

TREATMENT DROPOUT PREDICTORS OF OEF/OIF/OND VETERANS WITHIN A
MULTIFACETED INPATIENT TREATMENT PROGRAM

A Dissertation

Presented to

The Faculty of the Department

of Psychology

University of Houston

In Partial Fulfillment

Of the Requirements for the Degree of

Doctor of Philosophy

By

Derek D. Szafranski

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ABSTRACT

Veterans of Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF) and Operation New Dawn (OND) dropout of psychotherapy more often than Vietnam and Gulf War Veterans. Attrition reduces the effectiveness of evidence-based treatments, resulting in fewer benefits for Veterans. Outpatient treatment studies have identified age, symptom severity, and personality characteristics along with a number of other variables as predictors of dropout. However, to the best of our knowledge, to date no study has examined rates or predictors of attrition within OEF/OIF/OND Veterans seeking voluntary inpatient treatment. This study examined 436 (Male = 296, Female = 140) OEF/OIF/OND Veterans seeking inpatient treatment for PTSD and other psychological disorders. Males (24.3%) displayed significantly higher rates of attrition than females (11.4%). Treatment completers and dropouts differed on a variety of variables including, PTSD diagnosis, rate of improvement during treatment and substance abuse. Regression results for female OEF/OIF/OND Veterans indicated five significant unique predictors of attrition (PTSD diagnosis, bi-polar diagnosis, lower rate of improvement during treatment, lower suicidality ratings and race). Caucasian females were more likely to withdraw from treatment than noncaucasians. Regression results for male OEF/OIF/OND Veterans indicated six unique predictors of attrition (no PTSD diagnosis, positive urinary drug screening, lower rate of improvement during treatment, higher service connection for mental health, younger age and higher military rank).

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Treatment Dropout Predictors of OEF/OIF/OND Veterans within a Multifaceted
Inpatient Treatment Program

Concerns about mental health outcomes amongst Veteran populations are intensifying as post-combat reintegration is often difficult, more so among Veterans with a posttraumatic stress disorder (PTSD) diagnosis (Milliken, Auchterlonie, & Hoge, 2007; Renshaw, Rodrigue, & Jones, 2009). Psychological disorders amongst Veterans are highly prevalent and a considerable fiscal expenditure for the US government. It is estimated 3-to-5 trillion dollars will be spent by the US government on services related to mental health care and disability for post 9-11 Veterans serving in Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF) and Operation New Dawn (OND) over the course of their lifetime (U.S. Medicine, 2012). Many of these Veterans have been diagnosed with highly prevalent psychological disorders such as PTSD, MDD and BPD.

Recent research suggest PTSD rates (12-17%) amongst OEF/OIF/OND Veterans are two-to-three times greater than general public rates (6.8%) (Erbes, Westermeyer, Engdahl, & Johnson, 2007; Hoge et al., 2004; Kessler, Chiu, Demler, & Walters, 2005). Similarly, Hoge et al., reported elevated major depressive disorder (MDD) prevalence rates (7.9-15.2%) amongst OEF/OIF/OND Veterans compared to 6.7% for the general population (Kessler et al.,). The elevated rates indicate that OEF/OIF/OND Veterans are at an increased risk for developing PTSD and MDD. Specific rates of borderline personality disorder (BPD) have not been reported for OEF/OIF/OND Veterans. However, BPD rates of 5.9% have been reported within the general public (Grant et al., 2008). Given the BPD often results from trauma and that Veterans report higher rates of other disorders related to trauma (e.g., PTSD),

it is feasible that BPD rates may be higher for Veterans than those noted in the general population.

Impact and Course of PTSD, Depression and Borderline Personality Disorder

The negative impact of PTSD on quality of life within the Veteran population is well documented (Kearney, McDermott, Malte, Martinez, & Simpson, 2012). Suicide rates amongst patients with PTSD are six times higher than the general population and even higher amongst combat Veterans (Sher, 2009). It is estimated 8,000-to-9,000 Vietnam Veterans have committed suicide, many of which were diagnosed with PTSD, MDD and/or BPD. Furthermore, suicide rates among OEF/OIF/OND Veterans have more than doubled since the beginning of the two wars (United States Department of Defense, 2010). Suicide is now the second leading cause of death among OEF/OIF/OND Veterans (U.S. Army, 2010). Finally, if left untreated, PTSD appears to have a chronic course and low recovery rates (Bremner, Southwick, Darnell, & Charney, 1996). As a result, Veterans may be at risk of suicide for prolonged periods of time.

Major Depressive Disorder can also have a chronic course when left untreated, especially when diagnosed with a comorbid personality disorder (Cain et al., 2012). Analogous to PTSD, research suggests the MDD negatively impacts areas of life such as marriage (Christian-Herman, O'Leary, & Avery-Leaf, 2001), self-esteem (Simons & Miller, 1987), quality of life (Cully, Phillips, Kunik, Stanley, & Deswal, 2010), and job performance (Lerner & Henke, 2008). Moreover, MDD places Veterans at higher risk for suicide than the general public (Zivin et al., 2007). Comparable areas of impairments, increased risk of suicidality and chronic course of illness have been reported in the BPD literature as well (Gunderson et al., 2011; Van Velzen, Emmelkamp, & Scholing, 2000; Whisman, Tolejko, &

Chatav, 2007). High prevalence rates, substantial impairment in numerous areas of life and increased risk for suicide, make efficacious treatments for PTSD, MDD and BPD imperative. Fortunately, a considerable amount of research has been conducted in this area.

Efficacy of Treatments for PTSD, MDD and BPD

The Veterans Affairs (VA) Healthcare system has provided a Uniform Mental Health Services Package (UMHS) that mandates the provision of evidence-based therapies targeting PTSD and MDD for all Veterans seeking outpatient or residential treatment (Karlin et al., 2010). Evidence-based treatments such as Prolonged Exposure (PE; Foa, Hembree & Rothbaum, 2007) and Cognitive Processing Therapy (CPT; Resick, Monson, & Chard, 2010) are highly effective in treating PTSD within Veteran populations and are among the mandated treatments (Chard, Schumm, McIlvain, Bailey, & Parkinson, 2011; Rauch et al., 2009). Behavioral activation is one of the gold-standard treatments for MDD and has shown to be efficacious in reducing problematic symptoms (Dimidjian et al., 2006). More recent studies examining the effects of exercise are beginning to show promise in reducing MDD symptoms (Mead et al., 2009; Rethorst, Wipfli, & Landers, 2009). Finally, Dialectical Behavior Therapy (DBT; Linehan, 1993) has shown to be efficacious in reducing symptoms of BPD within the Veteran population (Koons et al., 2001). While a number of effective treatments have been developed, recent research highlights substantial problems related to high rates of attrition within psychotherapy (Bohus, et al., 2004; Garcia, Kelly, Rents, & Lee, 2011).

