance reported depressive symptoms scores 2.82 points higher ( $p < .001$ ) than those with low emotional reliance; high emotional reliance respondents scored 6.51 points higher ( $p < .001$ ) on depressive symptoms than those with low reliance. Given that there was no significant association between race and depressive symptoms, the potential mediating role of emotional reliance was not considered for this outcome.

Significant differences in the anxiety symptoms of blacks and whites were observed. On average, whites reported higher levels of anxiety symptoms than blacks (Model 3); this is also consistent with the race paradox in mental health. In Model 4, we added emotional reliance. Results showed that moderate emotional reliance was associated with a 1-point increase in anxiety

symptoms ( $p < .001$ ), while high emotional reliance corresponded with a 2.18-point increase in distress scores ( $p < .001$ ). The racial difference in distress persisted with the addition of emotional reliance, although the coefficient diminished slightly by 4 percent. However, there was no other evidence of mediation.

For life satisfaction, Model 5 shows there were no significant racial differences observed. This suggests that whites and blacks reported similar levels of life satisfaction. Emotional reliance was added in Model 6. There were no significant differences in life satisfaction between those reporting low and moderate emotional reliance. However, compared to low emotional reliance, high emotional reliance was associated with lower life satisfaction ( $b = -.81$ ,  $p < .01$ ). Moreover, the addition of emotional reliance to the model revealed a suppression effect: A significant racial difference in life satisfaction emerged with the consideration of emotional reliance. Controlling for both emotional reliance and sociodemographic factors, findings indicated that whites reported

**Table 2.** Mental Health Regressed on Emotional Reliance, Nashville Stress and Health Study (2011-2014) (N = 1,252).

	Depressive Symptoms		Anxiety Symptoms		Life Satisfaction	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age	-.05 (.03)	-.02 (.03)	-.05*** (.01)	-.05*** (.01)	-.02* (.01)	-.02** (.01)
Gender (reference = women)						
Men	-1.97* (.87)	-1.30 (.79)	-.64* (.27)	-.42 (.25)	-.40 (.28)	-.49 (.26)
Marital status (reference = married)						
Never married	.18 (1.05)	(.68) (1.01)	.07 (.33)	.25 (.32)	-1.19*** (.30)	-1.25*** (.30)
Other	.66 (.83)	1.50 (.82)	.06 (.31)	.34 (.29)	-1.66*** (.28)	-1.76*** (.28)
Parental status (reference = non-parent)						
Parent	-1.85* (.91)	-2.10* (.88)	-.35 (.29)	-.44 (.28)	.33 (.24)	.36 (.24)
Socioeconomic status	-3.70*** (.56)	-2.93*** (.55)	-.51* (.20)	-.25 (.20)	1.33*** (.16)	1.24*** (.18)
Race (reference = black)						
White	1.16 (1.20)	1.08 (1.07)	.78* (.38)	.75* (.35)	.44 (.24)	.45* (.23)
Emotional reliance (ER; reference = low ER)						
Moderate ER		2.82*** (.68)		.99*** (.27)		-.39 (.23)
High ER		6.51*** (.93)		2.18*** (.33)		-.81** (.31)
Intercept	16.64*** (1.97)	12.38*** (1.95)	6.76*** (.73)	5.30*** (.33)	1.59*** (.53)	11.15*** (.31)
R <sup>2</sup>	.11	.16	.06	.11	.20	.21
F	11.05	14.81	6.12	1.21	42.78	34.63

Note. Standard errors are in parentheses.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$  (two-tailed tests).

significantly higher life satisfaction than blacks. This was consistent with our expectation that the failure to consider emotional reliance may obscure actual racial differences in mental health. However, given the small effect sizes observed, this evidence should be interpreted with caution.

Results also showed that above and beyond sociodemographic correlates, emotional reliance explained an additional 5 percent of the variance in both depressive symptoms and anxiety symptoms; only an additional 1 percent of the variance in life satisfaction was explained by considering emotional reliance with sociodemographic factors. This suggests that emotional reliance is a significant psychosocial factor with implications for mental health outcomes among blacks and whites, although its impact appears to be dependent on the outcome considered.

