



HHS Public Access

Author manuscript

J Nerv Ment Dis. Author manuscript; available in PMC 2015 August 13.

Published in final edited form as:

J Nerv Ment Dis. 2013 December ; 201(12): 1027–1034. doi:10.1097/NMD.000000000000053.

Phenomenology of Borderline Personality Disorder:

The Role of Race and Socioeconomic Status

Natacha M. De Genna, PhD* and Ulrike Feske, PhD†

*Western Psychiatric Institute and Clinic (WPIC), Department of Psychiatry, University of Pittsburgh School of Medicine, Pennsylvania

†Center for Health Equity Research & Promotion (CHERP), VA Pittsburgh Healthcare System, Pennsylvania

Abstract

Little is known about racial differences in borderline personality disorder (BPD) that may influence etiology, phenomenology, and treatment of women with BPD. A total of 83 women with BPD participated in this cross-sectional study: $n = 41$ white and $n = 42$ African-American women. Structured interviews were used to assess Axis I and II disorders, and a series of interviews and questionnaires captured internalizing and externalizing symptoms. The white women with BPD reported more severe internalizing symptoms, whereas the African-American women reported more severe externalizing symptoms. Except for the association between race and number of suicide attempts, the relationship between race and internalizing/externalizing symptoms was mediated by socioeconomic status. In conclusion, African-American women with BPD may present with more severe symptoms of lack of anger control and fewer suicidal behaviors than those of white women with BPD, raising the possibility that they are misdiagnosed and receive treatments that are not optimal for BPD.

Keywords

Borderline personality disorder; health disparities; women; race; suicide

One third of all Americans self-define as an ethnic or racial minority (US Census Bureau, 2008), and there are significant health disparities among these populations. For example, African-Americans are more likely to experience psychiatric disorders, less likely to receive treatment, and more likely to receive treatment in emergency departments and as inpatients (Satcher, 1999). Few population-based studies have assessed the rates of borderline personality disorder (BPD) across racial/ethnic groups in the United States. Data from the Epidemiological Catchment Area study showed a trend toward higher rates of BPD in nonwhite individuals, but this was not statistically significant (Swartz et al., 1990). Race and ethnicity were not significantly related to BPD in the National Comorbidity Survey

Send reprint requests to Natacha M. De Genna, PhD, Western Psychiatric Institute and Clinic (WPIC), Department of Psychiatry, University of Pittsburgh School of Medicine, 3811 O'Hara St, Pittsburgh, PA 15213. degennan@pitt.edu..

DISCLOSURES

The authors have no other financial disclosures to report.

The authors declare no conflict of interest.

Replication study (Lenzenweger et al., 2007). In the National Epidemiological Survey on Alcohol and Related Conditions, BPD was more prevalent in Native American men and less prevalent in Hispanic men and women and Asian women, compared with other racial and ethnic groups (Grant et al., 2008). Lower socioeconomic status (SES) was associated with BPD in all of these studies. The lack of consistency regarding rates of BPD in these epidemiological studies may be the result of wide variation in measures and interviewers' level of clinical expertise (Paris, 2010).

A single study compared the rates of BPD and rates of endorsement of the individual Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (*DSM-IV*) BPD criteria across racial/ethnic groups (Chavira et al., 2003). Analyzing data from 554 treatment-seeking or treated men and women enrolled in the Collaborative Longitudinal Personality Disorders Study, the authors found significantly higher rates of BPD in Hispanic compared with white and African-American participants. Compared with whites, Hispanics were more likely to endorse three of the nine BPD criteria: unstable relationships, affective lability, and lack of anger control. No other differences emerged. It should be noted that the comparisons of endorsement rates of BPD criteria were conducted using the entire study sample rather than only individuals with BPD. Consequently, these analyses do not tell us whether there are racial or ethnic group differences among individuals who carry a BPD diagnosis. Indeed, the African-American BPD sample included only 26 participants, 5 of whom were men. Thus, lack of statistical power due to sample size limitations may have precluded the reliable identification of differences across race/ethnicity and sex.

McGilloway et al. (2010) systematically reviewed the associations among racial and ethnic differences in BPD across 14 studies conducted in the United States and United Kingdom. There was evidence that BPD was less prevalent in blacks compared with whites in five studies, but the opposite was true in another (large, population-based) study. In their meta-analysis of the seven studies that contained the appropriate raw prevalence data, black individuals were significantly more likely to be diagnosed with BPD. However, the authors then examined sources of heterogeneity and found that this was the case only for black individuals living in the United Kingdom. In contrast, African-Americans were no more likely than white Americans to be diagnosed with BPD.

Several studies have examined the psychometric properties and factorial structure of the BPD criteria in different racial/ethnic groups (Becker et al., 2005; Grilo et al., 2004; Selby and Joiner, 2009). Grilo et al. (2004) demonstrated that the *DSM-IV* criteria for BPD (American Psychiatric Association, 1994) were diagnostically efficient in Hispanic outpatients with substance use disorders. Suicidal behavior proved to be the best inclusionary criterion; and affective instability, the best exclusionary criterion, for a BPD diagnosis. Becker et al. (2005) tested the discriminant efficiency of the diagnostic criteria for BPD and antisocial personality disorder (ASPD) in substance-abusing male Hispanic outpatients. They found that the ASPD criteria—but not the BPD criteria—differentiated the two disorders. Selby and Joiner (2009) conducted an exploratory factor analysis on the BPD criteria in a representative community sample of 1140 African-American, Hispanic, and white young adults and concluded that impulsivity may be expressed differently as a function of race/ethnicity. Although these studies provide important information about the

psychometric properties of the BPD diagnosis in Hispanics and differences in the factorial structure of BPD traits in African-Americans as compared with Hispanics and whites, these offer little insight into potential phenomenological differences of the BPD diagnosis in white versus African-American women.

With respect to racial differences in internalizing symptoms associated with the disease, most of the research has documented differences in suicide rates. The association between race and suicide is complex, but suicide rates of white women in the United States have historically exceeded those of African-American women by a ratio of 2:1 (Centers for Disease Control and Prevention, 2005). Few studies have examined differences in self-injurious behaviors. The association between nonsuicidal self-injurious behaviors (*i.e.*, the intentional destruction of body tissue without suicidal intent) among white and African-American women is difficult to gauge because investigators have rarely disaggregated the reports by race and sex. However, three of four studies showed whites to have higher rates of self-injury than those of African-Americans or nonwhites (Gratz, 2006; Guertin et al., 2001; Jones, 1986, but see Whitlock et al., 2006), and no study found lower rates in whites than nonwhites. Interestingly, examining self-injurious behaviors in a large sample ($N = 2843$) of college students, Gollust et al. (2008) observed lower rates of self-injury among female (but not male) African-Americans compared with whites.

