Published in final edited form as:

Psychiatry Res. 2014 December 15; 220(0): 376–383. doi:10.1016/j.psychres.2014.07.020.

Posttraumatic stress disorder in African Americans: A two year follow-up study

Carlos I. Pérez Benítez^{*,a}, Nicholas J. Sibrava^b, Laura Kohn Wood^a, Andri S. Bjornsson^c, Caron Zlotnick^b, Risa Weisberg^b, and Martin B. Keller^b

^a Department of Educational and Psychological Studies, University of Miami, Coral Gables, FL, USA ^b Department of Psychiatry and Human Behavior, Alpert Medical School of Brown University, Providence, RI, USA ^cDepartment of Psychology, University of Iceland, Reykjavik, Iceland

Abstract

The present study was a prospective, naturalistic, longitudinal investigation of the two year course of posttraumatic stress disorder (PTSD) in a sample of African Americans with anxiety disorders. The study objectives were to examine the two year course of PTSD and to evaluate differences between African Americans with PTSD and anxiety disorders and African Americans with anxiety disorders but no PTSD with regard to comorbidity, psychosocial impairment, physical and emotional functioning, and treatment participation. The participants were 67 African Americans with PTSD and 98 African Americans without PTSD (mean age 41.5 years, 67.3% female). Individuals with PTSD were more likely to have higher comorbidity, lower functioning, and they were less likely to seek treatment than those with other anxiety disorders but no PTSD. The rate of recovery from PTSD over two years was .10 and recovery from comorbid Major Depressive Disorder was .55. PTSD appears to be persistent over time in this population. The rates of recovery were lower than what has been reported in previous longitudinal studies with predominantly non-Latino Whites. It is imperative to examine barriers to treatment and factors related to treatment engagement for this population.

Keywords

African Americans; minority mental health; posttraumatic stress disorder; longitudinal study; clinical course

© 2014 Elsevier Ireland Ltd. All rights reserved.

*Correspondence concerning this article should be addressed to Carlos I. Pérez Benítez, Department of Educational and Psychological Studies, University of Miami, 1507 Levante Avenue, 318-B Max Orovitz Bldg., Coral Gables, FL, 33146, USA. Telephone: 305.284.1146, Fax: 305.284.3003, c.perezbenitez@miami.edu.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

1.) Introduction

Few studies have examined the relationship between posttraumatic stress disorder (PTSD) and racial group status, and the limited research that has been conducted has produced mixed findings (Norris, 1992; Frueh et al., 2004; Seng et al., 2005; C'De Baca et al., 2012). There is some evidence to suggest that African Americansⁱ may experience higher rates of PTSD than individuals from other racial/ethnic groups (Kulka et al., 1990; Kessler et al., 1999; Breslau et al., 2004; Himle et al., 2009; Roberts et al., 2011). For example, a study using data from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) (Roberts et al., 2011) found that African Americans had significantly higher lifetime prevalence rates of PTSD (8.7%) than Whites (7.4%), and that the risk for developing PTSD was 1.2 times higher among African Americans compared to Whites, after adjusting for characteristics of trauma. While comparative studies can provide group estimates of risk, within group studies can provide important information with regard to factors related to illness among members of a specific demographic.

Several studies have examined the factors associated with racial differences for PTSD. Combining two epidemiological surveys (National Comorbidity Survey-Replication [NCS-R] and National Survey of American Life [NSAL]), Himle, et al. (2009) reported that increased risk for African Americans developing PTSD in comparison to Whites was attributable, at least in part, to increased exposure to major trauma such as crime. Similarly, a study of pregnant women found that higher rates of both lifetime and current PTSD among African Americans in comparison to Whites were explained by greater trauma exposure (Seng et al., 2011). Recent results from the Detroit Neighborhood Health Study showed that 87.2% of a predominantly African American sample reported at least one Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)(APA, 1994) criteria A type lifetime traumatic event and that 17% of those who experienced a trauma met criteria for probable lifetime PTSD (Goldmann et al., 2011). Other studies of PTSD that have included comparisons between African Americans and Whites have also found that African Americans were exposed to more serious traumatic events (e.g., assaultive violence) (Roberts et al., 2011), and had fewer economic resources than Whites to cope with these events (Norris, 1992). The NESARC study (Roberts et al., 2011) showed that African Americans had significantly higher exposure to child maltreatment (due primarily to higher rates of witnessing domestic violence) and to assaultive violence (e.g., unwanted sex, physical attacks/beatings, or kidnappings); 14.0% and 29.3% respectively, compared to Whites (11.4% and 26.1% respectively). Therefore, greater prevalence of severe traumatic events among African American (vs. White) individuals may be one factor that accounts for higher rates of PTSD within this population.

Overall, little is known about within-group clinical characteristics of PTSD in African Americans. For example, in the general population, PTSD is associated with high rates of comorbid major depression and other anxiety disorders such as generalized anxiety disorders, panic disorder, social anxiety, and agoraphobia (Kessler et al., 1995; Kessler et al., 2003), but there is scarce evidence about PTSD comorbidity in the African American

ⁱDifferent researchers use different terms but for the sake of clarity and uniformity we use the term "African American" throughout.

population, especially with major depressive disorder (MDD). The NSAL study showed that the lifetime prevalence estimate of MDD in African Americans is 10.4% and that it is a chronic and debilitating disorder for this population (Williams et al., 2007). In an earlier epidemiological study, African Americans were found to be significantly less likely to have a mood disorder than White Americans but had higher odds of persistence of the disorder than their counterparts (Breslau et al., 2005). Exploration of within-group differences regarding MDD in African American individuals is also needed (Lincoln et al., 2011). A comprehensive framework of multilevel factors (e.g., socioeconomic status, stressors, kinship and social support, quality healthcare) influencing depression in African Americans, especially men, have been recently proposed (Watkins, 2012). Most of the studies examining comorbid PTSD and depression among African Americans combine this group with other minority groups (generally because African American samples are usually small) to allow meaningful analyses (Alim et al., 2006a). An exception to this is a study conducted with Vietnam War veterans showing that although rates of PTSD were similar for White and African American veterans, White veterans were significantly more likely to receive a diagnosis of a depressive disorder than African Americans (Frueh et al., 1997).

To our knowledge, there is no extant study that prospectively evaluates the course of PTSD in an African American sample with a longitudinal design with the exception of a study of posttraumatic stress symptoms (PTSS) after Hurricane Katrina in a predominantly African American sample (83.5%) (Paxson et al., 2012). The study revealed that 45.4 % of low-income mothers reported severe PTSS in the first survey (between 7 and 19 months after the hurricane) compared to 32.7% in the second survey (between 43 and 54 months after the hurricane), and the sample with scores suggesting probably PTSD was 33% (Paxson et al., 2012). Examining the course of a disorder using a longitudinal design is needed to better understand the natural course of the disorder and the clinical predictors of rates of recovery and recurrence. Most longitudinal studies with mostly White participants have used self-report scales to assess the severity and persistence of PTSD symptoms (Dirkzwager et al., 2001; Koren et al., 2001; Heinrichs et al., 2005). A more accurate assessment of the course of a mental disorder requires rigorous structured clinical interviews (Blackner, 2005). A within-group longitudinal study of PTSD among African Americans that utilizes clinical interview data with multiple time points and short intervals would provide specific evidence necessary to understand how the illness unfolds in this population. This type of study also may help unpack some of the questions raised by comparative, correlational data on race differences.

