

Symptom Patterns and Service Use Among African American and Caucasian Veterans With Combat-Related PTSD

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African American ($N = 57$) and Caucasian ($N = 76$) combat veterans with posttraumatic stress disorder (PTSD) at a Veterans Affairs (VA) outpatient PTSD treatment clinic were compared on variables related to clinical symptoms and VA service use. Groups were compared on relevant interview (e.g., Clinician Administered PTSD Scale; D. D. Blake et al., 1990) and self-report measures (e.g., Minnesota Multiphasic Personality Inventory–2; J. N. Butcher, W. G. Dahlstrom, J. R. Graham, A. Tellegen, & B. Kaemmer, 1989). Groups were also compared on demographics, psychiatric comorbidity, VA service use, and disability status. Results revealed few significant between-groups differences, providing further evidence that African American and Caucasian veterans with PTSD do not differ in manifestation of the syndrome or in use of VA services and benefits.

In recent years a number of studies have been conducted to look for racial differences among combat veterans with posttraumatic stress disorder (PTSD). Most of these studies have focused on prevalence, clinical manifestation, and outcomes, whereas fewer studies have examined racial differences in treatment outcome and use of medical and mental health services. The latter is of interest to the Veterans Affairs (VA) healthcare system because research shows that PTSD is associated with impaired physical health

(e.g., Schnurr, Spiro, & Paris, 2000) and more frequent use of medical and mental health care services (Beckham et al., 1998; Deykin et al., 2001; Hankin, Spiro, Miller, & Kazis, 1999), and the VA serves a large number of minority veterans.

Epidemiology and Clinical Manifestation

Epidemiological data from the National Vietnam Veterans Readjustment Survey (NVVRS) show that African American and other minority combat veterans evidence significantly higher rates of PTSD than Caucasians (Kulka et al., 1990; Ruef, Litz, & Schlenger, 2000). However, these differences in absolute rates largely disappear when factors such as level of combat trauma and preexisting trauma are taken into account (Kulka et al., 1990). Other epidemiological studies have shown similar patterns of racial variation in PTSD prevalence (Breslau, Davis, Andreski, & Peterson, 1991).

A number of studies have looked for racial differences among combat veterans with PTSD on clinical symptom patterns by using standardized psychometric instruments (e.g., Minnesota Multiphasic Personality Inventory–2; MMPI-2), psychiatric interviews, or retrospective chart review (Frueh, Brady, & de Arellano, 1998). Some authors reported broad differ-

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ences in the manifestation of symptoms across general measures of psychopathology (Penk, Robinowitz, Dorsett, Bell, & Black, 1988), others found only small but circumscribed differences on measures of psychotic or dissociative symptomatology (e.g., Frueh et al., 2002; Frueh, Smith, & Libet, 1996), although most others have failed to find any significant racial differences across relevant variables (e.g., Keane & Wolfe, 1990; Frueh, Gold, de Arellano, & Brady, 1997; Monnier, Elhai, Frueh, Sauvageot, & Magruder, 2002; Trent, Rushlau, Munley, Bloem, & Driesenga, 2000).

For example, Monnier et al. (2002) compared data from African American and Caucasians in a sample of 111 combat veterans evaluated at a VA Medical Center outpatient PTSD treatment program from September 1995 to June 1997. Veterans completed psychiatric interview (e.g., Clinician Administered PTSD Scale; [CAPS; Blake et al., 1990]) and self-report measures (Mississippi Combat PTSD Scale [M-PTSD; Keane, Caddell, & Taylor, 1988]; Beck Depression Inventory [BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961]; Dissociative Experiences Scale [DES; Bernstein & Putnam, 1986], MMPI-2) related to PTSD, depression, dissociation, and general psychopathology. The two groups did not differ on measured demographic variables or on self-report or interview measures of anxiety, depression, or PTSD symptomatology, nor did groups differ on most self-report measures of dissociation, paranoia, or psychosis. The only difference noted was that African Americans were significantly more likely to endorse items of bizarre mentation from the MMPI-2. These results supported the contention that African American and Caucasian veterans with combat-related PTSD do not differ much with regard to manifestation or severity of psychopathology.