The discrepancy in suicide rates between whites and African-Americans is remarkable given that African-Americans are exposed to higher levels of adversity, including racism, discrimination, and lower SES (DeNavas-Walt et al., 2010), which, in turn, have consistently been found to negatively impact individuals' mental health. Consequently, investigators have begun to document factors that may explain the "black-white suicide paradox." Rockett et al. (2006) have argued that racial differences in suicide rates are largely due to suicides being undercounted among African-Americans. Notably, suicide is more stigmatized in the African-American community, leading to underreporting and misreporting suicides as accidents (Joe and Kaplan, 2001; Kaslow et al., 2004, but see Walker et al., 2006). However, other research has identified several factors that specifically protect African-American women from committing suicide. These factors include spiritually based coping, large social support networks, and close kinship bonds (Anglin et al., 2005; Barnes and Bell, 2003; Nisbet, 1996; Stack and Wasserman, 1995; Willis et al., 2003). More research is needed to determine whether there are also racial differences in other internalizing symptoms.

With respect to racial differences in externalizing symptoms, most studies have focused on identifying differences in violent behavior. Research has consistently shown that African-Americans are more likely both to be exposed to violence and to commit violence than are whites (Hawkins et al., 1998; Reiss and Roth, 1993; Sampson et al., 2005). However, there is little empirical support for perspectives attempting to explain these disparities by highlighting differences in individual-level variables (*e.g.*, IQ and impulsivity) without taking into account the large number of contextual sociodemographic attributes that distinguish the two racial groups. Instead, the disparities in violence seem to be largely a function of African-Americans' lower SES, which exposes them to key violence-inducing conditions such as chronically stressful living conditions, including geographically

concentrated poverty and reduced informal community controls (Hawkins et al., 1998; Reiss and Roth, 1993; Sampson et al., 2005; Wadsworth and Compas, 2002).

A recent report of the American Psychological Association task force on SES makes a persuasive case for a greater focus on SES by mental health care providers, both in research and practice (American Psychological Association, 2004). It is now well documented that low SES contributes to the development of both internalizing and externalizing disorders in youths (*e.g.*, Miech et al., 1999; Wadsworth and Achenbach, 2005). Stress is one factor underlying the association between low SES and both internalizing and externalizing symptoms that has received considerable empirical support. The construct of social stability is also useful because individuals with low SES tend to experience greater social instability (unemployment, homelessness, and criminality), and social instability is associated with a greater likelihood of psychiatric symptoms and history of mental health disorders (German and Latkin, 2012). Published data on the relationship between SES and aggressive behaviors directed at others in individuals with BPD are currently not available.

In a review identifying risk factors of suicidal behavior in BPD, Soloff (2005) concluded that low SES represents distal yet important vulnerability for suicidal behavior across diagnostic categories and in nonclinical populations by exposing individuals to limited financial resources, inadequate housing, and limited access to health care. Data on the association between SES and suicidal behavior in BPD are inconclusive, however, with some studies finding a positive relationship between indicators of low SES and suicidal behavior (Runeson and Beskow, 1991; Soloff et al., 2005) and other studies reporting a negative relationship (Paris et al., 1989; Paris and Zweig-Frank, 2001). There are as of yet no published reports on the relationship between self-injury and SES.

Given the paucity of data on the association between BPD and race and SES, the present study sought to identify differences between white and African-American female outpatients with a *DSM-IV* diagnosis of BPD across the following clinically relevant variables: a) lifetime Axis I disorders, b) Axis II dimensional personality disorder trait scores, c) internalizing symptoms (shame and guilt, self-injurious behavior, and number of suicide attempts), and d) externalizing symptoms (anger and aggressive behavior directed at others). On the basis of a review of the literature, it was predicted that white women with BPD would demonstrate higher levels of internalizing symptoms than those of African-American women with BPD. Second, it was hypothesized that African-American women with BPD would show higher levels of externalizing symptoms than those of white women with BPD. Third, it was predicted that the association between race and internalizing/externalizing symptoms would be mediated by SES. It should be noted that race itself is not being viewed as a distinct cause of internalizing or externalizing symptoms. Rather, race is understood as a marker for a host of sociodemographic and cultural differences in the United States, including education, income, wealth, family structure, access to and experiences with health care, racism, marginalization, and neighborhood characteristics. These factors, in turn, are believed to differentially expose whites and African-Americans to conditions that may induce externalizing symptoms.

SAMPLE AND METHODS

Sample

The participants were 83 female psychiatric outpatients with *DSM-IV* BPD (American Psychiatric Association, 1994) who were recruited from the Western Psychiatric Institute and Clinic in Pittsburgh, PA. Applicants with a lifetime history of psychotic disorders, organic mental disorders, or mental retardation were excluded, as were those with major medical illnesses that influence the CNS and might be associated with organic personality change (e.g., Parkinson's disease, seizure disorders). The participants were required to be between 20 and 60 years of age. The present study was approved by the University of Pittsburgh's institutional review board. The participants provided informed, voluntary, written consent after all study procedures had been fully explained.

Use of the terms to describe racial groups in the United States follows definitions established by the US Census Bureau and includes the following five forced-choice categories: a) white; b) African-American; c) American Indian, Eskimo, or Aleut; d) Asian or Pacific Islander; or e) other. None of the participants in this study identified themselves as biracial. Ethnicity is considered a separate measure indicating whether an individual is of Hispanic or Latino origin. African-Americans represent the only significant racial minority group in Allegheny County, accounting for 13% of the population (US Bureau of the Census), where the present study was conducted. Therefore, because of statistical considerations, we were able to examine differences only between African-Americans and whites.

Procedure

The participants were recruited through fliers posted at a) psychiatric outpatient programs, b) substance use treatment programs in the community, c) local community centers and d) university counseling centers and e) through word of mouth. The applicants completed a telephone screen followed by a face-to-face interview to establish the presence of *DSM-IV* BPD and other inclusion criteria. Subsequently, the participants completed three 2- to 3-hour evaluation sessions at the research office, during which they were administered a) the Structured Clinical Interview for *DSM-IV* Axis I Disorders (SCID-I; First et al., 1995), b) the Structured Interview for *DSM-IV* Personality Disorders (SIDP-IV; Pfohl et al., 1995), and c) a series of interviews and questionnaires assessing interpersonal attributions and schemas. In between sessions, the participants completed a series of symptom measures and a daily diary assessing emotions and cognitions evoked by upsetting interpersonal encounters. The participants were paid \$255 for completing the entire study.