Although there is little evidence about the course of PTSD in African Americans, it is reasonable to expect a low recovery rate from PTSD and comorbid conditions for this population given some evidence that African Americans have decreased resources for mental health treatments (Roberts et al., 2011); ineffective coping strategies to handle traumatic experiences (Seng et al., 2011); high likelihood of exposure to severe traumas, especially child abuse (Seng et al., 2011); high levels of stress in traumatized individuals (Norris, 1992), and over representation in lower socioeconomic and disadvantaged communities (Cutrona et al., 2005). Crime-related traumas are more likely to occur in urban areas where minority populations are overrepresented (Census-Bureau, 2007). Furthermore,

experiences of negative life events in neighborhoods high in social disorder and economic disadvantages, have a higher impact in individuals' mental health (Cutrona et al., 2005)

In the current study, we provide the first prospective report of the course of PTSD in African Americans. The study objectives were to examine the two year course of PTSD and to evaluate differences between African Americans with PTSD and anxiety disorders and African Americans with anxiety disorders but no PTSD. This comparison included comorbidity, psychosocial impairment, physical and emotional functioning, and treatment participation. This comparison is important because it may help guide treatment planning for anxiety disorders in this population by advancing the understanding of their complexities and by strategizing integrative treatments for individuals experiencing more than one anxiety disorder. The study examines the course of PTSD in comparison with the course of MDD. These comparisons will allow contrasting clinical characteristics and course of PTSD with other disorders in this population. Because this was an exploratory study and the literature did not support a strong directional statement about the course of PTSD in African Americans, we thought that we did not have enough of a foundation to formulate hypotheses. Together, these analyses provide a more complete clinical picture of PTSD among African Americans than has been available in the literature to date and offer guidance to the diagnosis and treatment of PTSD for this population.

2.) Method

2.1. Participants

The current sample included 165 African Americans diagnosed with an anxiety disorder at baseline and participating in HARP-II, which is a prospective, naturalistic, and longitudinal study of 439 adults with a current or past history of anxiety disorders. Inclusion criteria included at least 18 years of age at intake and a past or current diagnosis of at least one of following index disorders: PTSD, panic disorder, panic disorder with agoraphobia, agoraphobia without history of panic disorder, generalized anxiety disorder, or social anxiety disorder. Exclusion criteria included the presence of an organic brain syndrome, a history of schizophrenia, or current psychosis at intake. Participants were recruited via referral by local mental health providers, advertisements in newspapers, Internet postings, and on mass transportation. Potential participants were first briefly screened over the telephone. Those endorsing anxiety symptoms were invited for an intake interview and paid \$60.00 following the interview as compensation for their participation. Each participant who completed a follow-up interview was similarly compensated. All participants provided informed consent before the intake interview. The study was fully approved by the Institutional Review Board of Brown University. The methods are described in detail elsewhere (Weisberg et al., 2012).

2.2. Procedure

All intake assessments were conducted in person after participants were briefly screened over the telephone. Data were collected via structured diagnostic interviews administered at intake that included assessment of current and lifetime history of relevant psychiatric conditions using the Structured Clinical Interview of DSM-IV Axis I Disorders, Non-Patient

Version (SCID-NP) (First et al., 1996). Traumatic events at baseline were assessed using a revised version of the Trauma Assessment for Adults (Resnick et al., 1993). Participants were asked about lifetime traumatic events and to identify their most stressful trauma. PTSD symptoms were assessed in response to that event with the SCID-NP.

Interviews were conducted by clinical interviewers with a bachelor's or master's degree in psychology or a related field. Interviewers completed a rigorous training program (Warshaw et al., 2001), before being certified to conduct intake and follow-up interviews. After certification, all clinical interviewers remained closely supervised. HARP-II clinical staff reviewed each diagnosis for each case enrolled in the study at a weekly team meeting. Further, all interviews underwent a rigorous clinical editing process to ensure accuracy of diagnoses.

2.3. Measures

Follow-up interviews were conducted at six-month intervals for the first two years using the Longitudinal Interval Follow-Up Evaluation-Upjohn (LIFE-UP; (Keller et al., 1987), which is a structured interview that uses a change-point method with a six point psychiatric status rating (PSR) scale that is scored for each week of the follow-up interval. A PSR of 5 or 6 indicates that the participant meets full DSM-IV diagnostic criteria for a disorder with moderate or severe functional impairment, respectively (i.e., in episode). A PSR of 3 or 4 indicates the participant does not meet full DSM-IV diagnostic criteria for the disorder but still exhibits notable residual symptoms and impairment to a mild or moderate degree, respectively. A PSR of 1 or 2 indicates that the participant is either completely without symptoms of the disorder, or experiences a negligible number of symptoms on an occasional and transient basis (i.e., full recovery). The LIFE-UP employs a change-point method to anchor participant reports of symptom levels to relevant life events such as birthdays, holidays, etc., resulting in weekly ratings of psychiatric symptom severity. Inter-rater reliability and long-term test-retest reliability for the LIFE-UP PSR ratings have been found to be good to excellent for all anxiety disorders and major depressive disorder (Warshaw et al., 1994). The LIFE-UP is also used to collect monthly information on functioning in a variety of areas including family relationships, role functioning, life satisfaction, global social adjustment, and global assessment of functioning (GAF), with good inter-rater reliability for those items with intraclass correlation coefficients ranging from .59 to .91 (Keller et al., 1987). In a paper exploring the long-term inter-rater reliability of the LIFE-UP in the HARP-I study (Warshaw et al., 2001), which employed the same rater training and fidelity monitoring procedures as the current study, the intraclass correlation coefficients were good to excellent across disorders, as well as across different raters over time.

In the present study, recovery was defined as a period of eight consecutive weeks at a PSR of 1 or 2 (i.e., being virtually asymptomatic for 2 months). This definition of recovery has been widely used in longitudinal studies examining the course of PTSD (e.g., (Benítez et al., 2012), MDD (e.g., (Lara et al., 2000; Mischoulon et al., 2011), other anxiety and mood disorders (Yonkers et al., 2000; Bruce et al., 2005a; Eisen et al., 2013), and personality disorders (Skodol et al., 2005).