Statement of the Problem

Evidence-based treatments for PTSD, MDD and BPD are designed to reduce maladaptive psychological symptoms (e.g., hyper-arousal, recurrent thoughts of

death/suicide, fatigue, intense anger, impulsivity etc). However, many evidence-based treatments are designed with specific time/session requirements in order to elicit symptom reduction (van Minnen & Foa, 2006). Premature dropout directly inhibits Veterans ability to refine, crystallize and implement therapeutic skills, thus diminishing the chances of symptom reduction. Premature dropout occurs at staggering rates, reduces treatment gains and underutilizes financial resources allocated to Veteran mental health treatment.

Early psychotherapy studies on civilian populations reported rates of attrition between 35-50% within 1-3 sessions of treatment (Affleck & Mednick, 1959; Brandt, 1965; Hiler, 1958). Garfield (1994) reported that 65% of participants terminated therapy before the 10th session. Unfortunately, current research suggests that attrition rates have not improved since these early studies (Barrett, Chua, Crits-Christoph, Gibbons, & Thompson, 2008; Hofmann & Suvak, 2006). Furthermore, elevated rates of attrition have been documented within PTSD (18.9-67.5%) (Garcia et al., 2011; Hembree, Foa, Dorfan, Street, Kowalski, & Tu, 2003), MDD (40-50%) (Karlin et al., 2012; Persons, Burns, & Perloff, 1988) and BPD treatments (22-28.1%) (Bohus et al., 2004; Fisher, Winne, & Ley, 1993; Koons et al., 2001; Nysæter, Nordahl, & Havik, 2010) for Veteran and civilian populations.

Due to the emergent concerns of attrition within psychotherapy, an effort has been made to identify predictors of premature dropout. Andersen's (1995) model of health services utilization helped categorize likely contributors to treatment adherence. Anderson identified four categories that effect patient's use of psychological services, including 1) patient predisposing characteristics (e.g., age, gender and ethnicity), 2) enabling factors (e.g., socio-economic status and social support), 3) need for treatment (e.g., severity of diagnosis and comorbidity) and 4) service utilization (e.g., accessibility to treatment and treatment

setting). Research related to patient predisposing characteristics is inconsistent at best. Early studies showed little to no relation between age, ethnicity, gender and treatment dropout rates (Cartwright, 1955; Craig & Huffine, 1976; Turner, Beidel, Wolff, & Spaulding, 1996).

However, more recent studies suggest that dropout may be associated with younger age adults (Edlund et al., 2002; Thormählen et al., 2003). The impact of ethnicity on dropout remains unclear. Some studies report that African Americans are more likely to dropout of cognitive processing therapy (CPT) for PTSD than Caucasians (Lester, Artz, Resick, Young-Xu, 2010). Conversely, no significant differences were found between African Americans and Caucasians when examining prolonged exposure (PE) for PTSD (Zoellner, Feeny Fitzgibbons, & Foa, 1999).

Multiple studies have found evidence to support other factors from each of Andersen's categories. Socioeconomic status has been regularly identified as a predictor variable of treatment dropout (Garfield, 1994). Factors such as patient motivation (Hofmann & Suvak, 2006) and pre-treatment symptom severity levels (Turner et al., 1996) have also been linked to treatment dropout. Enabling and service utilization factors such as difficulties in obtaining mental health services, greater distance traveled to services, and length from initial intake to first treatment session are also associated with premature dropout (Barrett et al., 2008). Moreover, comorbid Axis II personality disorders may lead to higher rates of attrition (Thormählen, 2003). Finally, the type of treatment received does not seem to influence dropout within PTSD (Taylor, 2003). This finding is particularly important considering ethical arguments have been made against exposure-based treatments, despite their effectiveness (Olatunji, Deacon, & Abramowitz, 2009).

Many of the studies examining attrition were conducted with civilian populations and

few studies have examined these aspects within Veteran populations. Even fewer studies examined attrition rates and predictors of dropout within in the OEF/OIF/OND population. This is somewhat surprising given the uniqueness of Veteran populations. For example significantly higher rates of premature dropout have been reported amongst OEF/OIF/OND Veterans compared to Vietnam Veteran (Erbes, Curry, & Leskela, 2009).

Another study that has examined attrition amongst OEF/OIF/OND Veterans, reported a 67.5% dropout rate (Garcia et al., 2011). Moreover, they found that Veterans who dropped out were significantly younger in age, endorsed greater PTSD symptom severity and had higher elevations of many MMPI-2 subscales [i.e., Depression (D), Social Introversion (SI), Negative Treatment Indicators (TRT) and Infrequency (F)]. However, regression analysis identified only two variables (i.e., age and TRT) as significant predictors of treatment dropout.

Erbes et al., (2009) and Garcia et al., (2011) added substantially to the sparse literature related to attrition within OEF/OIF/OND Veterans. However, extensive gaps remain. For instance, Erbes et al., and Garcia et al., studied OEF/OIF/OND Veterans treated in outpatient settings. Many outpatient settings exclude Veterans who test positive for illegal substances or those who are recently or currently suicidal (Teng et al., 2008). This could exclude a substantial portion of OEF/OIF/OND Veterans, with an estimated 5-15% of Veterans meeting criteria for a substance use disorder (Possemato, Wade, Anderson, & Ouimette, 2010). These exclusionary criteria drastically decrease the external validity of findings due to the substantial underrepresented population of substance users. Furthermore, these studies examine patients who seek individual services, once a week, until treatment is concluded or premature termination takes place. Outpatient treatment settings are very

different from more intensive treatments utilized in inpatient treatment settings. As a result, predictors of attrition from outpatient settings may not generalize to inpatient treatment settings.

The definition of attrition may also differ between outpatient and inpatient treatment settings. Outpatient studies often define premature termination as a patient ending therapy before treatment goals are achieved. However, the patients total sessions may far exceed the regulated number of sessions administered within standard inpatient treatment settings or randomized clinical trials (RCT) (Garcia et al., 2011). As a result, the alarmingly high rates of attrition (67.5%) reported in outpatient studies, are likely inflated compared to those observed within inpatient treatment settings.