Methods

Diagnostic Assessment—Axis I disorders were assessed with the SCID-I for *DSM-IV* (First et al., 1995). Personality disorder diagnoses were assigned on the basis of the results of the SIDP-IV (Pfohl et al., 1995). To obtain a more differentiated index of BPD severity, BPD criteria were scored on a 6-point scale (Clarkin et al., 1993) in addition to the conventional 4-point scale used with the SIDP. All interviews were audiotaped. For the purpose of determining interrater reliability, 18 randomly selected audiotapes (21.7%)

including 10 African-American and 8 white cases were reviewed by a rater unaware of the interviewer's diagnoses. Kappa for a *DSM-IV* diagnosis of BPD was 0.92.

Psychiatric Symptom Assessment—General psychiatric symptoms commonly associated with BPD were assessed with the Beck Depression Inventory II (Beck and Steer, 1996), the Brief Symptom Inventory (Derogatis, 1993), and the Social Adjustment Scale Self-Report (Weissman and Bothwell, 1976). Administration of these instruments permitted us to check whether potential differences between the two racial groups in this study were due to differences in the overall severity of psychiatric symptoms.

Psychiatric symptoms associated with aggression directed at the self were assessed with the a) anger expression-in (AX-I) scale of the State-Trait Anger Expression Inventory-2 (STAXI-2; Spielberger, 1999); b) the Shame and Guilt Scale (Marshall et al., 1994), modified to capture trait shame; and c) a simplified version of the Parasuicide History Interview (PHI; Linehan et al., 2001, 2006), which captures the frequency of 14 common self-injurious behaviors (e.g., burning, scratching/cutting). PHI ratings were made on a 5-point scale (0 = never, 1 = 1–2 times, 2 = 3–5 times, 3 = 6–20 times, 4 = more than 20 times). The AX-I scale measures how often angry feelings are experienced but not expressed. In addition, the lifetime number of suicide attempts was assessed via interview and categorized according to whether they met criteria for a suicide attempt following definitions provided by the Suicide Attempt Self-Injury Interview (Linehan et al., 2001, 2006).

Psychiatric symptoms associated with aggression directed at others were assessed with the a) anger expression-out (AX-O) scale of the STAXI; b) the Trait Anger Inventory (Spielberger, 1999); c) screening questions from the MacArthur Community Violence Instrument (MACVI; Monahan et al., 2001); and d) the psychological aggression, physical assault, and injury scales of the Conflict Tactics Scale-Revised (CTS-R; Straus et al., 1996). The AX-O scale measures how often angry feelings are expressed in verbally or physically aggressive behavior (Jones, 1986). The screening questions from the MACVI consist of 16 items that measure the frequency of aggressive behaviors, ranging from mild (“Have you thrown something at anyone?”) to severe (“Have you used a knife or fired a gun at anyone?”). Eight items each measure respondents' aggressive behaviors toward others and respondents' exposure to aggressive behaviors by others. Ratings were made on a 7-point scale (0 = never, 1 = 1 time, 2 = 2 times, 3 = 3–5 times, 4 = 6–10 times, 5 = 11–20 times, 6 = more than 20 times). The CTS-R captures aggressive behaviors that occur in the context of intimate partner relationships. CTS-R ratings were made on the same 7-point scale used with the MACVI. The CTS-R also assesses participants' exposure to aggressive behaviors by their intimate partners. To eliminate errors due to misunderstanding, the PHI, the MACVI, and the CTS-R were administered in interview format. All three measures assess the frequency of behaviors across the past 5 years.

Assessment of SES—SES was assessed with Hollingshead's (1975) four-factor index of social status, which takes into account both participants' educational attainment and job status.

Data Analysis

Comparisons between the white and African-American patients on demographic and psychodiagnostic characteristics were conducted with *t*-tests for independent samples, chi-square tests, and Fisher's exact tests, depending on the level of measurement of the data. Comparisons on internalizing and externalizing symptoms and mediation analyses were conducted using hierarchical linear regression analyses. Age was included as a control variable in all regression models. To achieve normality, number of suicide attempts was transformed by taking the square root. Bonferroni's procedure was used to control for multiple comparisons.

Baron and Kenny's (1986) method of testing for mediation has been criticized for not allowing tests of the statistical significance of the mediated path and for lacking statistical power (MacKinnon et al., 2002). In its place, Freedman and Schatzkin (1992) proposed a method that directly tests the joint significance of the two effects that compose the mediator effect. In addition, their method has been shown to produce the most effective balance of type I error and statistical power. Freedman and Schatzkin's method requires that we determine a) the coefficient beta and standard error of beta reflecting the association between race and internalizing/externalizing behavior; b) the coefficient beta and standard error of beta reflecting the association between race and internalizing/externalizing behavior, controlling for the effects of the hypothesized mediating variable; and c) the correlation coefficient reflecting the association between race and the hypothesized mediating variable. The intervening variable effect is assessed by comparing the relationship between the predictor and dependent variables before and after adjustment for the intervening variable. Freedman and Schatzkin's equation yields a *t*-value that indicates whether the test for mediation is significant.

RESULTS

Preliminary Data Analyses

Comparison of demographic characteristics showed that the African-American patients with BPD had a lower SES and were less educated than the white patients (Table 1). In terms of Axis I pathology, the African-American women were more likely to meet criteria for a lifetime substance use disorder ($\chi^2 = 7.67, p < 0.01$). Two patients in each group met criteria for bipolar I disorder. In addition, the African-American women evidenced more severe antisocial ($t[78] = 3.63, p < 0.001$) and narcissistic personality disorder traits ($t[70] = 3.20, p < 0.01$). On the BPD scale of Clarkin et al. (1993), the white patients showed more severe suicidal behaviors, whereas the African-American patients endorsed more severe lack of anger control (Table 2).

The two racial groups did not differ in the severity of depressive symptoms measured by the Beck Depression Inventory ($t[81] = 1.48, p = 0.14$), severity of general psychiatric symptoms assessed with the Brief Symptom Inventory ($t[81] = 0.92, p = 0.36$), or the level of social adjustment measured with the Social Adjustment Scale total score ($t[81] = 1.10, p = 0.27$). Taken together, the preliminary analyses show that the primary data analyses are

not confounded by differences in general psychiatric symptom severity or a differential prevalence of bipolar I disorder across the white and African-American patients.