LIFE-UP. Psychosocial functioning was used to collect monthly information on functioning in a variety of areas. Participants were asked about overall degree of satisfaction in areas such as employment, schoolwork, household activities, relationships with friends and family, and recreation. Global social adjustment was the examiner's rating of participants' functioning in these areas. Both ratings refer to the month prior to intake assessment. This measure has good inter-rater reliability for items with intraclass correlation coefficients ranging from .59 to .91 (Keller et al., 1987). Intraclass correlation coefficients were found to be good to excellent across disorders, as well as across different raters over time in a study using HARP-I cohort, which employed the same rater training and fidelity monitoring procedures as the current study (Warshaw et al., 2001)

The RAND-36-Item Health Survey. The RAND-36-Item Health Survey (RAND-36; (Hays et al., 1993) was used to assess functional status. This is a self-report measure that assesses physical functioning, bodily pain, role limitation due to physical and mental health concerns, general mental health, social functioning, energy/fatigue (vitality), and general health perceptions. All items are scored so that the lowest and highest possible scores are set at 0 and 100, respectively. Items in the same domain are averaged together to create the 8 scale scores. These domains were combined into two component scales, the Mental Component Summary (MCS) and the Physical Component Summary (PCS) reported in z scores to facilitate comparison with national norms (Ware, 2004). Reliability and validity of the instrument is well established (Hays et al., 1993). Cronbach's alpha for the different domains is excellent, ranging from .78 to .90 (Hays et al., 1994). For the current sample, Cronbach's alpha for the domains ranged from .63 (Social Functioning) to .93 (Physical Functioning), with a mean alpha of .83 across all domains, indicating good reliability for this measure in the African American sample.

Psychiatric and physical disability status, along with sources of financial support (e.g., disability payments), was assessed with the HARP-II Intake Democratic Questionnaire, created for the HARP project. Psychosocial treatment status, including lifetime history of treatment utilization and psychiatric hospitalizations, was measured on the Types of Treatment Form, an interviewer administered form designed for the HARP study. Suicide history was assessed using the LIFE Suicide History Assessment (Keller et al., 1987; Warshaw et al., 1994).

Statistical Analyses—Descriptive statistics were calculated for participants with and without PTSD. Chi-square analyses (for categorical variables) and two tailed independent *t* tests for continuous variables were calculated to compare both groups on demographic, clinical, and functioning variables. Effect sizes are reported as Cramer's *V* for chi-square analyses and *r* for *t*-tests (0.10 = small, 0.30 = medium, 0.50 = large for both measures of effect size). All analyses were conducted with SPSS 16.0. Longitudinal data were analyzed using standard survival analysis techniques (Kalbfleisch and Prentice, 1980). Kaplan-Meier life tables were constructed for time to recovery analysis. Data for participants who were lost to follow-up were censored.

3.) Results

3.1. Demographic and Clinical Characteristics

Of the 165 African Americans in HARP-II, 67 (40.6%) were diagnosed with PTSD. At intake, the study sample had a mean age of 41.54 (SD 10.57); 111 (67.3%) were female, 97 (58.8%) were single, separated, or divorced, 89 (53.9%) had at least some college education, 118 (71.5%) were unemployed, and 108 (65.4%) had an annual income of less than \$20,000. Table 1 compares demographic characteristics between participants with PTSD (mean age = 41.4, range = 19-60) and those with anxiety disorders but no PTSD (mean age = 41.6, range = 18-75), $t = .13$, $p = 0.896$. No demographic differences were found except that African Americans with PTSD were more likely to have physical and psychiatric disabilities than individuals without PTSD.

The average age of PTSD onset was 20.1, $SD = 12.74$, range = 4-56. The duration of PTSD in years had a mean of 21.3, $SD = 13.20$. Sixty-three (94%) participants reported that their first PTSD episode (no prior history of PTSD) remained current. With regard to current Axis I disorders at intake in the total sample, 94 (57%) participants had GAD, 85 (51.5%) had social anxiety, 77 (46.6%) had panic disorder with agoraphobia, 10 (0.6%) had panic disorder without agoraphobia, 78 (47.3%) had MDD, 13 (7.8%) had a substance use disorder, and 6 (3.6%) had a dysthymic disorder. Sixty-one (36.7%) of the total sample were in psychosocial treatment at intake, 46 (27.9%) had a history of suicide attempts, and 60 (36.4%) had a history of psychiatric hospitalizations.

The mean age of earliest trauma for both subgroups was almost identical, 17.2 and 17.1, respectively. The PTSD subgroup had a significantly higher number of Axis I disorders ($M = 4.4$, $SD = 1.61$) than the subgroup with no PTSD, $M = 2.84$, $SD = 1.41$, $t(163) = -6.50$, $p < .001$, $e.s. = .45$, which represents a medium to large effect size. Table 2 shows clinical characteristics of both subgroups. At intake, the PTSD group was more likely to have comorbid panic disorder with agoraphobia, MDD, and substance use disorder and, overall, a higher number of Axis I disorders than individuals without PTSD with moderate effect sizes ($e.s.$ range = 0.17-0.20). Individuals with PTSD reported higher rates of history of suicide attempts and of psychiatric hospitalization than the rest of the sample ($e.s. = 0.26$ and 0.32 respectively).

Table 3 shows means and standard deviations for the age of first trauma and number of traumas in both groups as well as the frequency and percentages of type of trauma by group. As was expected, individuals with PTSD reported a higher number of traumas than individuals with no PTSD. Most of participants with PTSD, 56 (83.6%) and without PTSD, 59 (60.2%), reported three or more traumas, but the difference was still significant, $\chi^2(1) = 10.29$, $p = 0.001$, $e.s. = .34$.

In regards to specific types of trauma, more than three quarters of the study sample reported being attacked (with or without a weapon; 127; 77.0%), 103 (62.4%) reported witnessing violence, 98 (58.7%) reported having heard of violent acts, 79 (47.9%) reported unwanted sexual contact, 76 (46.1%) had serious accidents, and 55 (33%) reported rape. Interestingly, there was no statistically significant difference between the two groups with regard to age of

first trauma. Individuals with PTSD reported significantly higher rates of unwanted sexual contact and being attacked (without or without a weapon) than the rest of the sample. Overall, there were high rates of traumatic events among the African Americans in this sample, regardless of whether they met full criteria for PTSD.

3.2. Psychosocial and Physical Functioning

Table 4 shows that participants with PTSD had significantly lower rates of functioning in the employment/school area and in social adjustment than participants with other anxiety disorders but no PTSD with effect sizes in the small to moderate range. Scores on the life satisfaction subscale were marginally significant. African Americans with PTSD scored significantly lower than the normative population on overall mental health functioning (as measured by the RAND) but not on overall physical functioning, nor were they significantly different from those without PTSD.

3.3. Course of PTSD and comorbid MDD.

We analyzed two year follow-up data available for 62 of the 67 participants who had PTSD at intake. One participant dropped out of the study and the other four had not reached the two year follow-up because they entered the study late. Kaplan-Meier survival estimates showed that participants with PTSD had a 0.10 probability of achieving recovery over two years (see Figure 1). There were a total of only 6 participants who recovered from PTSD. None of the participants who recovered experienced a relapse during the follow-up. The overall probability of MDD recovery was 0.55. Of the 34 participants with comorbid MDD at intake, 17 (50%) experienced a recovery over two years (see Figure 1).