Substantial differences in patient characteristics have been noted between inpatient and outpatient Veteran populations. Patients who self-admit to an inpatient treatment program, report more severe pretreatment ratings across a variety of disorders including PTSD, depression and borderline personality disorder (Foa, Keane, Friedman, & Cohen, 2009). Furthermore, inpatient treatment programs do not exclude patients who test positive for illegal substance use or engage in self-injurious, near lethal behaviors. These differences emphasize the importance of attrition research within inpatient Veteran populations. Moreover, they highlight problems relating to the current lack of attrition research within inpatient settings.

To the best of our knowledge, no study has examined OEF/OIF/OND attrition rates within a voluntary inpatient treatment setting. Furthermore, no study has reported differences between treatment completers and noncompleters in Veteran predisposing characteristics, enabling variables, need for treatment variables and service utilization variables. Finally, no

study has reported significant predictors of treatment dropout within OEF/OIF/OND Veterans utilizing services within a VA inpatient setting. This study attempted to mend these gaps in the literature by examining these questions using participants who are OEF/OIF/OND Veterans. Participants had a primary diagnosis of PTSD and received treatment in a voluntary VA inpatient treatment program.

Specific Aims of the Proposed Dissertation:

1. Identify similarities and differences between OEF/OIF/OND Veterans attrition rates within a VA inpatient setting compared to previous reports of attrition in outpatient settings.

Hypothesis 1: OEF/OIF/OND Veterans utilizing services within a VA inpatient program would display significantly less attrition than previous reports of OEF/OIF/OND Veterans receiving treatment within outpatient settings (67.5%) (Garcia et al., 2011).

2. Employing Andersen's (1995) model of health services utilization, identify differences in pre-treatment patient predisposing characteristics (e.g., age, gender and ethnicity), enabling factors (e.g., socio-economic status and social support), need for treatment variables (e.g., severity of diagnosis and comorbidity) and service utilization variables (e.g., accessibility to treatment and treatment setting) between treatment completers and non-completers.

Hypothesis 2: Consistent with previous literature, treatment completers would significantly differ from noncompleters on variables such as age, miles from nearest mental health service provider number of deployments and pre-treatment symptom severity. Anecdotal observation suggests that dropout would be significantly larger

for higher military rank as compared to lower military ranking Veterans. Finally, dropout rates would be higher in Veterans who screen positive for illicit drug use as compared to Veterans who screen negative at admission.

3. Identify significant predictor variables of premature attrition within OEF/OIF/OND Veterans utilizing services within a VA in-patient setting.

Hypothesis 3: Consistent with previous literature, patient predisposing characteristics (i.e., age), enabling factors (i.e., socio-economic status), need for treatment variables (i.e., severity of diagnosis and comorbidity) and service utilization variables (i.e., accessibility to treatment) would significantly predict premature attrition.

Exploratory Aim of the Proposed Dissertation is to:

1. Examine gender differences in attrition rates of OEF/OIF/OND Veterans utilizing services in a VA in-patient setting.

Hypothesis 1: Based on anecdotal evidence, it is hypothesized that males would display significantly larger rates of attrition.

Research Design and Methods

Participants

Inclusion/Exclusion Criteria. Eligible participants voluntarily self-admitted into a 25-day, trauma-focused, inpatient treatment program, met DSM-IV-TR criteria for PTSD, MDD and/or BPD, and served in either Iraq or Afghanistan post 9-11. Female participants received treatment via the Women's Inpatient Specialty Environment of Recovery program (WISER). Male participants received treatment via the Returning OEF/OIF/OND Veterans Environment of Recovery program (ROVER). Both WISER and ROVER are located within

a locked inpatient psychiatric unit. However, the unit is divided by a second locking system for male and female segregation. Males and females are kept in separate locked units due to the high rates of pretreatment sexual trauma reported by female Veterans.

Non-Veterans were ineligible to participate in this study. Participants were excluded from the study if they had a diagnosis or medical condition that would exclude them from benefitting from group therapy (e.g., severe traumatic brain injury).

Eligible participants were recruited from individuals voluntarily seeking trauma-focused, inpatient treatment at the Michael E DeBakey VA Medical Center, located in Houston, Texas. The majority of participants were referred by their home VA's in Arkansas, East Texas, Louisiana, Mississippi, or Oklahoma. At admission, Veterans were approached to participate in a program evaluation study using a Human Subjects approved protocol. Veterans were informed that not participating in the research would not hinder or enhance their treatment. Veterans who provided informed consent to participate in research and did not meet exclusionary criteria, were included in this study. Approximately 15-20 participants were enrolled monthly.

Participants were 436 adults with a primary diagnosis of PTSD, recruited prior to receiving a multifaceted treatment package from the Michael E DeBakey VA Medical Center located in Houston, Texas. Of the 436 participants, 296 were male and 140 were female. Females had a mean age of 33.72 ($SD = 8.05$) and an age range of 37 years (20-57). Males had a mean age of 30.86 ($SD = 6.69$) and an age range of 38 years (20-58). The vast majority of males (64.35%) and females (80.68%) described themselves as currently not married (i.e., single, long term relationship, divorced, separated or widowed). The female sample was ethnically diverse 51.9% describing themselves as Caucasian, 39.3% as African American,

4.4% as Hispanic/Latino, 3.0% as Multi-Racial, 0.7% as Asian, and 0.7% as other. Similar ethnic breakdowns were reported in males samples with 66.3% describing themselves as Caucasian, 17.4% as African American, 8.7% as Hispanic/Latino, 4.9% as Multi-Racial, 0.5% as Asian, and 2.2% as other.

Large subsets of males (81.9%) and females (63.5%) were unemployed or disabled and unable to work. Roughly half of male (56.3%) and female (57.0%) participants reported attending some college. However, only 9.8% of males and 23.7% of females obtained a college degree. Finally, 9.5% of males and 28.5% of females described their currently living situation as “homeless” at admission to treatment.

The majority of male participants served in the Army (62.7%). The remaining male participants served in the Marines (18.6%), Navy (10.6%), Air Force (4.7%) or other (3.4%). Similarly, the majority of females served in the Army (68.2%). The remaining female participants served in the Marines (12.7%), Navy (10.0%), and Air Force (9.1%). Almost all of the male participants (97.9%) and roughly two-thirds (67.2%) of female participants were deployed to a combat zone. Males reported an average of 5.94 ($SD = 4.35$) years served in active duty. Females reported an average of 7.15 ($SD = 4.90$) years served in active duty.

