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Brief Trauma and Mental Health Assessments for Female Offenders in Addiction Treatment

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Abstract

Increasing numbers of women in prison raise concerns about gender-specific problems and needs severity. Female offenders report higher trauma as well as mental and medical health complications than males, but large inmate populations and limited resources create challenges in administering proper diagnostic screening and assessments. This study focuses on brief instruments that address specialized trauma and health problems, along with related psychosocial functioning. Women from two prison-based treatment programs for substance abuse were assessed (N = 1,397), including one facility for special needs and one for regular female offenders. Results affirmed that admissions to the special needs facility reported more posttraumatic stress symptoms, higher rates of psychological stress and previous hospitalizations, and more health issues than those in the regular treatment facility. Findings supporting use of these short forms and their applications as tools for monitoring needs, progress, and change over time are discussed.

Keywords

Prison-based treatment; brief assessments; women; trauma; health

INTRODUCTION

Over the past few decades incarceration rates for women have risen substantially, fueled mostly by illegal drug use and trafficking (Kassebaum, 1999; Messina & Prendergast, 2001). Whereas women prisoners in state and federal facilities represented about 3% of the U.S. corrections population in 1985, they represented 7% of all prisoners in 2009 (The PEW Charitable Trusts, 2010). As these rates have risen, so has the number of women in need of addiction treatment and other mental health services while incarcerated.

Research examining substance abuse and related problems of female offenders has identified several high priority issues affecting public health and safety. In addition to past drug and alcohol abuse these include psychological and medical problems, the impact of sexual and physical abuse histories, damaged relationships with partners and family, and parenting concerns (Henderson, 1998; Kassebaum, 1999; Langan & Pelissier, 2001; Messina & Prendergast, 2001; Peters, Strozier, Murrin, & Kearns, 1997). Many of these women offenders meet criteria for mental disorders (Jordan, Schlenger, Fairbank, & Caddell, 1996; Pelissier & O'Neil, 2000; Teplin, Abram, & McClelland, 1996) and also report histories of trauma (Alexander, 1996). Admissions to prison-based substance abuse treatment often meet criteria for current (50%) or lifetime (60%) posttraumatic stress disorder (PTSD) (Kubiak,

2004; Zlotnick, Najavits, Rohsenow, & Johnson, 2003). Compared with incarcerated men, women are more likely to have co-existing psychiatric disorders for which they are taking prescribed medications, and they report higher overall rates of depression and anxiety, lower self esteem, and more severe substance abuse histories (Bureau of Justice Statistics, 1999; Henderson, 1998; Langan & Pelissier, 2001; Messina & Prendergast, 2001; Peters et al., 1997).

An outgrowth of recent research has been that the needs of women offenders are now better understood and several specialized treatment programs have been developed to address them. For example, corrections-based therapeutic communities (TC) have been found to reduce criminal recidivism and relapse to drug use, especially when followed by aftercare in the community (Hiller, Knight, & Simpson, 1999; Knight, Simpson, Chatham, & Camacho, 1997; Simpson, Wexler, & Inciardi, 1999a, 1999b). There has been controversy over the effectiveness of TC programs for women offenders (see Eliason, 2006), however, with concerns that confrontation and close supervision of TC programs may trigger PTSD symptoms and worsen feelings of depression, helplessness, and low self esteem. More recent evidence shows that TC settings addressing trauma issues, enhanced with gender specific programming, were more effective than standard intensive outpatient programming when evaluated on the basis of mental health, criminal behavior, and HIV-risk outcome measures (Sacks et al., 2008). Cognitive behavioral therapy approaches, such as Seeking Safety, are likewise effective in reducing substance use, PTSD or trauma-related symptoms, and related mental health problems (see Najavits, 2007; Zlotnick et al., 2009).

Just as evidence-based programs for meeting the needs of women are being recognized, state budgets are strained to the breaking point, making treatment beds harder to come by (Scott-Hayward, 2009; Wilhelm & Turner, 2002). The budgets of corrections departments in 26 states were cut in FY2010, causing many to reduce spending through elimination or reductions of treatment related programming (Scott-Hayward, 2009). These financial pressures significantly impact treatment services that are retained in terms of planning and delivery of care. Cuts to service provider staff and program length are particularly common, leading to curriculum changes and calls for more efficient offender screening tools for assessing client needs and risks.