3.4. Course of PTSD and other anxiety disorders.

A previous study from our group using same sample and methodology calculated recovery rates for GAD, 0.23, for social anxiety, 0.07, and for panic disorder with agoraphobia, 0.0 in the same two year period (Sibrava et al., 2013). For this current study, we conducted separate survival analyses comparing the rates of GAD, social anxiety and panic disorders with agoraphobia for those with PTSD with those with no PTSD to examine if PTSD affects the outcome for these disorders. Although the recovery rates were slightly lower in GAD and SAD for those with PTSD, none were significantly different. In regards to panic disorder there were no observed recoveries in the entire sample (see Sibrava et al., 2013), therefore follow-up analyses comparing recovery rates between those with and without PTSD could not be calculated.

4.) Discussion

This study revealed high rates of chronicity among African Americans with PTSD, along with high rates of comorbidity and very low psychosocial functioning. Of the 165 African Americans with anxiety disorders, 40.6% had PTSD. The rates of full recovery of the disorder during the two years of follow-up was very low, 0.10; with only 6 individuals reaching recovery during that period. To our knowledge, this is the first study that prospectively evaluated the course of PTSD in an African American sample with a short-interval, longitudinal design. In previous studies with a HARP-I sample (predominantly non-

Latino Whites), using similar methodologies, the likelihood of PTSD recovery was 0.18 after five years of follow-up (Zlotnick et al., 1999) and 0.20 after 15 years of follow up (Perez Benitez et al., 2012). It is important to clarify that PTSD was not one of the index anxiety disorders in the HARP-I project and that it used the DSM-III classification of PTSD. In another longitudinal study with 84 predominantly White primary care patients with DSM-IV PTSD as an inclusion criterion, and with a similar methodology to HARP-I, the probability of recovery was also similar to HARP-I; 0.18 in a two year follow-up (Zlotnick et al., 2004) but 0.38 during a five year follow-up (Benítez et al., 2012). Taken together, it is possible that the course of PTSD in African Americans is more chronic than in non-Latino Whites, but this hypothesis requires further research.

We found that the likelihood of recovery over two years of follow-up was lower for PTSD than for comorbid MDD. In this sample, recovery for MDD was 0.55. Although this difference may be explained by the comorbid status of MDD, other explanations are possible. In longitudinal studies, many patients with MDD tend to remit in the first few months of the disorder (Keller et al., 1992; O'Leary et al., 2000; Riihimaki et al., 2011). However, we also know that MDD patients with comorbid anxiety disorders show worse clinical outcomes (Sherbourne and Wells, 1997). On the other hand, as shown in longitudinal (Zlotnick et al., 1999; Zlotnick et al., 2004) and epidemiological studies (Kessler et al., 1995), the course of PTSD is pervasive and chronic and the recovery rate is, in general, low. Another possibility is that although MDD in African Americans may be more persistent than in non-Latino Whites (Williams et al., 2007), it is possible that PTSD may be more chronic than MDD in this particular population. The NSAL study showed that MDD for African Americans was persistent in about 56.5% of the sample, as defined by the ratio of individuals with 12 months of MDD in a sample of lifetime MDD cases (Williams et al., 2007). Furthermore, the rate of recovery of comorbid MDD in the current study was only slightly higher than what was reported in the first wave of the HARP study (HARP I), in which the majority of the participants with anxiety disorders (PTSD was not an inclusion criterion) were non-Latino Whites (.48 during two years of follow-up and .73 during 12 years; (Bruce et al., 2005b). It is possible that there is something unique about PTSD in African Americans, whereas MDD appears to recover at about the same rate as it does in non-Latino White samples. Furthermore, a recent study about predictors of suicidal ideations and attempts in homeless veterans (Goldstein et al., 2012) showed significantly lower odds ratio for African Americans, in comparison with Whites, indicating that ethnicity may be a protective factor for depression in this ethnic subgroup. Studies with larger samples may be able to confirm the likelihood of PTSD and MDD recovery. In relation to recovery rates of PTSD in comparison with other anxiety disorders, a previous study using the same sample and methodology showed that social anxiety disorder had a very low rate as well (0.07) and that the recovery for individuals with panic disorder with agoraphobia was 0.0 in the same two year period (Sibrava et al., 2013). These findings suggest that for this population PTSD (0.10) along with social anxiety and panic disorder have a very insidious and chronic course.

Current findings show that individuals with PTSD were more likely to have a higher number of Axis I disorders, past suicide attempts, and psychiatric hospitalizations than individuals without PTSD, with moderate to high effect sizes. These findings are consistent with a previous study with low-income African Americans seeking help in an inner-city

community mental health clinic that found that participants with PTSD were more likely to have multiple comorbidities (number of comorbid conditions, rates of MDD and nonschizophrenic psychotic disorder), history of attempted suicides, and substance use disorders than African Americans without PTSD (Schwartz et al., 2005).

The current study sample included a highly traumatized group of individuals regardless of whether they had a PTSD diagnosis (60.2% of people with no PTSD reported three or more traumas versus 83.6% of individuals with PTSD). Exposure to assaultive violence and witnessing violence were very high (77.0% and 62.4% respectively). Overall, elevated rates of PTSD in this population have been associated with exposure to high trauma environments (Carter et al., 1996). Current findings are similar to cross-sectional studies with predominantly African American samples (Alim et al., 2006b; Davis et al., 2008; Gillespie et al., 2009; Goldmann et al., 2011; Nugent et al., 2012). For example, the Detroit Neighborhood Health Study reported that 87.2% of the 1,306 Detroit residents had at least one lifetime traumatic event, and more than half had experienced assaultive violence (Goldmann et al., 2011). Another study with a large primary sample of African Americans reported a high rate of lifetime traumatic events, 87.8% (Goldmann et al., 2011). Although in this study the most frequent traumatic experience was serious accidents or injury (46.7%), being violently attacked by someone other than an intimate partner or by an intimate partner were also common (34.2% and 29.7% respectively).

Our study found that African Americans with PTSD had significantly lower functioning in the area of employment and school performance and lower life satisfaction and social adjustment than African Americans without PTSD. These differences were in the mild to moderate range of effect sizes. These findings are partially consistent with a six year follow-up study of treatment seeking male veterans with combat-related PTSD that revealed that psychosocial functioning variables including overall life satisfaction improved over time after treatment, except employment (Johnson et al., 2004). Our findings also revealed that individuals with PTSD show higher rates of psychiatric disability than anxiety disordered individuals without PTSD, which may be associated with the chronicity of the disorder regardless of treatment received (Kessler et al., 1995).