Aggression Against the Self Versus Others as a Function of Race

The results of the regression analyses comparing internalizing and externalizing symptoms across the two racial groups are shown in Table 3. The white patients evidenced higher levels of anger experienced but not expressed and higher levels of trait shame and guilt. They had also made a larger number of suicide attempts and had engaged in more frequent self-injurious behaviors. The African-American patients, on the other hand, reported higher levels of anger expressed and higher levels of trait anger. They had also engaged in more frequent aggressive behaviors directed at others. It should be noted that the African-American women were themselves exposed to higher rates of aggressive behavior by others on three of the four scales administered.

SES as a Mediator of the Relationship Between Race and Aggression

The participants' SES mediated the association between race and a) AX-I scores ($t[81] = 2.87, p < 0.01$), b) trait shame and guilt ($t[81] = 3.11, p < 0.01$), and c) frequency of self-injurious behaviors ($t[81] = 3.4, p < 0.01$). However, SES did not mediate the relationship between race and number of suicide attempts ($t[81] = 0.02, p > 0.90$). In addition, the participants' SES mediated the association between race and a) AX-O scores ($t[81] = 6.45, p < 0.0001$); b) trait anger ($t[81] = 2.89, p < 0.01$); c) frequency of aggressive behavior assessed with the MACVI ($t[81] = 3.12, p < 0.01$); and d) aggression directed at romantic partners assessed with the CTS-R psychological aggression scale ($t[70] = 2.85, p < 0.01$), the CTS-R physical assault scale ($t[70] = 3.29, p < 0.01$), and the CTS-R injury scale ($t[70] = 3.06, p < 0.01$). It should be noted that with SES included in the regression models, race continued to predict AX-I scores, trait shame and guilt, frequency of self-injurious behaviors, and externalizing behavior. Consequently, SES was only a partial mediator of the relationship between race and externalizing symptoms.

Supplementary Data Analyses

Given the associations between substance use and suicidal behavior in cluster B personality disorders (Soloff, 2005) and substance use and interpersonal violence (Hoaken and Stewart, 2003), we also tested whether a *DSM-IV* lifetime diagnosis of alcohol and drug abuse or dependence mediates the relationship between race and internalizing and externalizing symptoms. The presence of a substance use disorder did mediate the association between race and a) AX-I scores ($t[81] = 2.45, p < 0.02$), b) trait shame and guilt ($t[81] = 2.72, p < 0.01$), and c) the frequency of self-injurious behavior ($t[81] = 2.43, p < 0.02$) but not the d) number of suicide attempts ($t[81] = 0.01, p > 0.90$). A lifetime substance use disorder mediated the relationship between race and a) AX-O scores ($t[81] = 2.73, p < 0.01$), b) trait anger ($t[81] = 2.47, p < 0.02$), c) aggressive behavior assessed with the MACVI ($t[81] = 2.80, p < 0.01$), and d) aggression directed at romantic partners measured with the CTS-R physical assault scale ($t[70] = 2.89, p < 0.01$) and the CTS-R injury scale ($t[70] = 2.69, p < 0.01$). It did not mediate the association between race and CTS-R psychological aggression ($t[70] = 1.75, p > 0.10$). With substance use disorder included in the regression models, race

continued to predict anger-in, trait shame and guilt, frequency of self-injurious behavior, anger-out, trait anger, and aggressive behaviors. Therefore, a lifetime substance use disorder was only a partial mediator of the relationship between race and the variables examined.

DISCUSSION

This is the first study to identify differences between white and African-American women with BPD in the United States. Consistent with previous studies examining internalizing symptoms in different American populations (Gollust et al., 2008; Gratz, 2006; Guertin et al., 2001; Jones, 1986), the white women reported more frequent suicide attempts and self-injurious behaviors than the African-American women. They also endorsed higher levels of anger experienced but not expressed and higher levels of trait shame and guilt. Conversely, the African-American women reported higher scores on the STAXIY anger out scale, indicating that they are more likely to express angry feelings in verbally or physically aggressive behaviors, and on the MACVI, suggesting that they exhibit a greater frequency of aggressive behaviors. In addition, the African-American women endorsed higher scores on the CTS-R, a measure that captures aggression in the context of intimate partner relationships. They reported higher frequencies of psychological aggression, physical assault, and aggressive behaviors that lead to injuries in their partners. In summary, the first two hypotheses about potential differences in the phenomenology of BPD were confirmed: the white women with BPD demonstrated higher levels of internalizing symptoms, whereas the African-American women with BPD showed higher levels of externalizing symptoms.

Comparisons of axis I and II diagnostic indicators between the white and African-American women with BPD yielded results compatible with those generated by measures capturing internalizing and externalizing symptoms. The African-American women were more likely to receive a lifetime diagnosis of drug abuse and/or dependence on the SCID-I and to show higher levels of antisocial and narcissistic personality disorder traits on the SIDP-V. On the 6-point BPD scale of Clarkin et al., the white women endorsed more severe suicidal behaviors, whereas the African-American women reported a more severe lack of anger control. It is important to note that the African-American women were themselves more likely to be exposed to more severe levels of violence on the MACVI and on the CTS-R physical aggression and injury scales. The higher levels of externalizing symptoms among the African-American women with BPD documented in this study are consistent with an extensive body of literature suggesting that African-Americans are both more likely to be exposed to violence and to commit violence (Hawkins et al., 1998; Reiss and Roth, 1993; Sampson et al., 2005).

Although the entire study sample consisted of predominantly low-income women, the African-American women were even more disadvantaged in terms of having a lower SES, although they were not significantly less likely to be employed than were the white women. Consistent with the third hypothesis, SES partially mediated the relationship between race and internalizing and externalizing symptoms—with the exception of race and suicide attempts. With SES included in the regression models, race continued to predict externalizing symptoms in all cases. Thus, factors other than SES must also account for the association between race and externalizing/internalizing symptoms. The fact that low SES is

associated with anger and aggressive behaviors should not come as a surprise. The results of several studies suggest that individuals living in urban inner-city areas, especially ethnic/racial minorities, are particularly vulnerable to higher rates of poverty, violence, and availability of street drugs (Avants et al., 2003; Ensminger et al., 1997; Miller and Neaigus, 2002). Studies also consistently show that the prevalence of intimate partner violence is higher among African-American women than among non-Hispanic whites (Cunradi et al., 2002; Rennison and Welchans, 2000; Sorenson et al., 1996; Tjaden and Thoennes, 2000) and that much of this disparity can be attributed to economic factors (Rennison and Planty, 2003).