On the whole, these studies suggest that African American and Caucasian veterans with PTSD are far more similar than they are different (Frueh et al., 1998). These findings for combat veterans mirror recent results of civilian studies, which indicate that African American and Caucasian women seeking treatment for PTSD related to sexual assault and non-sexual assault do not differ on measures of psychopathology or general functioning (e.g., Zoellner, Feeny, Fitzgibbons, & Foa, 1999).

Service Utilization

Despite the general lack of racial differences in the manifestation of clinical symptoms, some have suggested that African American veterans may benefit from mental health services that are sensitive to their

racial status (e.g., Allen, 1996; Jones, Brazel, Peskind, Morelli, & Raskind, 2000). There is evidence that African American veterans may be more likely to under-use mental health services in both the VA and other health care sectors (Rosenheck & Fontana, 1994). Additionally, there are data to suggest that African American veterans may be more likely to receive neuroleptic medications (White & Faustman, 1989) than their Caucasian counterparts. These findings are consistent with research from general populations showing that African Americans are more likely to be misdiagnosed or undiagnosed (Brown, Ahmed, Gary, & Milburn, 1995) and are less likely to receive appropriate treatment (Paradis, Friedman, Lazar, Grubea, & Kesselman, 1992) or to remain in treatment (Friedman, Paradis, & Hatch, 1994). On the other hand, longitudinal studies have failed to find evidence of differences between African American and Caucasian veterans in levels of clinical improvement at posttreatment in VA PTSD treatment programs (Rosenheck & Fontana, 1996; Rosenheck, Fontana, & Cottrol, 1995). Furthermore, a recent large multisite study of intensive VA programs for combat-related PTSD found little evidence of systematic racial differences in either treatment outcome or process variables (Rosenheck & Fontana, 2002).

At this point, the question of whether there are meaningful racial differences in use of VA services among veterans with PTSD is unresolved. Further research in this area is relevant as it may have implications for delivery of clinical services to minority veterans. The aim of the present study was to compare African American and Caucasian combat veterans diagnosed with PTSD and seeking treatment at a VA Medical Center outpatient PTSD treatment program on relevant variables. Group comparisons will be made across demographic variables, psychiatric comorbidity, self-report and interview measures of PTSD symptoms, depression, dissociative symptoms, and general psychopathology, as well as variables related to VA service utilization, psychiatric medication use, and VA disability status. We expected that this sample would replicate the general findings of Monnier et al. (2002) on clinical symptom patterns and that there would also be few, if any, racial differences on service-use variables.

Method

Participants

Archival data were drawn from the charts of 133 male veterans, age 18 or older, who consecutively presented between July 1997 and November 1999 to an outpatient specialty clinic for evaluation and treat-

ment of combat-related PTSD at a VA Medical Center in the southeastern United States. Only those veterans who were diagnosed with combat-related PTSD at the time of evaluation were included in the present study. The study was in compliance with the ethical treatment of human subjects, and Institutional Review Board (IRB) approval was obtained. Additional (nonmutually exclusive) Axis I diagnoses were based on nonstandardized clinical interviews and included major depressive disorder (80.8%), current substance abuse disorder (36.6%), anxiety disorder other than PTSD (14.7%), and psychotic disorder (14.9%). These rates of comorbid disorders are generally consistent with previous comorbidity findings of veterans with combat-related PTSD (Keane & Wolfe, 1990).