In our sample, 32% of individuals with PTSD were in psychosocial treatment. This is consistent with previous literature documenting poor treatment utilization by African Americans (Schwartz et al., 2005; Davis et al., 2008; Roberts et al., 2011). For example, in a cross-sectional study of more than 200 patients receiving services at an urban hospital, less than 14% with PTSD had ever received trauma-focused treatment, citing barriers such as transportation, finances, lack of family approval, and lack of information about how to access services (Davis et al., 2008). In a more recent study in primary care, of the 91 participants diagnosed with current PTSD, 69.2% had never received treatment from a mental health provider (Graves et al., 2011). Overall, in comparison to non-Latino Whites, African Americans with PTSD have less consistent contact with medical professionals (Seng et al., 2005) and are less likely to receive treatment for PTSD (Roberts et al., 2011). Data reviewed in the Surgeon General's Report, Mental Health: Culture, Race and Ethnicity (US Department of Health and Human Services, 2001), indicates racial disparities in treatment seeking and utilization of mental health services, with ethnic minorities receiving diagnoses

less often, seeking treatment less often, having lower access to treatment, less coverage for services, and receiving less treatment.

The HARP-II study is not an epidemiological study but an observational, longitudinal study of a convenience sample. These findings may not be generalizable to other samples other than African Americans with low socioeconomic status who live in an urban northeastern region of the United States. Given that the number of participants in recovery was extremely low, we did not have the statistical power to calculate potential demographics and clinical predictors of recovery. HARP-II will follow participants over five years, which will allow assessment not only of the likelihood of recovery but also of recurrence in order to examine clinical predictors. Also, this study did not consider potential new traumatic events during follow-up, which may have impeded recovery even more from PTSD or intensified the existing PTSD symptoms.

This study revealed that PTSD in African Americans is likely chronic, and that the experience of PTSD is associated with high comorbidity with other anxiety and mood disorders and low psychosocial functioning. Nevertheless, less than 30% of our study sample was receiving psychosocial treatment. It is imperative to examine barriers to treatment and factors related to treatment engagement in this population. Given that this population is exposed to a large number of traumatic events, such as accidents and violence related traumas, in addition to discrimination related to racism, prevention programs designed to decrease the likelihood of traumatic events and to develop coping skills that may decrease the likelihood of PTSD development should be implemented.

Acknowledgements

Dr. Carlos Pérez Benítez is supported by NIMH Grant MH080942. HARP-II is funded by the National Institute of Mental Health (NIMH; 5R01MH51415-14). HARP was supported in the past, in part by Upjohn Co, Wyeth-Ayerst Laboratories, Eli Lilly, and NIMH (MH-51415). Since 2008, HARP has been funded solely by NIMH. This study was conducted with the participation of the following collaborators: M.B. Keller, M.D. (Chairperson); R.B. Weisberg, Ph.D.; R.L. Stout, Ph.D.; I.R. Dyck, M.P.H.; P. Leduc; B.F. Rodriguez, Ph.D.; C. Pérez Benítez, Ph.D.; B.A. Marcks, Ph.D.; H.J. Ramsawh, Ph.D.; L.A. Uebelacker, Ph.D.; C. Beard, Ph.D.; A.S. Bjornsson, Ph.D.; N.J. Sibrava, Ph.D.; E. Moitra, Ph.D.; and R.G. Vasile, M.D. This manuscript has been reviewed by the Publication Committee of HARP and has its endorsement. The original principal and co-investigators included M.B. Keller, M.D. (Chairperson); J. Eisen, M.D.; E. Fierman, M.D.; R.M. Goisman, M.D.; I. Goldenberg, Psy.D.; G. Mallya, M.D.; A. Massion, M.D.; T. Mueller, M.D.; K. Phillips, M.D.; F. Rodriguez-Villa, M.D.; M.P. Rogers, M.D.; C. Salzman, M.D.; M.T. Shea, Ph.D.; G. Steketee, Ph.D.; R.L. Stout, Ph.D.; R.G. Vasile, M.D.; M.G. Warshaw, M.S.S., M.A.; R.B. Weisberg, Ph.D.; K. Yonkers, M.D.; and C. Zlotnick, Ph.D. Additional contributions from: P. Alexander, M.D.; J. Cole, M.D.; J. Ellison, M.D., M.P.H.; A. Gordon, M.D.; R. Hirschfeld Ph.D.; P. Lavori, Ph.D.; J. Perry, M.D.; L. Peterson; S. Rasmussen, M.D.; J. Reich, M.D., M.P.H.; J. Rice, Ph.D.; H. Samuelson, M.A.; D. Shear, M.S.; N. Weinshenker, M.D.; M. Weissman, Ph.D.; and K. White, M.D.

References

- Alim TN, Charney DS, Mellman TA. An overview of posttraumatic stress disorder in african americans. *Journal of Clinical Psychology*. 2006a; 62:801–813. [PubMed: 16703601]
- Alim TN, Graves E, Mellman TA, Aigbogun N, Gray E, Lawson W, Charney DS. Trauma exposure, posttraumatic stress disorder and depression in an African-American primary care population. *Journal of the National Medical Association*. 2006b; 98:1630–1636. [PubMed: 17052054]
- APA. *Diagnostic and Statistical Manual of Mental Disorder-Fourth Edition*. American Psychiatric Association; Washington, D.C.: 1994.