Brief screening assessments have been shown to be valuable in identifying mental health needs of women in correctional settings (Nicholls, Lee, Corrado, & Ogloff, 2004; Steadman, Scott, Osher, Agnese, & Robbins, 2005; Taxman et al., 2007). This study therefore examines the use of new and redesigned assessment instruments that focus on symptoms of posttraumatic stress disorder (PTSD), physical and mental health issues (psychological distress), psychological and social functioning, and drug use severity. Female offenders admitted into prison-based TC programs completed these self-report assessments, requiring an average of 5 minutes for each form. Psychometrics for all scales from these instruments were examined for reliability, evidence of construct validity, and clinical utility.

METHODS

Treatment Program Descriptions

The data were collected from two female residential prison-based substance abuse treatment facilities located in a southwestern state. One was a *Special Needs Facility (SNF)* which housed females being treated for substance abuse problems with concomitant physical or mental health special needs. It had a planned duration of 9-to-12 months (mean tenure = 259.1 days). Special Needs Offender Programs generally include mentally impaired, mentally retarded, terminally ill, physically handicapped, or medically-recommended intensive supervision offenders. Special needs offenders with mental impairments qualify

for placement if they have been diagnosed with major depression, schizophrenia, PTSD (posttraumatic stress disorder), bipolar, or other mental diagnosis and were receiving previous treatment. The *SNF* program also included educational components that addressed Axis I mental disorders as well as personality disorders, medication regimentation, and the interaction of disorders with substances of abuse.

The other treatment sample was from a *Regular Treatment Facility (RTF)* which housed females not identified as having “special needs” and with a planned length of stay of 6-to-9 months (mean tenure = 190.7 days). *RTF* and *SNF* both were minimum-security stand-alone facilities that followed modified TC principles delivered in three phases (orientation, treatment, and re-entry). They used the same core curriculum delivered throughout Phase I (Orientation), a comprehensive assessment and orientation of the TC; Phase II (Main Treatment), which included education, skills training, offender lifestyle confrontation, family dynamics, and peer support groups; and *Phase III (reentry)*, focused in education of offenders in the development of social skills and the recognition of the triggers of relapse.

Participants

Of the 1,397 females in the present study, 542 were *special needs* women from the *SNF* and 855 were *regular inmates* from the *RTF*. For the combined sample, the average age overall was 33.5 years, and 54% were White, 25% Hispanic, and 17% Black. Records showed 42% had never been married, 26% were currently married, and 33% were widowed, separated, or divorced. Over two thirds (68%) had a high school diploma or had a GED. With respect to alcohol and illegal drug use, the most prevalent weekly use rates in the year prior to prison were for alcohol (28%), marijuana (24%), cocaine (23% crack/freebase, 14% cocaine by itself), methamphetamines (21%), and opiates (11%). Other drugs (hallucinogens, inhalants, and illegal methadone) were reported by less than 3% of the female offenders. Further demographic and other background information for each of the two treatment samples are presented later in relation to assessment results.

Measures

The instruments used are part of a new suite of *TCU Short Forms* (Simpson, Joe, Knight, Rowan-Szal, & Gray, in this volume) described below.

Trauma measures—The *TRMA Form* contains 17 items that comprise the PTSD Checklist (PCL) created by Weathers and associates (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996; Ruggiero, Del Ben, Scotti, & Rabalais, 2003; Weathers, Litz, Herman, Huska, & Keane, 1993). When based on a given incident that clients use as a reference, research has shown that trauma-based diagnostic efficacy can be achieved using an algorithm that includes specific item cut scores with the appropriate number and pattern of symptoms as outlined in the three main clusters of the PTSD criteria in the Diagnostic & Statistical Manual (DSM-IV).