Table 3 includes results from race-stratified models. For blacks and whites, emotional reliance was significantly associated with elevated depressive symptoms and anxiety symptoms. However, the magnitude of these relationships varied significantly by race. Results from Chow tests indicated that while emotional reliance influenced the symptomatology of blacks and whites, emotional reliance had a greater impact on the depressive symptoms ( $F = 3.28, p < .05$ ) and anxiety symptoms ( $F = 5.16, p < .01$ ) of blacks. Conversely, findings also showed that emotional reliance was significantly linked to life satisfaction for whites but not blacks. However, results from the Chow test indicated that the association between emotional reliance and life satisfaction did not significantly differ for blacks and whites. Moreover, while heightened emotional reliance accounted for

**Table 3.** Mental Health Regressed on Emotional Reliance among Black and White Adults, Nashville Stress and Health Study (2011-2014).

	Depressive Symptoms		Anxiety Symptoms		Happiness	
	Blacks	Whites	Blacks	Whites	Blacks	Whites
Age	-.17*** (.03)	.02 (.03)	-.06*** (.01)	-.04** (.01)	.03** (.10)	-.04*** (.01)
Gender (reference = women)						
Men	-3.61** (1.22)	-.45 (.90)	-.86* (.40)	-.29 (.30)	.14 (.47)	-.74* (.30)
Marital status (reference = married)						
Never married	-.01 (1.21)	.51 (1.35)	-.11 (.37)	.34 (.47)	-.40 (.34)	-1.52*** (.40)
Other	2.42* (1.12)	1.29 (1.07)	.15 (.39)	.42 (.39)	-1.45*** (.27)	-1.90*** (.38)
Parental status (reference = non-parent)						
Parent	4.12** (1.52)	-1.50 (.90)	-1.42*** (.37)	-.10 (.31)	.86** (.26)	.16 (.29)
Socioeconomic status	-1.94* (.85)	-3.61*** (.62)	-.09 (.29)	-.39 (.22)	.62* (.27)	1.52*** (.18)
Emotional reliance (reference = low)						
Moderate	2.86** (1.05)	2.41** (.87)	1.29** (.41)	.77* (.33)	.41 (.39)	-.51 (.27)
High	7.97*** (.71)	5.79*** (1.16)	2.89*** (.40)	1.84*** (.42)	-.42 (.49)	-.90* (.35)
Intercept	21.28*** (2.59)	11.20*** (1.91)	6.71*** (1.17)	5.75*** (.79)	6.96*** (.67)	12.76*** (.59)
Chow test (F)	3.28*		5.16**		2.84	
R <sup>2</sup>	.24	.16	.20	.09	.08	.24
N	627	625	627	625	627	625

Note. The Chow test assesses whether the effect of emotional reliance on each mental health outcome varies significantly for blacks and whites. Standard errors are in parentheses. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$  (two-tailed tests).

a greater proportion of the variance in depressive symptoms and anxiety symptoms for blacks relative to whites, the opposite was observed for life satisfaction. Whereas emotional reliance explained more than 20 percent of the variance in satisfaction for whites, it only accounted for 8 percent in satisfaction for blacks.

Taken together, these results highlight important links among race, emotional reliance, and mental health. Specifically, findings were generally consistent with prior work examining the race paradox in mental health in which blacks tend to report similar or lower levels of mental health issues compared to whites. Our results also showed that blacks and whites reported similar levels of emotional reliance. Furthermore, while emotional reliance was significantly associated with all three outcomes, it played a much greater role in shaping mental health among blacks.

## DISCUSSION

The purpose of this study was to advance our understanding of emotional reliance and examine its potential contribution to racial differences in mental health. We addressed several study aims. First, we evaluated racial patterns in emotional reliance. Second, we examined the association between emotional reliance and mental health. Finally, we explored the relationships among race, emotional reliance, and mental health by considering the extent to which emotional reliance mediates or suppresses the race–mental health association and whether the emotional reliance–mental health association varies among blacks and whites. Results from the NSAHS revealed several new insights that both advance and challenge prior research.