- Benítez CIP, Zlotnick C, Stout RI, Lou F, Dyck I, Weisberg R, Keller M. A 5-year longitudinal study of posttraumatic stress disorder in primary care patients. *Psychopathology*. 2012; 45:286–293. [PubMed: 22797509]
- Blacker, D. Psychiatric rating scales. In: Sadock, BJ.; Sadock, VA., editors. *Comprehensive Textbook of Psychiatry*. 8th ed.. Lippincott Williams & Wilkins; Philadelphia: 2005. p. 929-963.
- Breslau J, Kendler KS, Su M, Gaxiola-Aguilar S, Kessler RC. Lifetime risk and persistence of psychiatric disorders across ethnic groups in the United States. *Psychological Medicine*. 2005; 35:317–327.
- Breslau N, Peterson EL, Poisson LM, Schultz LR, Lucia VC. Estimating post-traumatic stress disorder in the community: Lifetime perspective and the impact of typical traumatic events. *Psychological Medicine*. 2004; 34:889–898. [PubMed: 15500309]
- Bruce SE, Yonkers KA, Otto MW, Eisen JL, Weisberg RB, Pagano M, Shea MT, Keller MB. Influence of psychiatric comorbidity on recovery and recurrence in generalized anxiety disorder, social phobia, and panic disorder: a 12-year prospective study. *American Journal of Psychiatry*. 2005a; 162:1179–1187. [PubMed: 15930067]
- Bruce SE, Yonkers KA, Otto MW, Eisen JL, Weisberg RB, Pagano M, Shea MT, Keller MB. Influence of Psychiatric Comorbidity on Recovery and Recurrence in Generalized Anxiety Disorder, Social Phobia, and Panic Disorder: A 12-Year Prospective Study. *American Journal of Psychiatry*. 2005b; 162:1179–1187. [PubMed: 15930067]
- C'De Baca J, Castillo D, Qualls C. Ethnic differences in symptoms among female veterans diagnosed with PTSD. *Journal of Traumatic Stress*. 2012; 25:353–357. [PubMed: 22684719]
- Carter MM, Sbrocco T, Carter C. African Americans and anxiety disorders research: Development of a testable theoretical framework. *Psychotherapy*. 1996; 33:449–463.
- Census-Bureau. The 2007 Statistical Abstract: Law Enforcement, Courts, & Prisons: Crimes and Crime Rates. Department of Commerce; 2007.
- Cutrona CE, Russell DW, Brown PA, Clark LA, Hessling RM, Gardner KA. Neighborhood context, personality, and stressful life events as predictors of depression among African American women. *Journal of Abnormal Psychology*. 2005; 114:3–15. [PubMed: 15709807]
- Davis RG, Ressler KJ, Schwartz AC, Stephens KJ, Bradley RG. Treatment barriers for low-income, urban African Americans with undiagnosed posttraumatic stress disorder. *Journal of Traumatic Stress*. 2008; 21:218–222. [PubMed: 18404649]
- Dirkzwager AJ, Bramsen I, van der Ploeg HM. The longitudinal course of posttraumatic stress disorder symptoms among aging military veterans. *Journal of Nervous and Mental Disease*. 2001; 189:846–853. [PubMed: 11794578]
- Eisen JL, Sibrava NJ, Boisseau CL, Mancebo MC, Stout RL, Pinto A, Rasmussen SA. Five-year course of obsessive-compulsive disorder: predictors of remission and relapse. *Journal of Clinical Psychiatry*. 2013; 74:233–239. [PubMed: 23561228]
- First MB, Spitzer RL, Gibbon M, Williams JBW. *Structured Clinical Interview for DSM-IV - Non-Patient Edition (SCID-NP)*. 1996
- Frueh BC, Elhai JD, Monnier J, Hamner MB, Knapp RG. Symptom patterns and service use among African American and Caucasian veterans with combat-related PTSD. *Psychological Services*. 2004; 1:22–30.
- Frueh BC, Gold PB, de Arellano MA, Brady KL. A racial comparison of combat veterans evaluated for PTSD. *Journal of Personality Assessment*. 1997; 68:692–702. [PubMed: 9170304]
- Gillespie CF, Bradley B, Mercer K, Smith AK, Conneely K, Gapen M, Weiss T, Schwartz AC, Cubells JF, Ressler KJ. Trauma exposure and stress-related disorders in inner city primary care patients. *General Hospital Psychiatry*. 2009; 31:505–514. [PubMed: 19892208]
- Goldmann E, Aiello A, Uddin M, Delva J, Koenen K, Gant LM, Galea S. Pervasive exposure to violence and posttraumatic stress disorder in a predominantly African American Urban Community: the Detroit Neighborhood Health Study. *Journal Traumatic Stress*. 2011; 24:747–751.
- Goldstein G, Luther JF, Haas GL. Medical, psychiatric and demographic factors associated with suicidal behavior in homeless veterans. *Psychiatry Research*. 2012; 199:37–43. [PubMed: 22521899]

- Graves RE, Freedy JR, Aigbogun NU, Lawson WB, Mellman TA, Alim TN. PTSD treatment of African American adults in primary care: The gap between current practice and evidence-based treatment guidelines. *Journal of the National Medical Association*. 2011; 103:585–593. [PubMed: 21999033]
- Hays RD, Marshall GN, Wang EY, Sherbourne CD. Four-year cross-lagged associations between physical and mental health in the Medical Outcomes Study. *J Consult Clin Psychol*. 1994; 62:441–449. [PubMed: 8063971]
- Hays RD, Sherbourne CD, Mazel RM. The RAND 36-Item Health Survey 1.0. *Health Economy*. 1993; 2:217–227.
- Heinrichs M, Wagner D, Schoch W, Soravia LM, Hellhammer DH, Ehlert U. Predicting posttraumatic stress symptoms from pretraumatic risk factors: a 2-year prospective follow-up study in firefighters. *American Journal of Psychiatry*. 2005; 162:2276–2286. [PubMed: 16330591]
- Himle JA, Baser RE, Taylor RJ, Campbell RD, Jackson JS. Anxiety disorders among African Americans, Blacks of Caribbean descent, and non-Hispanic Whites in the United States. *Journal of Anxiety Disorders*. 2009; 23:578–590. [PubMed: 19231131]
- Johnson DR, Fontana A, Lubin H, Corn B, Rosenheck R. Long-Term Course of Treatment-Seeking Vietnam Veterans with Posttraumatic Stress Disorder: Mortality, Clinical Condition, and Life Satisfaction. *Journal of Nervous and Mental Disease*. 2004; 192:35–41. [PubMed: 14718774]
- Kalbfleisch, JG.; Prentice, RC. *The statistical analysis of failure time data*. John Wiley and Sons; New York: 1980.
- Keller MB, Lavori PW, Friedman B, Nielsen E, Endicott J, McDonald-Scott P, Andreasen NC. The longitudinal interval follow-up evaluation: A comprehensive method for assessing outcome in prospective longitudinal studies. *Archives of General Psychiatry*. 1987; 44:540–548. [PubMed: 3579500]
- Keller MB, Lavori PW, Mueller TI, Endicott J, et al. Time to recovery, chronicity, and levels of psychopathology in major depression: A 5-year prospective follow-up of 431 subjects. *Archives of General Psychiatry*. 1992; 49:809–816. [PubMed: 1417434]
- Kessler RC, Berglund P, Demler O, Jin R, Koretz D, Merikangas KR, Rush A, Walters EE, Wang PS. The epidemiology of major depressive disorder: Results from the National Comorbidity Survey Replication (NCS-R). *JAMA: Journal of the American Medical Association*. 2003; 289:3095–3105.
- Kessler RC, Sonnega A, Bromet E, Hughes M, Nelson CB. Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry*. 1995; 52:1048–1060. [PubMed: 7492257]
- Kessler, RC.; Sonnega, A.; Bromet, E.; Hughes, M.; Nelson, CB.; Breslau, N.; *Epidemiological risk factors for trauma and PTSD. Risk factors for posttraumatic stress disorder*. Yehuda, Rachel, editor. Vol. xxi. American Psychiatric Association; Washington, DC, US: 1999. 1999. p. 23-59.p. 250
- Koren D, Arnon I, Klein E. Long term course of chronic posttraumatic stress disorder in traffic accident victims: a three-year prospective follow-up study. *Behavior Research and Therapy*. 2001; 39:1449–1458.
- Kulka, RA.; Schlenger, WE.; Fairbank, JA.; Hough, RL.; Jordan, BK.; Marmar, CR.; Weiss, DS. *Trauma and the Vietnam war generation: Report of findings from the National Vietnam Veterans Readjustment Study*. Brunner/Mazel; Philadelphia, PA US.: 1990.
- Lara ME, Klein DN, Kasch KL. Psychosocial predictors of the short-term course and outcome of major depression: a longitudinal study of a nonclinical sample with recent-onset episodes. *Journal of Abnormal Psychology*. 2000; 109:644–650. [PubMed: 11195988]
- Lincoln KD, Taylor RJ, Watkins DC, Chatters LM. Correlates of psychological distress and major depressive disorder among African American men. *Research on Social Work Practice*. 2011; 21:278–288. [PubMed: 21666885]
- Mischoulon D, Eddy KT, Keshaviah A, Dinescu D, Ross SL, Kass AE, Franko DL, Herzog DB. Depression and eating disorders: Treatment and course. *Journal of Affective Disorders*. 2011; 130:470–477. [PubMed: 21109307]