Anderson's (1994, 1999) "code of the streets" is one of several theoretical approaches used to explain the relationship between race/ethnicity and violence. Based on ethnographic work in inner-city, African-American neighborhoods, Anderson's theory proposes that detrimental social conditions characterized by discrimination, concentrated poverty, isolation, and broken families associated with inner cities have led to the development of a subculture emphasizing violence, respect, and retaliation. This subculture—dubbed "the code of the streets"—is offered as a primary explanation for inner-city African-Americans' disproportionate involvement in violence. There certainly are a multitude of alternative explanations for the complex association between race and externalizing symptoms. However, a thorough review and discussion of alternative theories that include not only psychosocial but also biological and genetic variables are beyond the scope of this work.

African-Americans' higher rates of drug abuse and dependence may, in part, also explain their higher rates of ASPD symptoms. The *DSM-IV* guidelines clearly state that personality disorder traits should be endorsed by clinicians only if these are not better accounted for by the presence of an Axis I disorder. In reality, drug abuse and antisocial traits are inextricably intertwined, especially in poor populations. That is, low-income women who support a drug habit have few legal means to do so. Instead, they often resort to unlawful and dangerous behaviors to purchase drugs, such as selling drugs and sex trading (Miller and Neaigus, 2002), making it likely that they exhibit more severe *DSM-IV* ASPD traits than those of women without a drug abuse diagnosis.

Because drug abuse and interpersonal aggression are strongly related in the literature, supplementary analyses were conducted to examine whether a *DSM-IV* diagnosis of drug abuse and/or dependence mediated the relationship between race and externalizing symptoms. As expected, a drug use diagnosis mediated the association between race and all four externalizing symptom measures, except for the CTS-R psychological aggression scale. However, with drug use diagnosis included in the regression model, race continued to predict higher scores on all four externalizing measures. Therefore, drug use emerged only as a partial mediator of the relationship between race and externalizing symptoms.

Several limitations of this study need to be addressed. All participants were recruited from the same tertiary care clinic (affiliated with a major medical university), and no systematic recruitment strategy was applied to ensure that the resulting patient population is representative of the clinic population. Consequently, the present findings may not generalize to other study populations (e.g., women seeking treatment of substance use

disorders). In part, because BPD is associated with considerable impairment of functioning, the study sample included primarily women of low SES. On the positive side, the fact that SES did emerge as a partial mediator of the association between race and externalizing symptoms supports the robustness of the present findings. Hollingshead's four-factor index of social status (which takes only education and job status into account) is a crude measure of social class. Future investigations should use more sophisticated indices of SES and measures of social stability to be able to identify the key variables that predict internalizing versus externalizing symptoms (*e.g.*, income, neighborhood characteristics, incarcerations, residential instability). It is impossible to conclude with cross-sectional data whether race and SES directly contribute to different symptoms in each group or whether different symptoms develop and then interact with SES to present differently in these groups. For example, the African-American group may experience more invalidation in response to their anger expression, potentially leading to even more elevated anger responses in that group of women. To our knowledge, the present study includes the largest sample of African-American women with BPD published to date. Nonetheless, it would be desirable to investigate whether the present results can be replicated in larger samples.

With these caveats in mind, the racial differences in internalizing and externalizing symptoms identified in this work have significant clinical implications. Repeated suicide attempts and self-injurious behaviors are hallmark symptoms of BPD that lead to frequent psychiatric hospitalizations and lengthy outpatient treatments (Linehan and Heard, 1999). Consequently, the absence of these symptoms may prompt clinicians to miss a diagnosis of BPD in individuals who primarily present with symptoms of aggression directed at others versus the self. Although the participants' previous psychiatric diagnoses were not recorded systematically in this study, informal observations indicate that most of the African-American women with BPD had received a diagnosis of bipolar I disorder rather than BPD. As Gunderson et al. (2006) pointed out, this can have at least two detrimental effects. First, the bipolar diagnosis encourages clinicians and patients to rely more heavily on medication treatments alone. The modest improvements that typically occur with medication treatment can, in turn, lead to polypharmacy and a growing sense of hopelessness among patients with BPD and their clinicians. Second, omitting the BPD diagnosis can divert efforts away from psychosocial treatments that address key BPD symptoms, most importantly disturbed interpersonal relationships. Indeed, it is generally accepted that medications are perhaps necessary but not sufficient for achieving change in BPD. Psychotherapeutic interventions are needed for clinically meaningful and lasting improvement to occur.

ACKNOWLEDGMENT

The authors thank Teresa Angiolieri for her assistance with data collection.

This work was funded by the NIH (DA025734, PI: De Genna; DA020130, PI: Feske) and the Borderline Personality Disorder Research Foundation (Young Investigator Award, PI: Feske).

REFERENCES

American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th. American Psychiatric Association; Washington, DC: 1994.