In the current study, classification according to race was based on the VA's medical records. *African American* refers to veterans who identified themselves as "Black, not of Hispanic origin" (i.e., having origins in the Black racial groups of Africa) and therefore does not include individuals whose origins are based in Spanish, Hispanic, Latin, South or Central American countries. *Caucasian* refers to veterans who identified themselves as "White, not of Hispanic origin" (i.e., having origins in the original cultures of Europe, North Africa, or the Middle East) and therefore does not include people classified as "Black, not of Hispanic origin," nor does it include people of Spanish, Hispanic, Latin, South or Central American origin.

In the present dataset, all veterans identified themselves as either "Black, not of Hispanic origin" or "White, not of Hispanic origin" with no veterans identifying themselves as being from other racial origins. The majority of the sample was Caucasian (57.1%; $n = 76$), and the remainder of the sample was African American (42.9%; $n = 57$).

Independent samples t tests were used to compare African American and Caucasian veterans on continuous-scaled demographic variables, with robust t tests used when group variances were not equal (i.e., when Levene's test of equal variances was significant at $p < .05$). Chi-square tests were used to assess African Americans and Caucasians on categorical-scaled variables. No significant differences were found in demographics. Specifically, Caucasians had a mean age of 53.13 ($SD = 8.47$), and African Americans had a mean age of 50.14 ($SD = 8.70$), $t(131) = 1.99$, $p > .05$. On average, Caucasians' annual income was \$22,201.76 ($SD = \$25,396.64$) and African Americans' annual income was \$23,175.69 ($SD = \$15,490.75$), $t(58) = .17$, $p > .05$.

Number of years of education averaged 12.27 for Caucasian ($SD = 2.43$) and 12.23 for African American veterans ($SD = 1.96$), $t(82) = .09$, $p > .05$. Caucasians and African Americans were not different in employment status either, $\chi^2(2, N = 94) = 3.07$, $p > .05$. Groups did not differ in terms of living in rural or urban settings (according to the 1990 U.S. Census classifications), $\chi^2(2, N = 96) = 1.00$, $p > .05$. The pattern of psychiatric comorbidity and demographic variables (other than race) suggests that this sample is fairly typical of those included in other published studies of combat veterans with PTSD (e.g., Keane & Wolfe, 1990). Taking race into account, this sample is also quite similar to those described in our own previous research (e.g., Frueh et al., 1997) and should therefore be representative of the population of veterans seen in VA Medical Centers in the Southeast, which serve large proportions of African American veterans.

Measures

Clinician Administered PTSD Scale (CAPS). The CAPS (Blake et al., 1990), a structured clinical PTSD interview, was designed to rate the frequency and intensity of the 17 PTSD symptoms according to the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association, 1994) standards. Strong interrater reliability (.92-.99), and high internal consistency (.73-.85) have been reported (Weathers & Litz, 1994), with high internal consistency for data from a separate VA PTSD sample previously collected by the authors (.91; Monnier et al., 2002). The CAPS has also been noted to have high convergent validity (Weathers & Litz, 1994). A number of different scoring algorithms have been examined (Weathers, Ruscio, & Keane, 1999). For the current study, we used the original CAPS scoring rule (Blake et al., 1990) for diagnosis (i.e., a PTSD symptom was considered present if the corresponding CAPS item's frequency was rated as 1 or higher and the intensity was rated as 2 or higher), whereas the total CAPS continuous-scaled severity score (summed frequency and intensity ratings for all 17 PTSD symptoms) was used for group comparisons.

MMPI-2. The MMPI-2 is a widely used *true-false* self-report instrument containing 567 items, used to generate behavioral and clinical data. Test-retest reliability estimates range from .58 to .92 for the clinical scales (Butcher et al., 1989). Dahlstrom, Welsh, and Dahlstrom (1975) cited 6,000 studies investigating MMPI profile patterns, documenting extensive evidence for the MMPI's construct validity. The present study used K -corrected raw scores.