Blacks and whites experienced similar levels of emotional reliance. While previous work showed that black young adults reported higher levels of emotional reliance than their white counterparts (R. J. Turner et al. 2004), our study found no differences among adults in general. The fact that blacks and whites have similar levels of emotional reliance is somewhat unexpected, particularly given that prior research showed that socially marginalized groups experience higher levels of emotional reliance in comparison to their more privileged counterparts (H. Turner and Turner 1999). Despite this inconsistency with prior research on

young adults, our study is the first to examine racial differences in emotional reliance among U.S. adults. These results suggest that racial patterns of emotional reliance may be contingent upon age. When we ran supplemental analysis to assess age differences in emotional reliance by race, black young adults (ages 18–34), in fact, have higher levels of emotional reliance relative to their white young adult counterparts. However, emotional reliance levels converge for blacks and whites in middle and late adulthood. This suggests that future research should explore racial distinctions in emotional reliance over the life course.

One strength of the current study is its inclusion of multiple assessments of mental health, especially because past emotional reliance research has largely focused on depressive symptoms. The measures here tap into different dimensions of psychological well-being, including both psychological distress (depressive symptoms and anxiety symptoms) and subjective well-being (life satisfaction). Interestingly, our findings indicated that emotional reliance was associated with higher depressive symptoms, more anxiety symptoms, and lower levels of life satisfaction. This finding is consistent with past research showing a positive association between emotional reliance and depression (Hirschfeld et al. 1976; H. Turner and Turner 1999). In fact, emotional reliance explained an additional 5 percent of the variation in both depressive symptoms and anxiety symptoms above and beyond the sociodemographic controls. However, of note, emotional reliance only explained an additional 1 percent of the variance in life satisfaction. Thus, while emotional reliance was significantly associated with all three mental health measures, these results suggest that emotional reliance explains more variation in measures that assess symptoms of mental illness and is less powerful in explaining variance in more subjective measures of well-being (e.g., life satisfaction).

The present study provides some additional evidence of the black-white mental health paradox (Jackson et al. 2010; Keyes 2009; Mezuk et al. 2013; Mouzon 2013, 2014). Specifically, after controlling for sociodemographic factors, our findings show that blacks and whites experience similar levels of depressive symptoms and life satisfaction and whites experience significantly higher levels of anxiety symptoms (see Table 2, Models 1, 3, and 5). Interestingly, for life satisfaction, a more subjective measure of psychological

well-being, after accounting for emotional reliance, blacks experience a mental health disadvantage vis-à-vis whites (T. N. Brown 2003; Hughes and Thomas 1998). This finding is consistent with our expectation that after controlling for emotional reliance, racial differences in mental health would emerge such that blacks appear to experience worse health. Thus, failure to take into account emotional reliance (a negative psychosocial resource) suppresses the black disadvantage in subjective well-being compared to whites (compare Models 5 and 6 in Table 2) and obscures significant racial differences in mental health. Emotional reliance, however, did not explain whites' relatively higher anxiety symptoms. Thus, we find no support for mediation. Given that the race-mental health association differs across measures, this study also demonstrates the importance of examining a broad array of mental health outcomes in research on racially diverse samples.

When we conducted race-specific analysis, several interesting findings emerged. In particular, we observed that emotional reliance had a greater influence on the depressive symptoms and anxiety symptoms of blacks relative to whites. These results suggest that the impact of emotional reliance might be heightened in the context of low power by accentuating dependence on powerful others and further eroding other personal and social skills or resources (R. J. Turner et al. 2004). Given that the distribution of social power favors white Americans, it follows that when the less powerful group (i.e., black Americans) experiences high levels of emotional reliance, psychological problems may be more likely to ensue. This finding in particular highlights the importance of social status for shaping the distribution and health significance of emotional reliance (H. Turner and Turner 1999). Future work should examine the extent to which racial differences in the mental health consequences of emotional reliance are explained by racial differences in other social factors such as education, occupational prestige, and income. In addition, more work is needed to determine how SES and race work together to shape emotional reliance and contribute to racial differences in mental health.