While serving active duty, 98.8% of males and 93.2% of females reported their rank as Enlisted-3 level (E3) (i.e., Private First Class, Lance Corporal, Airman First Class or Seaman) or higher. Moreover, 4.6% of males and 5.3% of females were reported their highest rank as Enlisted-7 (i.e., Sergeant First Class, Gunnery Sergeant, Master Sergeant/First Sergeant or Chief Petty Officer). Finally 1.8% of males and 5.3% of females were Officers. The average time since discharge from the military to receiving treatment via the ROVER/WISER program was 3.55 years ($SD = 2.59$) for males and 4.37 years ($SD =$

4.09) for females. Finally, 63.4% of males and 47.9% of females are currently service connected for mental health reasons.

Design and Procedure

This study was conducted in the framework of an ongoing study related to the effects of a multifaceted treatment package for PTSD, depression and borderline personality disorder within OEF/OIF/OND Veterans conducted in the context of a voluntary inpatient program, located in a VA hospital setting. Prior to treatment, participants were explained each aspect of the treatment program including, types of treatment, duration, unit policies etc.

Study Design and Assessment Procedures. Upon providing informed consent, participants were assessed with a urine drug screening, and a structured clinical interview. Veterans completed self-report measures regarding demographic information, pretreatment symptom severity and overall functioning utilizing a variety of psychological measures. Upon completing the pretreatment admission packet, all participants met with each member of the treatment staff (psychologist, social worker, psychiatrist, registered nurses, psychology interns and externs) and had an opportunity to ask any questions they might have regarding the program or the research study. Then, participants participated in an average of 25-day comprehensive treatment program consisting of psychoeducation, combined group and individual Cognitive Processing Therapy, medication management, group Dialectical Behavior Therapy skills, group anger management, occupational therapy, exercise, group substance use treatment, and bi-weekly interdisciplinary treatment team rounds. Furthermore, participants were introduced to behavioral activation via participating in weekday/weekend outings such as sailing trips, attending movies, kayaking class, along with contingency based unsupervised off unit free time. An example of a daily treatment schedule can be found in

Figure 1. At the end of treatment, participants were asked to complete a posttreatment packet similar to the pretreatment assessment packet.

A quasi-experimental design was used to examine attrition rates with OEF/OIF/OND Veterans utilizing services within a voluntary VA inpatient treatment program. In addition, pretreatment differences between participants who completed treatment and those who terminated treatment early were assessed using variables such as the Clinician-Administered PTSD Scale (CAPS) severity ratings, PTSD Checklist Military Version (PCL-M), Beck Anxiety Inventory (BAI), Beck Depression Inventory-II (BDI-II), Beck Scale for Suicide Ideation (BSS), Difficulty in Emotion Regulations Scale (DERS), Admission Drug Screening, the Multidimensional Scale of Perceived Social Support (MSPSS), SF-36 Health Survey and Connor-Davidson Resilience Scale (CD-RISC). Furthermore, we assessed for differences between treatment completers and non-treatment completers on demographic variables such as gender, ethnicity, age, branch of service, education level, employment status, marital status, homelessness status, number of combat deployments, time since discharge, military rank and service connection.

Setting

The study was conducted on the voluntary inpatient unit, ROVER/WISER, in the Michael E DeBakey VA Medical Center located in Houston Texas.

Measures

Demographic Variables

Demographic variables were collected via self-report prior to treatment initiation as part of a comprehensive admission packet. Demographic variables include, age, gender, race, ethnicity, employment/student status, education level, marital status, number of children,

living status, military branch served, place of deployment, number of deployments, time served, service connection, type of discharge, distance away from home VA, concerns related to leaving school for treatment, outpatient treatment three weeks prior to WISER/ROVER, inpatient treatment three weeks prior to WISER/ROVER and military rank.

Global Improvement Measures

The Rate of Improvement During Treatment Scale (RIDT). Similar to the global assessment of functioning scale, The RIDT is a 1-item measure that allows clinicians to assess overall improvement from admission to discharge from treatment. The RIDT uses a five-point scale to determine improvement (1 = Very much improved to 5 = Slight deterioration). The measure was created for the purpose of this research project and no psychometric properties have been reported.

PTSD and Anxiety Measures

The Clinician-Administered PTSD Scale (CAPS). The CAPS (Blake et al., 1990) is a 30-item structured interview based on DSM-IV-TR criteria for PTSD and is the gold-standard measure of PTSD (United States Department of Veteran Affairs, 2007). The CAPS uses a five-point scale to determine frequency (0 = none to 4 = daily or almost every day) and intensity (0 = none to 4 = extreme). The measure also allows for clinicians to indicate whether each rating is of questionable validity. The CAPS takes about 50 minutes to administer (Weathers, Keane, & Davidson, 2001). The CAPS displays acceptable-to-good internal consistency (α s range from .73 to .85) both with small (Blake et al.,) and large samples (Weathers & Litz, 1994). Furthermore, the CAPS displays excellent interrater reliability (r s range from .92 to .99) for frequency and intensity (Blake et al., 1990). Within a large scale service-seeking Veteran sample, the CAPS displays acceptable-to-excellent

convergent validity (r s range from .77 to .91) with other self-report measures of PTSD (Weather & Litz)

The PTSD Checklist Military Version (PCL-M). The PCL-M (Weathers & Ford, 1996) is a standardized 17-item measure that assesses patients' perceptions of PTSD re-experiencing, avoidance, and hyperarousal symptoms. The measure uses a five-point scale (1 = not at all to 5 = extremely) to determine how much each statement has bothered him/her in the past month. The PCL-M takes between 5-10 minutes to administer (Antony, Orsillo & Roemer, 2001). The PCL displays excellent internal consistency ($\alpha = .94$) for victims of automobile accidents and sexual assault (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). Similar results were found with the PCL-M when examining Iraq and Afghanistan Veterans (Wilkins, Lang, & Norman, 2011). Furthermore, the PCL-M displays acceptable test-retest reliability (r s > .70). Finally, the PCL-M had a kappa of .64 with the PTSD section of the Structured Clinical Interview for DSM-IV (SCID), indicating good convergent validity (Wilkins).

PTSD Diagnosis at Admission (PTSD-A). The PTSD-A is a single item measure that indicates whether or not Veterans enrolling into WISER/ROVER have a PTSD diagnosis from a previous provider.

PTSD Diagnosis at Discharge (PTSD-D). The PTSD-D is a single item measure that indicates whether or not Veterans were diagnosed with PTSD by a clinician, while attaining treatment on WISER/ROVER.