M-PTSD. The M-PTSD is a self-report measure of combat-related PTSD symptoms, containing 35 Likert-format items. In the NVVRS (Kulka et al., 1990), the M-PTSD served as a primary indicator and the best self-report measure of PTSD. M-PTSD data from a previous VA PTSD sample yielded good internal consistency (.82; Monnier et al., 2002). The M-PTSD has demonstrated excellent sensitivity (.93) and specificity (.89), with an overall hit rate of .90 in predicting PTSD (Keane et al., 1988). The total M-PTSD score was used in analyses.

BDI. The BDI is a widely used self-report measure of depression, containing 21 items. The BDI has demonstrated good reliability, with mean internal consistency estimates of .86 across studies (Beck, Steer, & Garbin, 1988), and a coefficient alpha of .90 found in a previous VA PTSD sample (Monnier et al., 2002). The BDI has also been well validated, with concurrent validity ranging from .55 to .96 (Beck et al., 1988). The total BDI score was used in analyses.

DES. The DES is a self-report measure of dissociative symptoms, containing 28 items. Whereas the original DES used a visual analogue response format, the present study employed a revised DES with a fixed response format (DES-FRF). The DES-FRF has demonstrated strong internal consistency (coefficient $\alpha = .95$) and good alternate forms reliability with the original DES ($r = .71$) and yielding a significantly lower inverse relationship with intelligence ($r = .18$) when compared with the original DES ($r = .42$; Frueh, Johnson, Smith, & Williams, 1996). DES-FRF data from a previously collected VA PTSD sample also yielded high internal consistency (.93; Monnier et al., 2002). The total DES-FRF score was used in analyses. The DES-FRF will be referred to as "DES" for the remainder of this investigation.

Chart review: Service utilization and disability status. Each participant's computerized medical chart was examined for the types of VA Medical Center service used in the 365 days following initial PTSD evaluation. Information about number of clinic visits (PTSD outpatient, primary care, and specialty clinics), psychiatric medications prescribed, and disability status (i.e., presence of VA disability) and rating (i.e., percentage of disability rating on a 0%–100% continuous scale) were examined. We also gathered data on frequency of VA hospitalizations (both medical and psychiatric) and urgent care (i.e., emergency room) visits. However, because the base rates for these variables were so low for both racial groups, we did not include them in subsequent analyses.

Procedure

Participants were diagnosed according to the *DS-M-IV* by the VA's PTSD clinic treatment team, consisting of a psychiatrist, clinical psychologist, and clinical social worker. All PTSD diagnoses were reached by team consensus after a thorough evaluation, which included a chart review, psychosocial history interview, military history interview, clinical interview, structured PTSD clinical interview (the CAPS), and self-report measures. Participant's charts were chosen for inclusion in this sample if they presented for treatment between July 1997 (when the computerized record was reliably implemented) and November 1999 to the above-mentioned PTSD clinic and met criteria for PTSD.

Statistical Analyses

Some participants (11 Caucasians, 7 African Americans) were missing MMPI-2 data, and were therefore excluded from MMPI-2 analyses. Additionally, participants were excluded from MMPI-2 analyses if their MMPI-2 profiles met at least one of the following conditions: (a) True Response Inconsistency scale *T* scores > 100 (suggesting a mostly true or mostly false response set); or (b) Variable Response Inconsistency scale *T* scores > 80 (suggesting a mostly random response set); or (c) Cannot Say raw scores > 15 (suggesting a significant number of missing responses). These criteria resulted in the further exclusion of 18 participants (8 Caucasians, 10 African Americans). MMPI-2 data for the remaining 97 male PTSD patients (57 Caucasians, 40 African Americans) were examined. However, data for all available participants were examined for the other self-report measures and chart review variables (except in cases of missing data).