There were also racial differences in the influence of emotional reliance on life satisfaction. In contrast to the findings for depressive symptoms and anxiety symptoms, emotional reliance had no impact on blacks' life satisfaction. This suggests there may be divergent structural and

psychosocial determinants that differentiate the perceived life satisfaction of blacks and whites. For instance, blacks may be more likely than whites to rate their lives as "less than ideal" due to their position in the U.S. social hierarchy and awareness of their marginalization. Specifically, social barriers due to institutional inequality, interpersonal discrimination, and other blocked social and economic opportunities may have a greater impact on blacks' life satisfaction (e.g., viewing life less than their ideal or inconsistent with their expectations) than being emotionally reliant on others. This may also explain why emotional reliance impacts depressive symptoms and psychological stress but not life satisfaction for blacks. Indeed, prior research has suggested that while socioeconomic factors have a greater influence on blacks' self-efficacy (e.g., perceived ability to achieve one's goals), their self-esteem tends to be insulated from racial inequality, impacted to a larger extent by social relationships (Hughes and Demo 1989). As such, blacks' overall outlook on and satisfaction with their lives may be more influenced by structural factors that shape one's beliefs about the likelihood of success, whereas their levels of depressive symptoms and anxiety symptoms may be more vulnerable to variations in psychosocial factors that arise from one's social relations, including self-esteem, social support, and emotional reliance.

Conversely, emotional reliance was detrimental for all of the mental health outcomes among whites. Given that whites typically do not face the same set of racialized structural barriers as blacks, they may perceive greater opportunity to actually achieve an "ideal" or satisfying life. In addition, the observed negative association between emotional reliance and life satisfaction indicates that whites who are more emotionally dependent on others experience less life satisfaction. In light of our findings for blacks, this suggests that whites' life satisfaction may be more closely tied to perceptions of how others view them or even that they may be more vulnerable to becoming reliant on social ties to maintain feelings of self-worth. Additional research is needed to evaluate these processes and examine the ways individuals' social connections and the extent to which they become emotionally reliant on them may differentially shape racial patterns in various mental health outcomes.

Despite its strengths, no study is without limitations. In the present study, we used data from the

NSAHS, a community epidemiologic study based in Nashville, Tennessee. As a result, our findings cannot be generalized to broader populations. Future work should examine these questions using a nationally representative sample. Nonetheless, the sample used here allowed us to assess these issues among adults, and the data included mental health and emotional reliance measures that were consistent with previous research, thereby enabling us to compare our findings to prior studies. Another data challenge was the age distribution of the sample, particularly for older adults, as the oldest age in the sample is 69 years. Prior studies have suggested the psychosocial factors individuals draw on are dynamic and vary across the life course (Pearlin et al. 2005). Thus, future studies should assess whether these processes differ for those who are 70 years of age and older. This is especially important because of changes in social relationships and dependence on others in later life (Umberson et al. 2014). Furthermore, future work might also assess the extent to which these findings are consistent for other mental health outcomes such as anxiety and substance-related disorders. It is important to understand the effect of emotional reliance on various kinds of mental health outcomes ranging from subjective well-being (e.g., happiness) to distress (e.g., depressive symptoms) and psychiatric disorders (e.g., anxiety disorders).

In sum, this study contributes to the literatures on emotional reliance as well as research on race and mental health by highlighting the interrelationships between structural social statuses and psychosocial factors. Our study also confirms the significance of emotional reliance as a psychosocial risk factor that exerts a substantial impact on psychological well-being, particularly among black Americans. Furthermore, these findings add to the growing body of evidence in support of the black-white mental health paradox. Overall, this study demonstrates the ways individuals' positions within broader, social structural systems influence the availability of psychosocial factors that shape mental health. Future research should build on this work by examining how community-level contextual factors such as residential segregation and the racial composition of neighborhoods/workplaces shape emotional reliance and its association with mental health among blacks and whites.