Beck Anxiety Inventory (BAI). The BAI (Beck & Steer, 1993) is a 21-item measure of the severity of self-reported anxiety in adults and adolescents. The BAI uses a four-point scale to determine frequency (1 = not at all to 4 = severely: it bothered me a lot). The BAI

takes between 5-10 minutes to administer (Antony, Orsillo & Roemer, 2001). The BAI displays excellent internal consistency ($\alpha = .92$) (Beck, Epstein, Brown, & Steer, 1988) for mixed psychiatric samples and good-to-excellent internal consistency (α s range from .85 to .93) for anxiety samples (Beck & Steer). Furthermore, the BAI displays good 5-week test-retest reliability ($r = .83$) (de Beurs, Wilson, Chambless, Goldstein, & Feske, 1997). Finally, the BAI is more strongly correlated with a second measure of anxiety ($r = .48$) than a measure of depression ($r = .25$), indicating good discriminate validity but moderate convergent validity (Beck, Epstein, Brown, & Steer, 1988).

Depression and Suicidality

Beck Depression Inventory-II (BDI-II). The BDI-II (Beck, Steer & Brown, 1996) is a 21 item, self-report measure of depressive symptoms and depressogenic cognitions associated with depression. The BDI-II uses a four-point scale to determine frequency (0 = no presence if the identify symptoms to 3 = constant presence of the identify symptom). The BDI-II takes between 5-10 minutes to administer. The BDI displays good internal consistency ($\alpha = .89$) (Steer & Clark, 1997). Furthermore, the BDI displays good 1-week test-retest reliability ($r = .73$) (Wiebe & Penely, 2005). Finally, the BDI displayed good convergent validity ($r = .84$) with the Reynolds Adolescent Depression Scale (RADS) (Krefetz, Steer, Gulab, & Beck, 2002).

Ruminative Response Scale-Depression (RRS-D). The RRS-D is a subscale of the Ruminative Response Scale (Nolen-Hoeksema & Morrow, 1991). The RRS-D is comprised of 12 of the 22 total items in the RRS. The RRS-D assesses frequency of depressive cognitions related to negative life events. The RRS-D uses a 4-point Likert scale ranging from 1 (almost never) to 4 (almost always). The RRS displays good internal consistency ($\alpha =$

.88; Just & Alloy, 1997) and adequate two-to-three week test-retest reliability ($r = .70$; Conway, Csank, Holm, & Blake, 2000). Moreover, the RRS has been shown to predict depression severity (Nolen-Hoeksema, Larson, & Grayson, 1999).

Mood Disorder at Admission (MD-A). The MD-A is a single item measure that indicates whether or not Veterans enrolling into WISER/ROVER have a mood disorder diagnosis from a previous provider.

Mood Disorder at Discharge (MD-D). The MD-D is a single item measure that indicates whether or not Veterans were diagnosed with a mood disorder by a clinician, while attaining treatment on WISER/ROVER.

Bipolar Disorder at Admission (BP-A). The BP-A is a single item measure that indicates whether or not Veterans enrolling into WISER/ROVER have a bi-polar disorder diagnosis from a previous provider.

Bipolar disorder at Discharge (BP-D). The BP-D is a single item measure that indicates whether or not Veterans were diagnosed with bi-polar disorder by a clinician, while attaining treatment on WISER/ROVER.

Beck Scale for Suicide Ideation (BSS). The BSS (Beck & Steer, 1991) is comprised of five screening items that provide a decision tree for suicidal ideation. These five screening items reduce the length and the intrusiveness of the questionnaire for patients who are non-suicidal. Those with suicidal ideation complete the 21-item scale to determine severity of thinking. The BSS uses a three-point scale (0 = no presence if the identify symptom to 2 = constant presence of the identify symptom). The BSS takes between 5-10 minutes to administer (Antony et al., 2001). The BSS displays excellent internal consistency ($\alpha = .96$) (Beck, Steer, & Ranieri, 1988). Furthermore, the BSS displays good 1-week test-retest

reliability ($r = .88$) (Pinninti, Steer, Rissmiller, Nelson, & Beck, 2002). Finally, the BSS displayed good concurrent validity ($r = .90$) with psychiatrist's suicide ratings (Beck et al., 1988).

Borderline Personality Disorder

Difficulty in Emotion Regulations Scale (DERS). The DERS (Gratz & Roemer, 2004) is a 36-item self-report measure of affective dysregulation. The DERS uses a five-point scale (1 = almost never to 5 = almost always) The DERS takes between 10-15 minutes to administer. The DERS displays excellent internal consistency ($\alpha = .93$). Furthermore, the DERS displays good four-to-eight week test-retest reliability ($r = .88$). Finally, the DERS displayed adequate construct validity ($r = -.69$) with a commonly used measure of emotional regulation, the Generalized Expectancy for Negative Mood Regulation Scale (NMR) (Gratz & Roemer).

Illicit Drug Use

Admission Urinary Drug Screening (UDS): The admission urine drug screening is administered prior to treatment and assesses for biological evidence of illicit drugs currently in Veterans systems. The UDS assess for drugs such as benzodiazepine, cannabis, methadone, opiates, ethanol, barbiturates, amphetamine, and cocaine. The UDS variable was converted into a three-item scale (0 = negative on all drugs, 1 = positive for one drug, 2 = positive for two or more drugs).

Social Support and Relationship Adjustment

Multidimensional Scale of Perceived Social Support (MSPSS). The MSPSS (Sarason, Levine, Basham & Sarason, 1983) is a 12-item measure of perceived social support from family, friends, and significant others. The MSPSS uses a seven-point scale (1 = very

strongly disagree to 7 = very strongly agree). The MSPSS displays good-to-excellent internal consistency (α s range from .84 to .92) (Zimet, Powell, Farley, Werkman, & Berkoff, 1990). Furthermore, the MSPSS displays good two-to-three month test-retest reliability ($r = .85$). Finally, the MSPSS displayed moderate construct validity ($r = -.24$) with the depression subscale of the Hopkins Symptoms Checklist (HSCL) (Zimet, Dahlem, Zimet, & Farley, 1988).