Racial differences in comorbid diagnoses were first examined by using chi-square analyses. Next, analyses of variance (ANOVAs) were used along the following dimensions of psychopathology: (a) anxiety and PTSD, including the M-PTSD, CAPS, and MMPI-2 Scales 7 (Psychasthenia) and PK (Keane, Malloy, & Fairbank's, 1984, PTSD scale); (b) depression, including the BDI, and MMPI-2 Scale 2 (Depression); (c) anger and hostility, including MMPI-2 Scale 4 (Psychopathic Deviate), and ANG (Anger); (d) psychotic symptoms and dissociation, including the DES and MMPI-2 Scales 8 (Schizophrenia) and BIZ (Bizarre Mentation); and (e) symptom overreporting, including MMPI-2 Scales F (Infrequency), Fp (Infrequency–Psychopathology), and a new PTSD overreporting scale developed and vali-

dated with PTSD-diagnosed combat veterans (Fptsd; Elhai et al., 2002). Alpha levels were set at .01 to control for multiple comparisons.

Service-use variables (for 12-months postevaluation) that were continuous scaled were analyzed with ANOVAs, and included total PTSD clinic visits, total primary care clinic visits, total specialty care clinic visits, and number of psychiatric medications prescribed (including antidepressant, antipsychotic, anti-anxiety, mood stabilizer, and sleep medications). Current disability rating (taken now approximately 3–5 years after initial intake) were examined with ANOVAs and included two continuous variables (disability—medical rating, and disability—PTSD rating).

Results

Diagnoses

Comorbid diagnoses were assessed for racial differences with chi-square analyses. Comorbid diagnoses compared included: Substance abuse current, substance abuse in remission, major depressive disorder, bipolar disorder, anxiety disorders other than PTSD, and psychotic disorder. Table 1 indicates that no significant racial differences were found (all $ps > .05$). Moreover, no racial differences were found in the overall number of diagnoses (other than PTSD) given to patients, $F(1, 68) = .93, p > .05$.

Self-Reported Symptoms

As noted above, we conducted a series of ANOVAs to compare African American and Caucasian veterans on a number of clinical variables that were grouped together a priori on the basis of being theoretically related. Results for each of these categories are presented below and in Table 2.

Anxiety and PTSD. African American and Caucasian veterans were not significantly different on variables related to anxiety and PTSD, including the M-PTSD, CAPS, and MMPI-2 Scale 7 (Psychasthenia) and PK.

Depression. African American and Caucasian veterans were not significantly different on variables related to depression, including the BDI and MMPI-2 Scale 2 (Depression).

Anger and hostility. African American and Caucasian veterans were not significantly different on the MMPI-2 Scale 4 (Psychopathic Deviate). However, the MMPI-2 ANG scale did differ at the .05 level, with Caucasians scoring higher.

Psychotic symptoms and dissociation. African American and Caucasian veterans were not significantly

Table 1
Comorbid Diagnosis Findings: Frequency Counts and Chi-Square Statistics for Caucasian and African American Groups

| Comorbid diagnosis | Caucasians (N) | African Americans (N) | χ^2 |
|------------------------------------|-------------------|-----------------------------|----------|
| Substance abuse current | | | |
| Yes | 21 | 13 | 0.50 |
| No | 32 | 27 | |
| Substance abuse in remission | | | |
| Yes | 16 | 8 | 1.24 |
| No | 37 | 32 | |
| Major depressive disorder | | | |
| Yes | 36 | 27 | 0.07 |
| No | 8 | 7 | |
| Bipolar disorder | | | |
| Yes | 1 | 1 | 0.05 |
| No | 41 | 30 | |
| Anxiety disorder (other than PTSD) | | | |
| Yes | 8 | 3 | 1.25 |
| No | 35 | 39 | |
| Psychotic disorder | | | |
| Yes | 5 | 6 | 0.67 |
| No | 37 | 26 | |

Note. For chi-square statistics, $df = 1, p < .05$. PTSD = posttraumatic stress disorder.

cantly different on a variable related to dissociation, the DES. For the psychotic measures, while groups did not differ on the MMPI-2 Scale 8 (Schizophrenia), they did differ on BIZ at the .05 level, with African Americans scoring higher.