## ACKNOWLEDGMENTS

The authors would like to thank Gilbert Gee, Taylor Hargrove, and R. Jay Turner for helpful feedback on this manuscript. The first author acknowledges receipt of funding from the Robert Wood Johnson Foundation Health & Society Scholars Program. The second author received support from the University of California, Los Angeles (UCLA) and Charles Drew University (CDU) Resource Centers for Minority Aging Research Center for Health Improvement of Minority Elderly (RCMAR/CHIME) under NIH/NIA Grant P30-AG021684, and from the UCLA Clinical and Translational Science Institute (CTSI) under NIH/NCATS Grant Number UL1TR001881. Data collection for the NSAHS was supported by a grant (R01AG034067) from the Office of Behavioral and Social Science Research and the National Institute on Aging to R. Jay Turner. The study contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIH.

## AUTHORS' NOTE

An earlier draft of this paper was presented at the 2016 International Conference on Social Stress Research in San Diego, CA.

## NOTE

1. The one exception is that married individuals experience higher levels of emotional reliance relative to those who are unmarried.

## REFERENCES

- Breslau, Joshua, Sergio Aguilar-Gaxiola, Kenneth S. Kendler, Maxwell Su, David Williams, and Ronald C. Kessler. 2006. "Specifying Race-ethnic Differences in Risk for Psychiatric Disorder in a US National Sample." *Psychological Medicine* 36(1):57-68.
- Brown, Robyn Lewis. 2014. "Psychological Distress and the Intersection of Gender and Physical Disability: Considering Gender and Disability-related Risk Factors." *Sex Roles* 71:171-181.
- Brown, Tony N. 2003. "Critical Race Theory Speaks to the Sociology of Mental Health: Mental Health Problems Produced by Racial Stratification." *Journal of Health and Social Behavior* 44:292-301.
- Brown, Tony N., R. Jay Turner, and Thomas R. Moore. 2016. "The Multidimensionality of Health: Associations between Allostatic Load and Self-report Health Measures in a Community Epidemiologic Study." *Health Sociology Review* 25(3):272-87.
- Cox, Brian J., Lachlan A. McWilliams, Murray W. Enns, and Ian P. Clara. 2004. "Broad and Specific