- Norris FH. Epidemiology of trauma: Frequency and impact of different potentially traumatic events on different demographic groups. *Journal of Consulting and Clinical Psychology*. 1992; 60:409–418. [PubMed: 1619095]
- Nugent NR, Koenen KC, Bradley B. Heterogeneity of posttraumatic stress symptoms in a highly traumatized low income, urban, African American sample. *Journal of Psychiatric Research*. 2012
- O'Leary D, Costello F, Gormley N, Webb M. Remission onset and relapse in depression. An 18-month prospective study of course for 100 first admission patients. *Journal of Affective Disorder*. 2000; 57:159–171.
- Paxson C, Fussell E, Rhodes J, Waters M. Five years later: Recovery from post traumatic stress and psychological distress among low-income mothers affected by Hurricane Katrina. *Social Science & Medicine*. 2012; 74:150–157. [PubMed: 22137245]
- Perez Benitez CI, Zlotnick C, Dyck I, Stout R, Angert E, Weisberg R, Keller M. Predictors of the long-term course of comorbid PTSD: A naturalistic prospective study. *International Journal Psychiatry and Clinical Practice*. 2012
- Resnick, HS.; Best, CL.; Freedy, JR. Trauma Assessment for Adults. Medical University of South Carolina, Department of Psychiatry. Crime Victims Research and Treatment Center; 1993.
- Riihimäki KA, Vuorilehto MS, Melartin TK, Isometsä ET. Five-year outcome of major depressive disorder in primary health care. *Psychol Med*. 2011:1–11.
- Roberts AL, Gilman SE, Breslau J, Breslau N, Koenen KC. Race/ethnic differences in exposure to traumatic events, development of post-traumatic stress disorder, and treatment-seeking for post-traumatic stress disorder in the United States. *Psychological Medicine*. 2011; 41:71–83. [PubMed: 20346193]
- Schwartz AC, Bradley RL, Sexton M, Sherry A, Ressler KJ. Posttraumatic stress disorder among African Americans in an inner city mental health clinic. *Psychiatric Services*. 2005; 56:212–215. [PubMed: 15703352]
- Seng JS, Kohn-Wood LP, McPherson MD, Sperlich M. Disparity in posttraumatic stress disorder diagnosis among African American pregnant women. *Arch Womens Ment Health*. 2011; 14:295–306. [PubMed: 21573930]
- Seng JS, Kohn-Wood LP, Odera LA. Exploring racial disparity in posttraumatic stress disorder diagnosis: implications for care of African American women. *Journal of obstetric, gynecologic, and neonatal nursing : JOGNN / NAACOG*. 2005; 34:521–530.
- Sherbourne CD, Wells KB. Course of depression in patients with comorbid anxiety disorders. *J Affect Disord*. 1997; 43:245–250. [PubMed: 9186795]
- Sibrava NJ, Beard C, Bjornsson AS, Moitra E, Weisberg RB, Keller MB. Two-year course of generalized anxiety disorder, social anxiety disorder, and panic disorder in a longitudinal sample of African American adults. *Journal of Consulting and Clinical Psychology*. 2013; 81:1052–1062. [PubMed: 24041233]
- Skodol AE, Gunderson JG, Shea MT, McGlashan TH, Morey LC, Sanislow CA, Bender DS, Grilo CM, Zanarini MC, Yen S, Pagano ME, Stout RL. The Collaborative Longitudinal Personality Disorders Study (CLPS): overview and implications. *J Pers Disord*. 2005; 19:487–504. [PubMed: 16274278]
- US Department of Health and Human Services. Mental Health: Culture, Race, and Ethnicity: A Supplement to Mental Health: A Report of the Surgeon General. US Department of Health and Human Services; Rockville, MD.: 2001.
- Ware, JE, Jr.. SF-36 Health survey update. In: Maruish, ME., editor. The use of psychological testing for treatment planning and outcomes assessment: Volume 3: Instruments for adults (3rd ed). Lawrence Erlbaum Associates Publishers; Mahwah, NJ US: 2004. p. 693-718.
- Warshaw MG, Dyck I, Allsworth J, Stout RL, Keller MB. Maintaining reliability in a long-term psychiatric study: An ongoing inter-rater reliability monitoring program using the longitudinal interval follow-up evaluation. *Journal of Psychiatric Research*. 2001; 35:297–305. [PubMed: 11591433]
- Warshaw MG, Keller MB, Stout RL. Reliability and validity of the longitudinal interval follow-up evaluation for assessing outcome of anxiety disorders. *Journal of Psychiatric Research*. 1994; 28:531–545. [PubMed: 7699612]

- Watkins DC. Depression over the adult life course for African American men: toward a framework for research and practice. *American Journal Mens Health*. 2012; 6:194–210.
- Weisberg RB, Beard C, Dyck I, Keller MB. The Harvard/Brown Anxiety Research Project-Phase II (HARP-II): Rationale, methods, and features of the sample at intake. *Journal of Anxiety Disorders*. 2012; 26:532–543. [PubMed: 22410095]
- Williams DR, Gonzalez HM, Neighbors H, Nesse R, Abelson JM, Sweetman J, Jackson JS. Prevalence and distribution of major depressive disorder in African Americans, Caribbean blacks, and non-Hispanic whites: results from the National Survey of American Life. *Archives of General Psychiatry*. 2007; 64:305–315. [PubMed: 17339519]
- Yonkers KA, Dyck IR, Warshaw M, Keller MB. Factors predicting the clinical course of generalised anxiety disorder. *British Journal of Psychiatry*. 2000; 176:544–549. [PubMed: 10974960]
- Zlotnick C, Rodriguez BF, Weisberg RB, Bruce SE, Spencer MA, Culpepper L, Keller MB. Chronicity in Posttraumatic Stress Disorder and Predictors of the Course of Posttraumatic Stress Disorder Among Primary Care Patients. *Journal of Nervous and Mental Disease*. 2004; 192:153–159. [PubMed: 14770060]
- Zlotnick C, Warshaw M, Shea M, Allsworth J, Pearlstein T, Keller MB. Chronicity in posttraumatic stress disorder (PTSD) and predictors of course of comorbid PTSD in patients with anxiety disorders. *Journal of Traumatic Stress*. 1999; 12:89–100. [PubMed: 10027144]

Highlights

African Americans with PTSD had high comorbidity and low psychosocial functioning.

The likelihood of PTSD recovery for African Americans were very low, 0.10

The likelihood of recovery from MDD was 0.55

African Americans with PTSD experience high number of traumas

Most of African Americans with PTSD do not receive treatment

Figure 1.