Symptom overreporting. African American and Caucasian veterans were not significantly different on variables related to symptom overreporting on the MMPI-2, including MMPI-2 Scales F, Fp, and Fptsd.

Chart Review: Service Utilization and Disability Status

African American and Caucasian veterans were not significantly different on most variables related to frequency of VA clinic visits to PTSD, primary care, and specialty care clinics, most psychiatric medications, and disability rating (see Table 3). Results demonstrate that African Americans and Caucasians only differed with respect to the number of anti-anxiety agents prescribed in the year following initial evaluation, with Caucasians prescribed significantly more of this category of medications. Follow-up exploratory analyses comparing groups on total number

Table 2
Symptomatology Findings: Mean Raw Scores, Standard Deviations, and F Ratios for Caucasian and African American Groups

| Construct and scale | Caucasians ^a (N = 57) | | | African Americans ^a (N = 40) | | | F (df) |
|-------------------------------------|-------------------------------------|-------|----|--|-------|----|---------------|
| | M | SD | T | M | SD | T | |
| Anxiety and PTSD | | | | | | | |
| M-PTSD | 111.77 | 19.18 | | 112.48 | 18.53 | | .04 (1, 113) |
| CAPS-1 | 80.65 | 19.21 | | 82.43 | 18.47 | | .24 (1, 111) |
| 7 (Pt) | 42.91 | 6.33 | 85 | 41.85 | 5.82 | 83 | .71 (1, 95) |
| PK | 33.37 | 8.46 | 92 | 32.73 | 9.46 | 92 | .12 (1, 95) |
| Depression | | | | | | | |
| BDI | 26.72 | 9.23 | | 27.53 | 10.66 | | .20 (1, 118) |
| 2 (D) | 35.75 | 6.12 | 85 | 35.23 | 6.08 | 83 | .18 (1, 95) |
| Anger and hostility | | | | | | | |
| 4 (Pd) | 31.67 | 6.12 | 72 | 31.95 | 4.52 | 72 | 0.06 (1, 95) |
| ANG | 12.42 | 3.46 | 70 | 10.88 | 3.01 | 67 | 5.21* (1, 95) |
| Psychotic and dissociative symptoms | | | | | | | |
| DES | 50.91 | 16.05 | | 53.83 | 17.87 | | 0.86 (1, 114) |
| 8 (Sc) | 51.47 | 10.27 | 93 | 50.75 | 9.48 | 93 | 0.12 (1, 95) |
| BIZ | 9.12 | 4.80 | 74 | 11.30 | 5.00 | 81 | 4.67* (1, 95) |
| Symptoms over-reporting | | | | | | | |
| F | 18.46 | 7.47 | 92 | 18.48 | 8.18 | 92 | 0.00 (1, 95) |
| Fp | 3.14 | 2.27 | 63 | 3.88 | 3.04 | 70 | 1.86 (1, 95) |
| Fptsd | 3.28 | 2.51 | 57 | 4.08 | 2.67 | 62 | 2.24 (1, 95) |

Note. PTSD = posttraumatic stress disorder; M-PTSD = Mississippi Combat PTSD Scale; CAPS-1 = Clinician-Administered PTSD Scale; Pt = Psychasthenia; PK = Keane PTSD scale; BDI = Beck Depression Inventory; D = Depression; Pd = Psychopathic Deviate; ANG = Anger; DES = Dissociative Experiences Scale; Sc = Schizophrenia; BIZ = Bizarre Mentation; F = Infrequency; Fp = Infrequency-Psychopathology; Fptsd = Infrequency PTSD.

^aM-PTSD: Caucasian N = 65, African American N = 40. BDI: Caucasian N = 67, African American N = 53. DES: Caucasian N = 64, African American N = 52.