Resulting PCL scores can range from 17 to 85, but with studies variously recommending scores of 30, 44, and 50 as possible cutoffs for identifying individuals with PTSD diagnosis. Weathers et al. (1993) used the scale with combat veterans and found that a cutoff of 50 predicted PTSD diagnosis derived from a structured clinical interview with a sensitivity of .82 and a specificity of .84. Blanchard et al. (1996) reported the cutoff of 50 has a sensitivity of .78 and specificity of .86 among females. However, they found a cutoff of 44 improved sensitivity to .94 and specificity to .86. On the other hand, two other studies of females recommended a cutoff of only 30. Walker et al. (2002) found this cutoff showed 82% sensitivity and 76% specificity. For the present study, the Blanchard et al. (1996) guidelines were followed for defining 44 as the diagnostic cutoff value.

In addressing PTSD, the PCL is constructed so that it also permits insight into specialized aspects of this disorder. Three subscales measure symptom (on 5-point ratings of severity, from “Not at all” to “Extremely”) related to *Re-experiencing* symptoms (5 items), *Avoidance* and psychic numbing (7 items), and *Hyperarousal* (5 items). Sample items for *Re-experiencing* include “Repeated, disturbing dreams of a stressful experience?” and “Having physical reactions (trouble breathing, sweating) when reminded of a stressful experience?” Items for *Avoidance* include “Feeling distant or cut off from other people?” and “Avoiding activities or situations because they reminded you of a stressful experience?” Examples from *Hyperarousal* include: “Trouble falling asleep or staying asleep?” and “Being “super-alert” or watchful or on guard?”

Mental and physical health—The *HLTHForm* is composed of 21 items, 11 of which focus on physical or medical health symptoms and another 10 comprising the Psychological Distress Scale (K10) as reported by Kessler et al. (2003). The physical health assessment includes items about current or past problems with major organs (heart, stomach, kidney, bladder, liver, gall bladder, bowel, bone/joint, skin, and STD) to create a physical health composite index based on frequency of illness. The K10 was developed in 1992 to screen for general symptoms of psychological distress common across psychiatric conditions and its score has been shown to be related to Composite International Diagnostic Interview (CIDI) diagnoses of anxiety and affective disorders (Andrews & Slade, 2001; Kessler et al., 2003). Sample items include “During the past 30 days, how often did you feel -- tired for no good reason?; nervous?; hopeless, restless or fidgety?” K10 scales scores range from 10 to 50. Based on cutoffs used by Andrews and Slade (2001), four categories for severity interpretation are defined as “likely well” (10–19), “likely mild disorder” (20–24), “likely moderate mental disorder” (25–29), and “likely severe mental disorder” (30–50).

Psychological and social functioning measures—The *PSYForm* contains five psychological scales, including Self Esteem, Depression, Anxiety, Decision Making, and Expectancy of recovery. The *SOCForm* contains four social functioning scales, including Hostility, Risk Taking, Social Support, and Social Desirability. These scales were developed originally as part of the TCU Client Evaluation of Self and Treatment (CEST) form reported by Joe, Broome, Rowan-Szal, and Simpson (2002), and later adapted for correctional populations (Garner, Knight, Flynn, Morey, & Simpson, 2007). Recent conversion of these scales into *TCU Short Forms* and evidence of measurement reliability on males in prison-based addiction treatment are presented by Simpson, Joe, Knight, Rowan-Szal, and Gray (included in this volume).

Drug use severity—The TCUDS II is a drug use screening instrument which includes 12 items in its first section for computing a composite score measuring pre-incarceration level of drug use severity. The classification for drug use dependency follows DSM-IV criteria by focusing on drug usage patterns, recurring consequences (social, emotional, and physical), and withdrawal symptoms. Any combination of three “positive responses” (out of the nine scores forming this composite) indicates a tentative diagnosis of dependency. Knight, Simpson, and Hiller, (2002) summarized findings using the TCUDS based on 18,384 state prison inmates surveyed in 1999 at the time their incarcerations began. Coefficient alpha was .89 (and was stable across race-ethnic and gender subgroups), and 30% of the sample was found to be dependent on alcohol or other drugs. Additional measures from the form include injection frequency, drug problem seriousness, drug treatment frequency, and importance of drug treatment.