- American Psychological Association. Report of the APA task force on socioeconomic status. American Psychological Association; Washington, DC: 2004.
- Anderson E. The code of the streets. *Atlantic Mon.* 1994; 273:80–94.
- Anderson, E. Code of the streets: Decency, violence, and the moral life of the inner city. Norton; New York: 1999.
- Anglin DM, Gabriel KOS, Kaslow NJ. Suicide acceptability and religious well-being: A comparative analysis in African American suicide attempters and non-attempters. *J Psychol Theology.* 2005; 33:140–150.
- Avants SK, Marcotte D, Arnold R, Margolin A. Spiritual beliefs, world assumptions, and HIV risk behavior among heroin and cocaine users. *Psychol Addict Behav.* 2003; 17:159–162. [PubMed: 12814280]
- Barnes DH, Bell CC. Paradoxes of black suicide. *Natl J.* 2003; 20:2–4.
- Baron RM, Kenny DA. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *J Pers Soc Psychol.* 1986; 51:1173–1182. [PubMed: 3806354]
- Beck, AT.; Steer, RA. Beck Depression Inventory—manual. 2nd. Psychological Corp; San Antonio, TX: 1996.
- Becker DF, Grilo CM, Anez LM, Paris M, McGlashan TH. Discriminant efficiency of antisocial and borderline personality criteria in Hispanic men with substance use disorders. *Compr Psychiatry.* 2005; 46:140–146. [PubMed: 15723032]
- Centers for Disease Control and Prevention. Web-based Inquiry Statistics Query and Reporting System (WISQARS). National Center for Injury Prevention and Control (producer); 2005. Retrieved from <http://www.cdc.gov/injury/wisqars/index.html>. Accessed May 16, 2012
- Chavira DA, Grilo CM, Shea MT, Yen S, Gunderson JG, Morey LC, Skodol AE, Stout RL, Zanarini MC, McGlashan TH. Ethnicity and four personality disorders. *Compr Psychiatry.* 2003; 44:483–491. [PubMed: 14610727]
- Clarkin JF, Hull JW, Hurt SW. Factor structure of borderline personality disorder. *J Personal Disord.* 1993; 7:137–143.
- Cunradi CB, Caetano R, Schafer J. Alcohol-related problems, drug use, and male intimate violence severity among US couples. *Alcohol Clin Exp Res.* 2002; 26:493–500. [PubMed: 11981125]
- DeNavas-Walt, C.; Proctor, BD.; Smith, JC.; U.S. Census Bureau. Income, poverty, and health insurance coverage in the United States: 2009. US Government Printing Office; Washington, DC: 2010. Current population reports, P60-238.
- Derogatis, LR. Brief Symptom Inventory (BSI): Administration, scoring, and procedures. 3rd. National Computer Systems; Minneapolis, MN: 1993.
- Ensminger ME, Anthony JC, McCord J. The inner city and drug use: Initial findings from an epidemiological study. *Drug Alcohol Depend.* 1997; 48:175–184. [PubMed: 9449016]
- First, MB.; Spitzer, RL.; Gibbon, M.; Williams, JBW. Structured Clinical Interview for DSM-IV Axis I Disorders: Patient edition. Biometrics Research Department, New York State Psychiatric Institute; New York: 1995.
- Freedman LS, Schatzkin A. Sample size for studying intermediate end-points within intervention trials of observational studies. *Am J Epidemiol.* 1992; 136:1148–1159. [PubMed: 1462974]
- German D, Latkin CA. Social stability and health: Exploring multidimensional social disadvantage. *J Urban Health.* 2012; 89:19–35. [PubMed: 22131164]
- Gollust SE, Eisenberg D, Golberstein E. Prevalence and correlates of self-injury among university students. *J Am Coll Health.* 2008; 56:491–498. [PubMed: 18400660]
- Grant BF, Chou SP, Goldstein RB, Huang B, Stinson FS, Saha TD, et al. Prevalence, correlates, disability, and comorbidity of DSM-IV borderline personality disorder: Results from the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions. *J Clin Psychiatry.* 2008; 69:533–545. [PubMed: 18426259]
- Gratz KL. Risk factors for deliberate self-harm among female college students: The role and interaction of childhood maltreatment, emotional inexpressivity, and affect intensity/reactivity. *Am J Orthopsychiatry.* 2006; 76:238–250. [PubMed: 16719643]

- Grilo CM, Becker DF, Anez LM, McGlashan TH. Diagnostic efficiency of DSM-IV criteria for borderline personality disorder: An evaluation in Hispanic men and women with substance use disorders. *J Consult Clin Psychol*. 2004; 72:126–131. [PubMed: 14756622]
- Guertin T, Lloyd-Richardson E, Spirito A. Self-mutilative behavior in adolescents who attempt suicide by overdose. *J Am Acad Child Adolesc Psychiatry*. 2001; 40:1062–1069. [PubMed: 11556630]
- Gunderson JG, Weinberg I, Daversa MT, Kueppenbender KD, Zanarini MC, Shea MT, et al. Descriptive and longitudinal observations on the relationship of borderline personality disorder and bipolar disorder. *Am J Psychiatry*. 2006; 163:1173–1178. [PubMed: 16816221]
- Hawkins, DF.; Laub, JH.; Lauritsen, JL. Race, ethnicity and serious juvenile offending. In: Loeber, R.; Farrington, DP., editors. *Serious and violent juvenile offenders: Risk factors and successful interventions*. Sage Publications; Thousand Oaks, CA: 1998. p. 30-46.
- Hoaken PNS, Stewart SH. Drugs of abuse and the elicitation of human aggressive behavior. *Addict Behav*. 2003; 28:1533–1554. [PubMed: 14656544]
- Hollingshead, A. *Four-factor index of social status*. Yale University; New Haven, CT: 1975. Unpublished manuscript
- Joe S, Kaplan M. Suicide among African American men. *Suicide Life Threat Behav*. 2001; 31:106–121. [PubMed: 11326755]
- Jones A. Self-mutilation in prison: A comparison of mutilators and non-mutilators. *Crim Justice Behav*. 1986; 13:286–296.
- Kaslow N, Webb A, Wyckoff S, Bender M, Sherry A, Young S, et al. Person factors associated with suicidal behavior among African American women and men. *Cultur Divers Ethnic Minor Psychol*. 2004; 10:5–22. [PubMed: 14992627]
- Lenzenweger MF, Lane MC, Loranger AW, Kessler RC. DSM-IV personality disorders in the National Comorbidity Survey Replication. *Biol Psychiatry*. 2007; 62:553–564. [PubMed: 17217923]
- Linehan, MM.; Brown, MZ.; Heard, HL.; Wagner, A. *The Parasuicide History Interview*. University of Washington; Seattle, WA: 2001.
- Linehan MM, Comtois KA, Brown MZ, Heard HL, Wagner A. Suicide Attempt Self-Injury Interview (SASII): Development, reliability, and validity of a scale to assess suicide attempts and intentional self-injury. *Psychol Assess*. 2006; 18:303–312. [PubMed: 16953733]
- Linehan, MM.; Heard, HL. Borderline personality disorder: Costs, course, and treatment outcomes. In: Miller, NE.; Magruder, KM., editors. *Cost-effectiveness of psychotherapy: A guide for practitioners, researchers, and policymakers*. Oxford University Press; New York: 1999. p. 291-305.
- MacKinnon DP, Lockwood CM, Hoffman JM, West SG, Sheets V. A comparison of methods to test mediation and other intervening variable effects. *Psychol Methods*. 2002; 7:83–104. [PubMed: 11928892]
- Marshall, D.; Sanftner, J.; Tangney, JP. *The State Shame and Guilt Scale*. George Mason University; Fairfax, VA: 1994.
- McGilloway A, Hall RE, Lee T, Bhui KS. A systematic review of personality disorder, race and ethnicity: Prevalence, aetiology and treatment. *BMC Psychiatry*. 2010; 11:10–33.
- Miech RA, Caspi A, Moffitt TE, Wright BRE, Silva PA. Low socioeconomic status and mental disorders: A longitudinal study of selection and causation during young adulthood. *Am J Sociol*. 1999; 104:1096–1131.
- Miller M, Neaigus A. An economy of risk: Resource acquisition strategies of inner city women who use drugs. *Int J Drug Policy*. 2002; 13:409–418.
- Monahan, J.; Steadman, H.; Silver, E.; Appelbaum, P.; Robbins, P., et al. *Rethinking risk assessment: The MacArthur study of mental disorder and violence*. Oxford University Press; New York: 2001.
- Nisbet PA. Protective factors for suicidal black females. *Suicide Life Threat Behav*. 1996; 26:325–341. [PubMed: 9014262]
- Paris J. Estimating the prevalence of personality disorders in the community. *J Pers Disord*. 2010; 24:405–411. [PubMed: 20695802]
- Paris J, Nowlis D, Brown R. Predictors of suicide in borderline personality disorder. *Can J Psychiatry*. 1989; 34:8–9. [PubMed: 2924254]