Quality of Life

SF-36 Health Survey. The SF-36 (Ware & Sherbourne, 1992) is a 36-item, widely used clinical instrument that measures eight domains of functional health and well-being: physical functioning, role limitations due to physical health, bodily pain, general health perceptions, vitality, social functioning, role limitations due to emotional problems, and mental health. The SF-36 uses a variety of question formats including true/false and Likert scales ranging from “Not at All” to “Extremely.” The SF-36 displays good internal consistency with Cronbach α s exceeding .80 for all eight subscales (Garratt, Ruta, Abdalla, Buckingham, & Russell, 1993). Furthermore, a meta-analytic study of SF-36 psychometrics, reported acceptable-to-excellent test-retest reliability scores for all subscales (Ware, 2000). Finally, the SF-36 displayed moderate construct validity ($r = .40$ or greater) with other measures assessing the same eight constructs (Ware).

Rumination and Resiliency

Connor-Davidson Resilience Scale (CD-RISC). The CD-RISC (Connor & Davidson, 2003) is a 25-item clinical instrument designed to measure stress-coping ability in treatment outcomes related to anxiety, depression, and stress reactions. The CD-RISC uses a 5-point scale (0 = not true at all to 4 = true nearly all of the time). The CD-RISC takes between 5-10

minutes to administer. The CD-RISC displays good internal consistency ($\alpha = .89$).

Furthermore, the CD-RISC displays good test-retest reliability ($r = .87$). The authors stated that test-retest scores were taken between two consecutive time points, but did not specify the duration between the time points. Finally, the CD-RISC displayed good convergent validity ($r = .83$) when compared to the Kobasa Hardiness Scale (Connor & Davidson).

Results

Chi-square analyses revealed that males displayed significantly higher rates of attrition (24.3%) than females (11.4%) $X^2(1, N = 432) = 9.771, p = .002$. As a result, separate analyses were conducted for males and females in an attempt to increase generalizability of outcomes. In order to identify possible predictors of attrition, we first conducted a variety of independent sample's t-tests and chi-square analyses. These analyses examined possible differences between treatment completers and noncompleters. Variables that were identified through these analyses, were then entered into a hierarchical multiple regression, utilizing Anderson (1995) model of service utilization. This model consists of four categories including, 1) need for treatment variables, 2) enabling factors, 3) predisposing characteristics, and 4) service utilization factors.

Females

Results of the regression model for females can be found in Table 1. In step 1, we placed six need for treatment variables including 1) PTSD diagnosis at discharge, 2) Bipolar disorder at discharge, 3) substance use disorder at discharge, 4) rate of improvement during treatment, 5) RRS-Depression, and 6) Beck Scale for Suicidal Ideation. The overall model after step 1 was significant, $R^2 = .675, F(6, 35), = 12.09, p < .000$. Of the six variables in step 1, three (i.e., rate of improvement during treatment, bipolar disorder at discharge and

RRS-Depression) displayed a significant positive association with attrition, while one (BSS) displayed a significant negative association with attrition. Neither a PTSD diagnosis at discharge nor substance use disorder at discharge were significantly uniquely related to attrition.

In step 2, enabling factors were added, including 1) service connection for mental health and 2) service connection for overall health. The overall model remained significant $R^2 = .691$, $F(8, 33) = 9.23$, $p < .000$. However, the model did not significantly improve from step 1 to step 2, $R^2\Delta = .017$, $p \Delta = .421$. Moreover, neither enabling factor was related to attrition. Similar to step 1, rate of improvement during treatment and bipolar disorder at discharge were significantly related to attrition. However, BSS and RRS-Depression were no longer significant predictors.

In step 3, predisposing characteristics were added, including 1) race, 2) age and 3) rank. Again, the overall model was significant $R^2 = .764$, $F(11, 30) = 8.82$, $p < .000$. Unlike step 2, step 3 significantly improved the overall model $R^2\Delta = .073$, $p \Delta = .042$. Of the predisposing characteristics added, only race was significantly related to attrition, with Caucasians being more likely to dropout than noncaucasians. Moreover, rate of improvement during treatment, bipolar disorder at discharge and BSS were significantly related to attrition. However, unlike step 1 and step 2, PTSD diagnosis at discharge was a significant positive predictor of attrition.

In step 4, service utilization factors were added, including 1) receiving inpatient treatment a few weeks before services and 2) receiving outpatient treatment a few weeks before services. Similar to step 2, the overall model remained significant $R^2 = .777$, $F(13, 28) = 7.49$, $p < .000$ but did not significantly change from the previous step $R^2\Delta = .013$, $p \Delta =$

.459. Neither service utilization factor was significant. Moreover, the addition of service utilization factors did not significantly alter variables identified in step 3 as significant predictors of attrition/completion.

Males

The results for the regression model for males can be found in Table 2. In step 1, we placed four need for treatment variables including 1) PTSD diagnosis at discharge, 2) urinary drug screening, 3) mood disorder at discharge, and 4) rate of improvement during treatment. The overall model after step 1 was significant, $R^2 = .330$, $F(4, 118) = 14.50$, $p < .000$. Of the four variables in step 1, two were strongly positively related to attrition (urinary drug screening and rate of improvement during treatment). Neither a PTSD diagnosis at discharge or mood disorder at discharge was significantly related to attrition.

In step 2, enabling factors were added, including 1) concerns related to leaving school and 2) service connection for mental health. The overall model remained significant $R^2 = .363$, $F(6, 116) = 11.04$, $p < .000$ and significantly improved from step 1 $R^2\Delta = .034$, $p\Delta = .049$. Of the two enabling factors added, only service connection for mental health was significantly positively related to attrition. Urinary drug screening and rate of improvement during treatment remained significant as well. Unlike step 1, PTSD diagnosis at discharge was significantly positively related to attrition. Mood disorder at discharge remained nonsignificant.

In step 3, predisposing characteristics were added, including 1) race, 2) age and 3) rank. Again, the overall model was significant $R^2 = .407$, $F(9, 113) = 8.62$, $p < .000$ and significantly improved from step 2 $R^2\Delta = .044$, $p\Delta = .044$. Of the predisposing characteristics added, age was significantly negatively related to attrition, while rank was

significantly positively related to attrition. Race displayed a nonsignificant relationship with attrition. Rate of improvement during treatment, urinary drug screening, PTSD discharge at diagnosis and service connection for mental health all remained significant predictors of attrition with no change in directionality.

In step 4, one service utilization factor (Miles from the VA) was added to the model. The overall model remained significant $R^2 = .408$, $F(10, 112) = 7.72$, $p < .000$ but did not significantly improve from step 3 $R^2 \Delta = .001$, $p \Delta = .687$. Miles from the VA was not significantly related to attrition. Moreover, the addition of service utilization factor did not significantly alter variables identified in step 3 as significant predictors of attrition/completion.