- Personality Dimensions Associated with Major Depression in a Nationally Representative Sample." *Comprehensive Psychiatry* 45(4):246-53.
- Gayman, Mathew D., Robyn Lewis Brown, and Ming Cui. 2011. "Depressive Symptoms and Bodily Pain: The Role of Physical Disability and Social Stress." *Stress and Health* 27:52-63.
- Gray-Little, Bernadette, and Adam Richard Hafdahl. 2000. "Factors Influencing Racial Comparisons of Self-esteem: A Quantitative Review." *Psychological Bulletin* 126:26-54.
- Hirschfeld, Robert M., Gerald L. Klerman, Paul Chodoff, Sheldon Korchin, and James Barrett. 1976. "Dependency-Self-esteem-Clinical Depression." *Journal of the American Academy of Psychoanalysis* 4(3):373-88.
- Hirschfeld, Robert M. A., Gerald L. Klerman, Harrison G. Gough, James Barrett, Sheldon J. Korchin, and Paul Chodoff. 1977. "A Measure of Interpersonal Dependency." *Journal of Personality Assessment* 41(6):610-18.
- Hudson, Darrell L., Eli Puterman, Kirsten Bibbins-Domingo, Karen A. Matthews, and Nancy E. Adler. 2013. "Race, Life Course Socioeconomic Position, Racial Discrimination, Depressive Symptoms and Self-rated Health." *Social Science & Medicine* 97:7-14.
- Hughes, Michael, and David H. Demo. 1989. "Self-perceptions of Black Americans: Self-esteem and Personal Efficacy." *American Journal of Sociology* 95:132-59.
- Hughes, Michael, and Melvin E. Thomas. 1998. "The Continuing Significance of Race Revisited: A Study of Race, Class, and Quality of Life in America, 1972 to 1996." *American Sociological Review* 63:785-95.
- Jackson, James S., Katherin M. Knight, and Jane A. Rafferty. 2010. "Race and Healthy Unhealthy Behaviors: Chronic Stress, the HPA Axis, and Physical and Mental Health Disparities Over the Life Course." *American Journal of Public Health* 100(5):933-39.
- Kessler, Ronald C., Patricia Berglund, Olga Demler, Robert Jin, Kathleen R. Merikangas, and Ellen E. Walters. 2005. "Lifetime Prevalence and Age-of-onset Distributions of *DSM-IV* Disorders in the National Comorbidity Survey Replication." *Archives of General Psychiatry* 62:593-602.
- Kessler, Ronald C., Wai Tat Chiu, Olga Demler, and Ellen E. Walters. 2005. "Prevalence, Severity, and Comorbidity of 12-Month *DSM-IV* Disorders in the National Comorbidity Survey Replication." *Archives of General Psychiatry* 62:617-27.
- Keyes, Corey L. M. 2009. "The Black-White Paradox in Health: Flourishing in the Face of Social Inequality and Discrimination." *Journal of Personality* 77(6): 1677-706.
- Kiecolt, K. Jill, Hughes Michael, and Verna M. Keith. 2008. "Race, Social Relationships, and Mental Health." *Personal Relationships* 15:229-45.
- Kiecolt, K. Jill, Hughes Michael, and Verna M. Keith. 2009. "Can a High Sense of Control and John Henryism Be Bad for Mental Health?" *The Sociological Quarterly* 50:693-714.
- Lewinsohn, Peter M., Paul Rohde, John R. Seeley, Daniel N. Klein, and Ian H. Gotlib. 2000. "Natural Course of Adolescent Major Depressive Disorder in a Community Sample: Predictors of Recurrence in Young Adults." *American Journal of Psychiatry* 157:1584-91.
- Lewis, Tené T., Courtney D. Cogburn, and David R. Williams. 2015. "Self-reported Experiences of Discrimination and Health: Scientific Advances, Ongoing Controversies, and Emerging Issues." *Annual Review of Clinical Psychology* 11:407-40.
- Lincoln, Karen D., Linda M. Chatters, and Robert Joseph Taylor. 2005. "Social Support, Traumatic Events, and Depressive Symptoms among African Americans." *Journal of Marriage and Family* 67(3): 754-66.
- Litwack, Scott D., Julie Wargo Aikins, and Antonius H. N. Cillessen. 2012. "The Distinct Roles of Sociometric and Perceived Popularity in Friendship: Implications for Adolescent Depressive Affect and Self-esteem." *Journal of Early Adolescence* 32(2):226-51.
- Mezuk, Briana, Cleopatra M. Abdou, Darrell Hudson, Kiarri N. Kershaw, Jane A. Rafferty, Lee, Hedwig, and James S. Jackson. 2013. "'White Box' Epidemiology and the Social Neuroscience of Health Behaviors: The Environmental Affordances Model." *Society and Mental Health* 3(2):79-95.
- Mezuk, Briana, Jane A. Rafferty, Kiarri N. Kershaw, Darrell Hudson, Cleopatra M. Abdou, Hedwig Lee, William W. Eaton, and James S. Jackson. 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(11):1238-49.
- Mikulincer, Mario, Phillip R. Shaver, Omar Gillath, and Rachel A. Nitzberg. 2005. "Attachment, Caregiving, and Altruism: Boosting Attachment Security Increases Compassion and Helping." *Journal of Personality and Social Psychology* 89:817-39.
- Mouzon, Dawne M. 2013. "Can Family Relationships Explain the Race Paradox in Mental Health?" *Journal of Marriage and Family* 75:470-85.
- Mouzon, Dawne M. 2014. "Relationships of Choice: Can Friendships or Fictive Kinships Explain the Race Paradox in Mental Health?" *Social Science Research* 44:32-43.
- Nam, Charles B., and Monica Boyd. 2004. "Occupational Status in 2000: Over a Century of Census-based Measurement." *Population Research and Policy Review* 23:327-58.
- Pearlin, Leonard I., Scott Schieman, Elena M. Fazio, and Stephen C. Meersman. 2005. "Stress Health, and the Life Course: Some Conceptual Perspectives." *Journal of Health and Social Behavior* 46(2):205-19.