Survival Curves for PTSD and MDD in African Americans Over Two-Year Follow-Up.

PTSD = Posttraumatic stress disorder, MDD = Major depressive disorder.

Table 1

Demographic Characteristics at Intake for the African American Sample With and Without PTSD

Variable	African Americans without PTSD (N=98)		African American without PTSD (N=67)		PTSD vs. non-PTSD			
	N	%	N	%	χ^2	df	p	V ^a
Gender					2.77	1	0.096	0.13
Male	37	37.76	17	25.37				
Female	61	62.24	50	74.63				
Marital Status					1.49	2	0.474	0.10
Single	58	59.18	39	58.21				
Married	11	11.22	5	7.46				
Widowed/separated/divorced	29	29.59	23	34.33				
Education					0.002	1	0.965	0.003
High school or less	45	45.92	31	46.27				
At least some college	53	54.08	36	53.73				
Physical disability	20	20.41	22	32.84	3.24	1	0.072	0.14
Psychiatric disability	17	17.35	27	40.30	10.72	1	0.001	0.26
Physical and psychiatric	8	8.16	16	23.88	7.91	1	0.005	0.22
Employment					2.06	1	0.151	0.11
Employed	32	32.65	15	22.39				
Unemployed	66	67.35	52	77.61				
Annual income ^b					1.22	1	0.270	0.09
Equal/Less than \$20,000/year	61	62.89	47	70.15				
Greater than \$20,000/year	37	36.73	20	29.85				

Note. M = Mean; SD = Standard Deviation; PTSD = posttraumatic stress disorder.

^a Effect Size measure; Cramer's V for chi-square analyses and *r* for *t*-tests (0.10 = small, 0.30 = medium, 0.50 = large for both measures of effect size)

^b Income data were missing for one participant in the Non-PTSD Group.

Table 2

Clinical Characteristics at Intake for the African American Sample With and Without PTSD

Variable	African Americans without PTSD (<i>N</i> = 98)		African Americans with PTSD (<i>N</i> = 67)		PTSD vs. non-PTSD			
	<i>N</i>	%	<i>N</i>	%	χ^2	df	<i>p</i>	e.s. ^a
Other comorbid anxiety disorder	98	100.00	64	95.52	4.47	1	0.065	.17
HARP index disorders								
GAD	57	58.16	37	55.22	0.14	1	0.708	0.03
Panic disorder w/Ag	39	39.80	38	56.72	4.58	1	0.032	0.17
Panic disorder wo/Ag	6	6.12	4	5.97	0.09	1	0.764	0.00
Social anxiety disorder	53	54.08	32	47.76	0.64	1	0.424	0.06
Specific phobia	38	38.78	28	41.79	0.15	1	0.699	0.03
Other comorbid disorders								
MDD	39	39.80	39	58.21	5.41	1	0.020	0.18
Dysthymia	4	4.08	2	2.99	0.00	1	1.00	0.03
Substance abuse ^d	1	1.03	0	0.00	0.68	1	0.407	0.07
Substance dependence ^d	3	3.06	9	13.43	6.35	1	0.015	0.20
Psychosocial treatment at intake ^e	31	31.63	30	44.78	2.95	1	0.086	0.13
History of suicide attempt	18	18.37	28	41.79	10.86	1	0.001	0.26
History of psychiatric hospitalization	23	23.47	37	55.22	17.34	1	<0.001	0.32

Note. M = mean; SD = standard deviation; PTSD = posttraumatic stress disorder; GAD = generalized anxiety disorder; MDD = major depressive disorder; w/Ag = with agoraphobia; wo/Ag = without agoraphobia.

^b*N* = 27 non-PTSD participants reported Criterion A traumas on the SCID.

^cComorbid disorders were current at intake.

^aEffect size; Cramer's *V* for chi-square analyses and *r* for *t*-tests (0.10 = small, 0.30 = medium, 0.50 = large for both measures of effect size).

^dIncludes alcohol and drug use combined.

^ePsychosocial treatment includes individual, group, and family therapy modalities.

Table 3

Type of Traumas for the PTSD and Non-PTSD African American Samples With Anxiety Disorders

Variable	African Americans without PTSD (N= 98)		African Americans with PTSD (N = 67)		PTSD vs. non-PTSD			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>r</i> ^a
Age of first trauma	17.78	9.67	17.10	13.23	0.24	91	.810	.03
Number of traumas	3.03	1.64	4.19	1.49	-4.64	163	<0.001	.34
	<i>N</i>	%	<i>N</i>	%	χ^2	<i>df</i>	<i>p</i>	<i>V</i> ^a
Unwanted sexual contact	30	30.61	49	73.13	28.28	1	<0.001	0.42
Rape	18	18.37	37	55.22	3.15	1	0.076	0.20
Serious accident	45	45.92	31	46.27	.002	1	0.965	0.03
Attacked with or w/o weapon	66	67.35	61	91.04	12.61	1	<0.001	0.28
Injury/fear of injury	23	23.47	11	16.42	1.21	1	0.271	0.09
Witnessing violence	57	58.16	46	68.66	1.87	1	0.172	0.11
Military combat	4	4.08	2	2.99	0.14	1	0.712	0.03
Heard of violent acts to family/friends	54	55.10	44	65.67	1.84	1	0.175	0.11

Note. M = mean; SD = standard deviation; PTSD = posttraumatic stress disorder.

N = 27 Non-PTSD participants reporting traumas.

^a Effect size; Cramer's *V* for chi-square analyses and *r* for *t*-tests (0.10 = small, 0.30 = medium, 0.50 = large for both measures of effect size).

Table 4

Functional Characteristics at Intake for the African American Sample

Variable	African Americans without PTSD (<i>N</i> = 98)		African Americans with PTSD (<i>N</i> = 67)		PTSD vs. non-PTSD			
	M	SD	M	SD	<i>t</i>	df	<i>p</i>	<i>r</i> ^a
LIFE psychosocial functioning scales ^b								
Employment/school	4.93	1.84	5.65	1.40	−2.68	140	0.008	0.22
Household activities	3.28	1.37	3.49	1.44	−0.95	161	0.343	0.07
Relationship w/family/friends	3.27	0.98	3.18	0.83	0.62	162	0.538	0.05
Life satisfaction	3.08	0.87	3.36	0.88	−1.98	162	0.050	0.15
Global social adjustment	3.70	0.83	4.10	0.72	−3.21	163	0.002	0.24
RAND health survey								
Mental component Summary (z-score)	−1.87	1.58	−2.38	1.39	1.75	117	0.083	0.16
Physical component Summary (z-score)	−0.01	1.29	−0.33	1.32	1.31	117	0.194	0.12

^aEffect size; *r* for *t*-tests (0.10 = small, 0.30 = medium, 0.50 = large); PTSD = posttraumatic stress disorder; LIFE = longitudinal interval follow-up evaluation.

^bLIFE subscales range from 1 = very good to 5 = very poor functioning.