Discussion

Large numbers of OEF/OIF/OND Veterans struggle reintegrating into civilian life and often need assistance for psychological disorders such as PTSD. Research suggests that Veterans who do not receive treatment for PTSD, experience chronic symptoms and display low recovery rates (Bremner et al., 1996). A number of evidence-based treatments successfully reduce PTSD symptoms, as long as Veterans complete treatment (Chard et al., 2011; Rauch et al., 2009; Yoder et al., 2012). Veterans who do not complete treatment display significantly less symptom reduction and display worse overall impairment compared to completers (Tuerk et al., 2012).

Unfortunately, high rates of attrition (36%) have been reported amongst evidence-based treatments targeting PTSD (Imel, Laska, Jakupcak, & Simpson, 2013). Even higher rates of attrition (67.5%) have been reported amongst the OEF/OIF/OND population seeking treatment in outpatient settings (Garcia et al., 2011). When comparing war eras,

OEF/OIF/OND Veterans display lower treatment completion rates than both Vietnam and Gulf War Veterans (Erbes et al., 2009; Yoder et al., 2012). However, these studies have been conducted with Veterans in outpatient treatment settings. Veterans who seek inpatient treatment often display higher rates of symptom severity (Foa et al., 2009). Moreover, inpatient settings often include highly suicidal patients and patients with illicit drug use. Many outpatient settings exclude these types of patients. Differential Veteran populations between inpatient and outpatient settings decrease generalizability of outpatient findings to inpatient settings. To the best of our knowledge no study has examined rates or predictors of attrition within OEF/OIF/OND Veterans voluntarily seeking inpatient treatment.

Current Findings

This study had three primary and one exploratory aim. First, attrition rates from this inpatient setting were compared to those reported in outpatient studies consisting of OEF/OIF/OND Veterans. Both males (24.3%) and females (11.4%) receiving treatment in an inpatient setting displayed substantially lower rates of attrition than those reported in two outpatient studies (Erbes et al., 2009; Garcia et al., 2011). These findings suggest that treatment adherence is better for OEF/OIF/OND Veterans, who receive treatments in massed quantities, while staying on a treatment unit for an extended period of time. Differences in attrition rates between settings may be a result of patient severity (Foa et al., 2009) and/or removal of competing factors (e.g., job, school, children, spouse, etc.). Moreover, this inpatient treatment setting offered a unique integrated treatment approach (e.g., psychologists, psychiatrists, nurses, chaplain, occupational therapists and fellow OEF/OIF/OND Veterans) rarely found in outpatient settings.

The second aim of this study was to identify variables that significantly differed between treatment completers and noncompleters. Due to differences in attrition rates, males and females were examined separately. Similar to previous research, univariate analyses indicated that pretreatment variables such as PTSD diagnosis, depression and illicit drug use differed between treatment completers and noncompleters for both males and females (Garcia et al., 2011).

The third aim of this study was to identify significant predictors of attrition for both males and females. We hypothesized that variables from need for treatment, service utilization, patient predisposing characteristics and enabling categories would predict attrition. Results partially supported this hypothesis for females. Of the four categories entered into the hierarchical regression, need for treatment displayed the most significant predictors of attrition with RIDT, BP-D, BSS and PTSD-D. This finding is consistent with previous literature emphasizing these types of variables as predictors of dropout (Turner et al., 1996). RIDT was the strongest overall predictor of attrition with less improvement during treatment being associated with higher dropout rates. This finding provides evidence against the hypothesis that OEF/OIF/OND Veterans dropout of treatment at high rates because they are experiencing substantial reductions in symptomatology at an accelerated pace (Erbes et al., 2009). In fact, our findings suggest that Veterans who are not experiencing reductions in symptomatology are more likely to discontinue treatment prior to completion. Finally, female Veterans with lower suicidality ratings are more likely to dropout of treatment.

Of the remaining categories, only one variable (race) significantly predicted dropout in females. Female Veterans who identified themselves as Caucasian were more likely to dropout than female Veterans who identified themselves as a minority (e.g., African

American, Asian, Hispanic or multi-racial). This finding is substantially different from previous reports stating that African Americans were more likely to dropout of PTSD treatments (Lester et al., 2010). Our hypothesis that higher-ranking female Veterans would dropout more often was not supported by the results.

Our third hypothesis for males was partially supported by the results. Similar to previous research need for treatment variables (i.e., RIDT, UDS, PTSD-D) significantly predicted dropout (Bryant, Moulds, Guthrie, Dang, & Nixon, 2003; Turner et al., 1996; Zayfert, DeViva, Becker, Pike, Gillock, & Hayes, 2005). Rate of improvement during treatment was once again the strongest predictor with lower rates of improvement predicting dropout. Veterans who tested positive for illicit drugs were more likely to dropout, especially if they tested positive for two or more drugs. Once again this highlights the uniqueness of this treatment setting, as many Veterans who test positive for illicit substances are often excluded from outpatient treatments (Teng et al., 2008). Unlike females, male Veterans without a PTSD diagnosis were more likely to dropout of treatment. This may be a result of the intensity of treatment along with the severity level of fellow cohort members.

Contrary to previous findings examining attrition within tele-mental health treatments (Gros, Yoder, Tuerk, Lozano, & Acierno, 2011), results indicated that one enabling factor (i.e., SC-MH) significantly predicted dropout in males. Veterans who reported larger service connection rates for mental health were more likely to dropout of treatment. The current structure of service connection procedures monetarily reinforces Veterans for reporting severe levels of impairment due to PTSD and other psychological disorders. As a result, some Veterans may withdraw from treatment due to concerns of monetary loss via symptom reduction. While this topic is highly controversial, we suggest future research examines this

relationship more closely in hopes of decreasing attrition rates and improving the current service connection procedures.

Two patient predisposing characteristics (i.e., age and rank) significantly predicted dropout in males. Veterans who were younger in age were more likely dropout of treatment, which is consistent with previous research (Edlund et al., 2002; Thormählen et al., 2003). Anecdotal observations led to our hypothesis that higher military rank would significantly predict dropout. Results supported this hypothesis. While some studies have reported that lower rank is associated with lower quality of life ratings (Ikin et al., 2009). However, the effects of rank on attrition remain relatively unexamined.

The exploratory aim of this project was to assess possible differences in attrition rates between males and females. Our hypothesis was supported by the results. Male's dropped out of treatment at a 2:1 ratio compared to females. There are likely a number of reasons for this, including drug use. Male OEF/OIF/OND Veterans display significantly higher rates of alcohol and drug use (Eisen et al., 2012). Within a locked inpatient unit, access to illicit drugs is highly unlikely, often resulting in Veterans experiencing withdraw symptoms. The punishing effect of withdrawal symptoms may result in Veterans leaving treatment in order to gain access to drugs.