- Paris J, Zweig-Frank H. A 27-year follow-up of patients with borderline personality disorder. *Compr Psychiatry*. 2001; 42:482–487. [PubMed: 11704940]
- Pfohl, B.; Blum, N.; Zimmerman, M.; Stangl, D. Department of Psychiatry, University of Iowa; Iowa City: 1995. Structured Interview for DSM-IV Personality Disorders (SIDP-IV).
- Reiss, AJ.; Roth, JA., editors. Understanding and preventing violence. Vol. 1. National Academy Press; Washington, DC: 1993.
- Rennison C, Planty M. Nonlethal intimate partner violence: Examining race, gender, and income patterns. *Violence Vict*. 2003; 18:433–443. [PubMed: 14582864]
- Rennison, M.; Welchans, S. Intimate partner violence: Bureau of Justice Statistics Special Report. US Department of Justice; Washington, DC: 2000.
- Rockett IRH, Samora JB, Coben JH. The black-white suicide paradox: Possible effects of misclassification. *Soc Sci Med*. 2006; 63:2165–2175. [PubMed: 16844274]
- Runeson B, Beskow J. Borderline personality disorder in young Swedish suicides. *J Nerv Ment Dis*. 1991; 179:153–156. [PubMed: 1997663]
- Sampson RJ, Morenoff JD, Raudenbush S. Social anatomy of racial and ethnic disparities in violence. *Am J Public Health*. 2005; 95:224–232. [PubMed: 15671454]
- Satcher, D. Mental health: A report of the Surgeon General; Presented at: the 92nd Annual NAACP Convention; New Orleans, LA. 1999.
- Selby EA, Joiner TE Jr. Ethnic variations in the structure of borderline personality disorder symptomatology. *J Psychiatr Res*. 2009; 43:115–123. [PubMed: 18433775]
- Soloff, PH. Risk factors for suicidal behavior in borderline personality disorder. A review and update. In: Zanarini, MC., editor. *Borderline personality disorder*. Taylor & Francis; Boca Raton, FL: 2005. p. 333-365.
- Soloff PH, Fabio A, Kelly TM, Malone KM, Mann JJ. High-lethality status in patients with borderline personality disorder. *J Personal Disord*. 2005; 19:386–399.
- Sorenson SB, Upchurch DM, Shen H. Violence and injury in marital arguments: Risk patterns and gender differences. *Am J Public Health*. 1996; 86:35–40. [PubMed: 8561239]
- Spielberger, CD. State-Trait Anger Expression Inventory-2, professional manual. Psychological Resources; Lutz, FL: 1999.
- Stack S, Wasserman I. The effect of marriage, family, and religious ties on African American suicide ideology. *J Marriage Fam*. 1995; 57:215–223.
- Straus MA, Hamby SL, Boney-McCoy S, Sugarman DB. The Revised Conflict Tactics Scale (CTS2): Development and preliminary psychometric data. *J Fam Issues*. 1996; 17:283–316.
- Swartz M, Blazer D, George L, Winfield I. Estimating the prevalence of borderline personality disorder in the community. *J Personal Disord*. 1990; 4:257–272.
- Tjaden, P.; Thoennes, N. Extent, nature, and consequences of intimate partner violence: Findings from the National Violence Against Women Survey. Centers for Disease Control & Prevention; Atlanta, GA: 2000.
- US Bureau of the Census. Statistical abstracts of the United States. 120th. US Government Printing Office; Washington, DC: 1981.
- US Census Bureau. 2008 American Community Survey 1-year estimates. ACS demographic and housing estimates: 2008. 2008. American fact finder, United States. American Community Survey Retrieved from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed May 16, 2012
- Wadsworth ME, Achenbach TM. Explaining the link between low socio-economic status and psychopathology: Testing two mechanisms of the social causation hypothesis. *J Consult Clin Psychol*. 2005; 73:1146–1153. [PubMed: 16392987]
- Wadsworth ME, Compas BE. Coping with family conflict and economic strain: The adolescent perspective. *J Res Adolesc*. 2002; 12:243–274.
- Walker RL, Lester D, Joe S. Lay theories of suicide: An examination of culturally relevant suicide beliefs and attributions among African Americans and European Americans. *J Black Psychol*. 2006; 32:320–334. [PubMed: 19672479]

- Weissman MM, Bothwell S. Assessment of social adjustment by self-report. *Arch Gen Psychiatry*. 1976; 33:1111–1115. [PubMed: 962494]
- Whitlock J, Eckenrode J, Silverman D. Self-injurious behaviors in a college population. *Pediatrics*. 2006; 117:1939–1948. [PubMed: 16740834]
- Willis LA, Coombs DW, Drentea P, Cockerham WC. Uncovering the mystery: Factors of African American suicide. *Suicide Life Threat Behav*. 2003; 33:412–429. [PubMed: 14695056]