- Radloff, Lenore Sawyer. 1977. "The CES-D Scale: A Self-report Depression Scale for Research in the General Population." *Applied Psychological Measurement* 1(3):385-401.
- Raley, R. Kelly, Megan M. Sweeney, and Danielle Wondra. 2015. "The Growing Racial and Ethnic Divide in U.S. Marriage Patterns." *Future Child* 25(2):89-109.
- Redmond, Rebecca A., and Anne E. Barrett. 2015. "The Link between Functional Limitations and Depressive Symptoms: The Explanatory Role of Self-conceptions." *Society and Mental Health* 5:33-48.
- Riolo, Stephanie A., Tuan A. Nguyen, John F. Greden, and Cheryl A. King. 2005. "Prevalence of Depression by Race/ethnicity: Findings from the National Health and Nutrition Examination Survey III." *American Journal of Public Health* 95:998-1000.
- Sanathara, V. A., C. O. Gardner, Carol A. Prescott, and K. S. Kendler. 2003. "Interpersonal Dependence and Major Depression: Aetiological Inter-relationship and Gender Differences." *Psychological Medicine* 33:927-31.
- StataCorp. 2015. Stata Statistical Software: Release 14. College Station, TX: StataCorp.
- Taylor, John. 2015. "Gender Orientation and the Cost of Caring for Others." *Society and Mental Health* 5(1): 49-65.
- Thomas, Jennifer J., and Kimberly A. Daubman. 2001. "The Relationships between Friendship Quality and Self-esteem in Adolescent Girls and Boys." *Sex Roles* 45(1/2):53-65.
- Turner, Heather, and R. Jay Turner. 1999. "Gender, Social Status, and Emotional Reliance." *Journal of Health and Social Behavior* 40(4):360-73.
- Turner, R. Jay. 2013. "Understanding Health Disparities: The Relevance of the Stress Process Model." *Society and Mental Health* 3:170-86.
- Turner, R. Jay, and Donald A. Lloyd. 1999. "The Stress Process and the Social Distribution of Depression." *Journal of Health and Social Behavior* 40(4): 374-404.
- Turner, R. Jay, and Patricia Roszell. 1994. "Psychosocial Resources and the Stress Process." Pp. 179-210 in *Stress and Mental Health*, edited by W. R. Avison and I. H. Gotlib. New York: Springer.
- Turner, R. Jay, John Taylor, and Karen Van Gundy. 2004. "Personal Resources and Depression in the Transition to Adulthood: Ethnic Comparisons." *Journal of Health and Social Behavior* 45:34-52.
- Turner, R. Jay, Courtney S. Thomas, and Tyson H. Brown. 2016. "Childhood Adversity and Adult Health: Evaluating Intervening Mechanisms." *Social Science & Medicine* 156:114-24.
- Twenge, Jean M., and Jennifer Crocker. 2002. "Race and Self-esteem: Meta-analyses Comparing Whites, Blacks, Hispanics, Asians, and American Indians and Comment on Gray-Little Hafdahl (2000)." *Psychological Bulletin* 128(3):371-408.
- Umberson, Debra, Kristi Williams, Patricia A. Thomas, Hui Liu, and Mieke Beth Thomeer. 2014. "Race, Gender, and Chains of Disadvantage: Childhood Adversity, Social Relationships, and Health." *Journal of Health and Social Behavior* 55(1):20-38.
- Wei, Meifen, David L. Vogel, Tsun-Yao Ku, and Roybn A. Zakalik. 2005. "Adult Attachment, Affect Regulation, Negative Mood, and Interpersonal Problems: The Mediating Roles of Emotional Reactivity and Emotional Cutoff." *Journal of Counseling Psychology* 52:14-24.
- Williams, David R., and Selina A. Mohammed. 2009. "Discrimination and Racial Disparities in Health: Evidence and Needed Research." *Journal of Behavioral Medicine* 32:20-47.
- Williams, David R., Naomi Priest, and Norman Anderson. 2016. "Understanding Associations between Race, Socioeconomic Status and Health: Patterns and Prospects." *Health Psychology* 35(4):407-11.
- Willin, David. 2007. *Attachment in Psychotherapy*. New York: The Guilford Press.