*p < .05.

of psychiatric medications other than antianxiety agents revealed that African Americans ($M = 1.71$, $SD = 1.40$) and Caucasians ($M = 2.21$, $SD = 1.61$) were not significantly different in the total, $F(1, 92) = 2.50$, $p > .1$. Chi square analyses on VA disability status (for both medical and PTSD), showed that African Americans and Caucasians did not differ in terms of the percentage receiving any degree of VA disability rating.

Power Analyses

Because most of our analyses yielded no statistically significant differences between racial groups, we conducted a series of power analyses to ensure that we had samples that were large enough to detect clinically meaningful differences if they were there. Specifically, a series of power analyses (for 80% and 85% power) were carried out to determine the effect sizes that could be detected with the given sample sizes for primary variables. Assuming an indepen-

dent sample t test (equivalent to one-way ANOVA) for comparing means of continuous variables for the two racial groups, level of significance (α) was .05 (two-sided), equal variances, and unequal sample sizes in each group, we used the power analysis/sample size software package nQueryAdvisor (Elashoff, 2002) to estimate the effect sizes that could be detected with 80% and 85% power. For the symptomatology and service-use (total visits) variables, the differences between Caucasians and African Americans that can be detected with 80% and 85% power (effect sizes) for these variables ranged from approximately .5-.6 standard deviation units. Differences smaller than this are unlikely to be clinically meaningful.

Discussion

On balance, few meaningful differences were found in this sample between African American and Caucasian combat veterans with PTSD. As expected,

Table 3
*Service Utilization and Disability Status: Mean Scores, Standard Deviations,
 and F Ratios for Caucasian and African American PTSD Groups*

| Variable | Caucasians ^a (<i>N</i> = 53) | | African Americans ^a (<i>N</i> = 41) | | <i>F</i> (<i>df</i>) |
|-----------------------------|---|-----------|--|-----------|------------------------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | |
| PTSD clinic | | | | | |
| Total visits | 14.77 | 13.62 | 10.98 | 12.17 | 1.97 (1, 92) |
| Primary care clinic | | | | | |
| Total visits | 3.08 | 3.91 | 3.80 | 9.01 | 0.28 (1, 92) |
| Specialty care clinic | | | | | |
| Total visits | 3.81 | 4.54 | 2.56 | 2.28 | 0.11 (1, 92) |
| No. of psych. medications | | | | | |
| Antidepressants | 1.19 | .98 | 1.00 | .71 | 1.08 (1, 92) |
| Antipsychotics | .25 | .52 | .24 | .58 | 0.00 (1, 92) |
| Antianxiety | .58 | .86 | .20 | .40 | 7.13** (1, 92) |
| Mood stabilizers | .34 | .62 | .20 | .46 | 1.57 (1, 92) |
| Sleep medications | .43 | .54 | .27 | .50 | 2.33 (1, 92) |
| Disability rating (0%–100%) | | | | | |
| Medical | 34.69 | 27.94 | 32.38 | 26.63 | .09 (1, 51) |
| PTSD | 52.00 | 24.55 | 45.60 | 26.31 | .87 (1, 53) |

Note. PTSD = posttraumatic stress disorder; Psych. = Psychiatric.

^aDisability rating—Medical: Caucasian *N* = 32, African American *N* = 21; includes only those veterans receiving some level of disability rating for medical conditions. Disability rating—PTSD: Caucasian *N* = 30, African American *N* = 25; includes only those veterans receiving some level of disability rating for PTSD.

***p* < .01.

the findings of this study replicated clinical symptom pattern findings of previous studies (e.g., Frueh et al., 1997; Monnier et al., 2002; Trent et al., 2000) indicating that African Americans and Caucasians do not differ on demographic variables, comorbid psychiatric disorders, or measures of anxiety, depression, or PTSD symptomatology. The groups also did not differ on most measures of dissociation, paranoia, or psychosis. The only exceptions to this were that African Americans were significantly more likely to endorse MMPI-2 items of bizarre mentation, and Caucasians were significantly more likely to endorse MMPI-2 items of anger. Yet, even the statistically significant differences on these two measures were quite modest from a clinical perspective (e.g., 2-points). These results suggest that treatment-seeking African Americans and Caucasians with PTSD do not differ on self-reported manifestation or severity of psychopathology.