Limitations

This study exhibits a number of limitations. First, data were collected at pre and posttreatment instead of continually (e.g., once a week). Most Veterans who dropped out of the inpatient program did not complete posttreatment questionnaires and the only data available for this group was collected at pretreatment. A second limitation is lack of control group. As a result, attrition factors related to type of treatment were not examined. Moreover,

the lack of comparison group may inhibit generalizability of findings to other inpatient units who use different treatment protocols. A third limitation is the small female OEF/OIF/OND Veteran sample size. As a result, univariate analyses may have been underpowered for certain variables (e.g., race).

Future Directions

Future research should collect data continuously, include control/comparison groups and larger females samples sizes in an attempt to better delineate why OEF/OIF/OND Veterans dropout. Given that males and females differ substantially in attrition rate, future comparison studies examining clinical differences between male and female OEF/OIF/OND Veterans seeking inpatient treatment are needed. Studies such as these may help clinicians refine therapeutic techniques based on patient gender. Finally, considerably more research is needed regarding the controversial relationship between service connection for mental health and attrition from psychotherapy.

Conclusion

OEF/OIF/OND male and female Veterans seeking treatment in an inpatient setting display lower rates of attrition than those reported in outpatient settings (Garcia et al., 2011), suggesting better retention. The largest predictor for dropout was lack of improvement during treatment for males and females. However, subsequent predictors of dropout differed greatly between genders and included controversial topics such as military rank and rates of service connection for mental health. Moreover, males were significantly more likely to dropout of treatment than females. As a result, OEF/OIF/OND Veterans seeking treatment at an inpatient setting seem to be a unique population compared to Veterans seeking outpatient treatment and should be studied separately by gender.

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Table 1. Hierarchical Regression for Females

	Mult. <i>R</i>				<i>R</i> ²				Adj. <i>R</i> ²				<i>F</i>				<i>P</i>				<i>F</i> -Change			
Model																								
1	.82				.68				.62				12.09				.00				.00			
2	.83				.69				.62				9.23				.00				.42			
3	.87				.76				.68				8.82				.00				.04			
4	.88				.78				.67				7.49				.00				.46			
	Model 1				Model 2				Model 3				Model 4											
Predictor Variable	β	B	T	P	β	B	T	P	β	B	T	P	β	B	T	P								
PTSD-D	.15	.12	-5.21	.13	.19	.15	1.80	.08	.22	.17	2.28	.03	.21	.17	2.18	.04								
BP-D	.37	.30	3.59	.00	.35	.28	3.18	.00	.35	.28	3.50	.00	.35	.28	3.42	.00								
SUD-D	-.06	-.04	-.55	.58	-.08	-.05	-.67	.51	-.06	-.04	-.58	.57	-.09	-.06	-.79	.44								
RIDT	.55	.21	5.40	.00	.53	.21	4.96	.00	.55	.22	5.60	.00	.54	.21	5.10	.00								
RRS-D	.24	.01	2.10	.05	.20	.01	1.70	.10	.17	.01	1.54	.14	.15	.00	1.29	.21								
BSS	-.21	-.01	-2.10	.05	-.20	-.01	-1.97	.06	-.24	.00	-2.48	.02	-.25	-.01	-2.53	.02								
SC-MH					.21	.16	1.15	.26	.16	.12	.91	.37	.18	.13	.97	.34								
SC-T					-.10	-.07	-.55	.59	-.01	.00	-.04	.97	-.03	-.02	-.18	.86								
Race									-.25	-.13	-2.58	.02	-.23	-.12	-2.38	.03								
Age									-.08	.00	-.68	.50	-.06	-.00	-.51	.62								
Rank									.19	.03	1.61	.12	.17	.03	1.46	.16								
OP													.12	.06	1.24	.23								
IP													-.10	-.01	-.10	.92								

Note: PTSD-D = PTSD diagnosis at discharge, BP-D = Bipolar disorder at discharge, SUD-D = Substance use disorder at discharge, RIDT = Rate of improvement during treatment, RRS-D = Ruminative Response Scale-Depression subscale, BSS = Beck Scale for Suicidal Ideation, SC-MH = Service connection for mental health, SC-T = total service connection, OP = received outpatient services a few weeks prior to treatment, IP = received inpatient services a few weeks prior to treatment.

Table 2. Hierarchical Regression for Males

Table 2. Hierarchical Regression for Males																
	Mult. <i>R</i>		<i>R</i> ²		Adj. <i>R</i> ²		<i>F</i>		<i>P</i>		<i>F</i> -Change					
Model																
1	.57			.33				.31			14.50		.00			.00
2	.60			.36				.33			11.04		.00			.05
3	.64			.41				.36			8.62		.00			.04
4	.64			.41				.36			7.72		.00			.69
	Model 1				Model 2				Model 3				Model 4			
Predictor Variable	β	B	T	P	β	B	T	P	β	B	T	P	β	B	T	P
PTSD-D	-.14	-.19	-1.73	.09	-.16	-.21	-2.00	.05	-.19	-.25	-2.40	.02	-.18	-.25	-2.33	.02
UDS	.31	.18	4.05	.00	.30	.17	4.02	.00	.26	.15	3.51	.00	.26	.15	3.49	.00
MD-D	-.14	-.15	-1.82	.07	-.15	-.16	-1.93	.06	-.15	-.16	-1.90	.06	-.15	-.16	-1.90	.06
RIDT	.40	.20	5.10	.00	.38	.19	4.79	.00	.37	.18	4.62	.00	.36	.18	4.60	.00
SCO					.08	.15	1.06	.29	.05	.10	.70	.48	.06	.11	.734	.47
SC-MH					.16	.00	2.134	.04	.16	.00	2.15	.03	.16	.00	2.09	.04
Race									.04	.03	.509	.61	.04	.03	.515	.61
Age									-.27	-.02	-2.75	.01	-.26	-.01	-2.71	.01
Rank									.22	.08	2.34	.02	.22	.08	2.31	.02
Miles-VA													.03	.00	.403	.68

Note: PTSD-D = PTSD diagnosis at discharge, UDS = Urinary Drug Screening, MD-D = Mood disorder at discharge, RIDT = Rate of improvement during treatment, SCO = school concerns, SC-MH = Service connection for mental health, Miles-VA = distance from home VA.