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

TABLE 1

Demographic Characteristics of the White and African-American Patients With BPD

| | White Women (<i>n</i> = 41) | African-American Women (<i>n</i> = 42) | Test Statistic | <i>df</i> | <i>p</i> ^a |
|--------------------|------------------------------|---|----------------|-----------|-----------------------|
| Age | 30.02 (8.34) | 33.67 (8.77) | 1.94 | 1,81 | 0.056 |
| SES ^b | 37.89 (11.04) | 29.91 (12.92) | 3.02 | 1,81 | 0.003* |
| | % | % | χ^2 | <i>df</i> | <i>p</i> |
| Marital status | | | | | |
| Married | 17.07 | 4.76 | | | |
| Divorced/separated | 17.07 | 19.05 | | | |
| Never married | 65.85 | 76.19 | 3.26 | 2 | 0.20 |
| Education | | | | | |
| HS or lower | 17.01 | 57.14 | | | |
| Some college | 58.54 | 23.81 | | | |
| College/university | 24.39 | 19.05 | 15.30 | 2 | <0.001* |
| Employment | | | | | |
| Not employed | 68.29 | 69.05 | | | |
| Employed | 31.71 | 30.95 | 0.01 | 1 | 0.94 |
| Income | | | | | |
| \$4,999 | 34.15 | 59.52 | | | |
| \$5,000-\$14,999 | 46.34 | 28.57 | | | |
| \$15,000 | 19.51 | 11.91 | 5.36 | 2 | 0.068 |

HS indicates high school.

^a Bonferroni-corrected significance level is $p < 0.05/10 = 0.005$.

^b Four-factor index of social status (Hollingshead, 1975).

* $p < 0.005$.

TABLE 2

Comparison of *DSM-IV* BPD Criteria in the White and African-American Women With BPD

| BPD Criterion ^a | White Women (n = 40) | African-American Women (n = 41) | t | df | p ^b |
|---------------------------------------|----------------------|---------------------------------|------|------|----------------|
| Avoidance of abandonment | 4.23 (1.35) | 4.22 (1.42) | 0.02 | 79 | 0.99 |
| Unstable relationships | 4.08 (1.19) | 4.41 (1.14) | 1.32 | 79 | 0.19 |
| Identity disturbance | 2.48 (1.34) | 1.85 (0.82) | 2.51 | 64.5 | 0.015 |
| Impulsivity | 3.83 (1.32) | 4.10 (1.63) | 0.83 | 79 | 0.27 |
| Suicidal behavior | 4.00 (1.54) | 2.90 (1.79) | 2.96 | 79 | 0.004* |
| Affective instability | 3.93 (1.12) | 4.32 (0.99) | 1.68 | 79 | 0.10 |
| Chronic emptiness | 3.75 (1.60) | 3.68 (1.56) | 0.19 | 79 | 0.85 |
| Inappropriate anger | 3.55 (1.65) | 5.07 (1.44) | 4.43 | 77 | <0.001* |
| Paranoid ideation and/or dissociation | 2.25 (1.03) | 2.46 (0.90) | 0.99 | 79 | 0.21 |
| Mean symptom score | 3.57 (0.61) | 3.67 (0.46) | 0.85 | 72 | 0.40 |

^aRated using the expanded BPD scale of Clarkin et al. (1993), with scores ranging from 1 to 6.

^bBonferroni-corrected significance level is $p < 0.05/10 = 0.005$.

* $p < 0.005$.

TABLE 3

Comparison of Psychiatric Symptoms Between the White and African-American Patients With BPD

| | White Women (<i>n</i> = 41) | African-American Women (<i>n</i> = 42) | <i>t</i> | <i>p</i> ^a | β | 95% Confidence Interval |
|-----------------------------------|------------------------------|---|----------|-----------------------|---------|-------------------------|
| Internalizing symptoms | | | | | | |
| STAXIY-anger in ^b | 23.20 (5.51) | 17.91 (4.57) | 4.71 | <0.001* | -0.48 | -7.65 to -3.11 |
| Trait shame ^c | 51.83 (11.77) | 43.52 (15.98) | 2.75 | 0.007 | -0.30 | -15.04 to -2.40 |
| No. suicide attempts ^d | 4.56 (3.87) | 1.41 (1.34) | 4.92 | <0.001* | -0.49 | -1.36 to 0.58 |
| Self-injury ^e | 9.28 (6.25) | 4.48 (4.25) | 3.44 | 0.001* | -0.34 | -6.15 to 1.64 |
| Externalizing symptoms | | | | | | |
| STAXIY-anger out ^b | 17.76 (6.82) | 25.64 (6.71) | 5.06 | <0.001* | 0.50 | 4.69 to 10.76 |
| Trait anger ^f | 26.27 (7.54) | 30.55 (7.84) | 2.56 | 0.012 | 0.28 | 0.99 to 7.90 |
| MACVI ^g | 8.15 (8.96) | 19.23 (10.34) | 5.15 | <0.001* | 0.52 | 7.02 to 15.86 |
| CTS ^{h,i} | | | | | | |
| Psychological aggression | 21.74 (8.61) | 33.03 (9.76) | 5.06 | <0.001* | 0.53 | 6.87 to 15.80 |
| Physical assault | 6.61 (8.82) | 25.38 (12.69) | 7.25 | <0.001* | 0.67 | 13.85 to 24.37 |
| CTS ^{h,i} | | | | | | |
| Injury | 1.61 (3.12) | 7.35 (4.38) | 6.44 | <0.001* | 0.63 | 4.07 to 7.72 |

Analyses were conducted using hierarchical linear regression models with age included as a control variable at the first step. White was coded "0" and African-American was coded "1." The African-American women were exposed to more severe levels of physical aggression on the MACVI ($t = 5.40, p < 0.001, \beta = 0.54$), the CTS-R physical aggression scale ($t = 5.74, p < 0.001, \beta = 0.58$), and the CTS-R injury scale ($t = 4.29, p < 0.001, \beta = 0.47$) but not psychological aggression on the CTS-R ($t = 1.55, p = 0.13, \beta = 0.19$).

^a Bonferroni-corrected significance level is $p < 0.05/10 = 0.005$.

^b STAXI (Spielberger, 1999).

^c Shame and Guilt Scale (Marshall et al., 1994).

^d Suicide attempts were categorized according to whether they met criteria for a suicide attempt following definitions provided by the Suicide Attempt Self-Injury Interview (Linehan et al., 2001, 2006). Depicted are the lifetime number of suicide attempts. This variable was normalized by taking the square root. Analyses were conducted with transformed values.

^e PHI (Linehan et al., 2001, 2006).

^f Spielberger's Trait Anger Inventory (Spielberger, 1999).

^g MACVI (Monahan et al., 2001).

^h CTS-R (Straus et al., 1996).

ⁱ Because the CTS was administered only to the participants who had been in a romantic relationship for 2.5 years of the previous 5 years, comparisons were conducted on 38 white and 34 African-American women.

* $p < 0.005$.