With regard to use of VA services, a similar pattern emerged. A comprehensive chart review over a 12-month period of time following their initial psychiatric evaluation in the PTSD clinic revealed no significant differences between African American and Caucasian veterans in this sample on visits to PTSD outpatient, primary care, or specialty clinics. Furthermore, the two groups did not differ on use of

most psychiatric medications, including antipsychotic medications. The lone exception to this was that Caucasians were more likely to be prescribed anti-anxiety medications than were African Americans. Finally, there were no racial differences on VA disability ratings for either medical or PTSD-related disability.

Despite the general lack of statistically significant racial differences on service-use variables, visual inspection of the data represented in Table 3 raise some interesting concerns. First, the mean number of PTSD clinic visits for African Americans (10.98) and Caucasians (14.77) is not statistically different. However, this may be partially due to the large standard deviations for both groups. It is possible that with a larger sample size or follow-up greater than 12 months, statistical differences might emerge. Second, it is noteworthy that the standard deviations for total primary care and total specialty care visits are quite different between the two groups. In fact, the standard deviation for primary care visits for African Americans (9.01) is well over double that of Caucasians (3.91), suggesting much greater variability among the former group. However, this pattern is reversed for specialty care visits, with the standard deviation for Caucasians (4.54) being nearly twice that of African Americans (2.28).

Although the results of this study add to our understanding of VA service use among veterans with combat-related PTSD in African Americans and Caucasians, the observations described in the preceding paragraph point to several limitations of the current study that need to be considered with regard to the VA service-use variables. First, the period of analyses covered only a 12-month window of time following veterans' initial PTSD evaluation. As noted, it is possible that examining variables over a longer period may reveal a more accurate picture of long-term service-use patterns. Second, these analyses were conducted on gross categories (e.g., total number of PTSD clinic visits), which do not necessarily represent the detailed picture of service use within these categories. For example, although it appears that there were no racial differences in total number of PTSD clinic visits, it is possible that with adequate power, more fine-grained analyses would have revealed differences in the types of clinic visits (e.g., group therapy, case-manager, or psychiatrist). Third, the chart review variables recorded in this study were essentially limited to frequency counts (e.g., number of visits) and reveal nothing about the content or process of visits. Because information related to treatment outcome, dropout, or termination were not documented in any standardized or reliable manner in the medical records, we were unable to capture this important type of data. Fourth, structured psychiatric interviews were not used in the clinical setting to establish other psychiatric diagnoses. This may have resulted in an under-reporting of other Axis I pathology because the clinic evaluations place emphasis on establishing the PTSD diagnosis. For example, there may be a higher detection rate of psychotic disorders if a structured interview is used (Hamner, Frueh, Ulmer, & Arana, 1999). This is relevant because the African American patients were more likely to endorse MMPI items of bizarre mentation and because our prior work has suggested that use of a structured interview for psychotic symptoms detected modest differences between groups in psychotic symptoms (Frueh et al., 2002). Finally, because of local demographic characteristics, subjects in this study did not represent a wide range of veterans from other racial or ethnic minority groups (e.g., Hispanic, Pacific Islander, Asian, American Indian). Future health services research should include veterans from other minority groups whenever possible (e.g., Ruef et al., 2000).

Despite the noted limitations, the results of this study suggest that treatment-seeking African American and Caucasian combat veterans with PTSD are more similar than different in their symptom manifestation, in both PTSD-specific and general psycho-

pathology, as well as in their use of relevant VA medical and mental health services and benefits. Further investigation of service-use patterns (including data on process and outcome), benefits use patterns, and perceptions about the VA (including more fine-grained analyses, following veterans over longer periods of time) may help to enhance service delivery to minority veterans.

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