Assessment Procedures

The composition of the two treatment samples selected for the present study differ in terms of concomitant physical and mental health special needs and therefore permit an examination of the PCL and K10 as measures of psychological distress. While formal clinical diagnoses of each individual in these two samples were not available to the research team, finding that these instruments are able to discriminate between these groups can provide evidence in favor of their construct validities.

The *TCU Short Forms* were collected from offenders at four time points – Time 1 (intake), Time 2 (end of orientation), Time 3 (end of treatment), and Time 4 (re-entry, prior to release). Program specialization and planned duration were determining factors in their administering of forms. The TCUDS II was completed only once (at intake, Time 1), and the *TRMAForm* and *HLTHForm* were collected twice (at intake – Time 1 and reentry – Time 4). The *PSYForm* and *SOCForm* were collected at all four time points.

The two prison treatment programs in the study began data collection at different dates (starting in January 2009 and ending in May 2010) and not all offenders entering treatment had sufficient time to complete some of the later administrations for some assessments (e.g., at Time 4). Means, standard deviations, and quartiles are presented for intake records (Time 1), as these provide a needs and severity profile for incoming offenders. These included 1,397 for *HLTHForm* and 1,390 for *TRMAForm*. For coefficient alpha analyses, all available data were used across time to examine usefulness of the forms for offenders throughout their treatment stages. This resulted in 3,228 possible records for *TRMAForm* and 2,665 for *HLTHForm* (combined from intake and Time 4 administrations).

All assessments were completed as part of routine clinical practice at each of the participating facilities using protocols approved by the Texas Christian University (TCU) Institutional Review Board (IRB). Self-report forms were administered in small group settings (15 to 25 clients) by a treatment staff member, usually in the same room where group process occurred and without the presence of security staff. Each item was read aloud and clients were asked to respond to each by filling in the most appropriate response on the form, but to leave it blank if they did not understand or feel comfortable answering. Completed assessments were collected by the staff member and records were forwarded to a facility-based data coordinator for processing, including de-identifying unique client data before forwarding to TCU staff using a password protected, secure file transfer protocol.

Analysis

The analyses addressed the reliability (internal consistency) of TCU Short Forms scales. Because the data were from different programs, it was appropriate to examine whether program differences related to reliability estimates. Sirotnik (1980; see also Cronbach, 1976) describes the psychometric issues surrounding situations where data collection is based on individual respondents across various organizations. Specifically, the recommended strategy is to perform psychometric assessment based on item scores for the individuals, with program differences explicitly removed. Formally, this means using the “pooled within-program” covariance matrix, or deviating individual scores from their respective program averages. Sirotnik (1980) argues that the conventional approach of computing reliabilities across all individual respondents and ignoring program membership is ambiguous (unless membership is irrelevant) because it represents a blend of individual and program differences rather than a straightforward representation of either one. Consistent with these recommendations, both coefficient alpha reliabilities were computed based on the total and pooled within-program matrices (Cronbach, 1951).

RESULTS

Primary findings are presented in three tables. Table 1 reports psychometric information (mean, standard deviation, quartiles, and coefficient alpha reliability) for each assessment scale. Normative data derived using the first administration of the scales (at the time of treatment entry) are included for means, standard deviations, quartiles (first, second, and third), and interquartile range (i.e., an indicator of the middle 50% spread). In addition, two coefficient alpha reliabilities are reported. One is calculated from the total covariance matrix, and one from the within covariance matrix. The latter (reported in parentheses) estimates coefficient alpha adjusted for potential between-sample differences.

In Table 2, comparisons are given on background characteristics, trauma, health, psychosocial functioning, and weekly drug use for the *SNF* and *RTF* treatment groups. Table 3 presents correlations of the trauma and health assessment scores with background characteristics, psychological and social functioning indicators, and drug use measures for both treatment programs. Results in Tables 2 and 3 show evidence for the construct validity of the scales derived from the trauma and health forms.

Coefficient Alpha Reliabilities, Eigenvalues, and Confirmatory Factor Analysis

Examination of the 3,228 TRMAForm PCL (trauma) score assessments (aggregated over multiple administrations for some clients) showed an overall coefficient alpha reliability of .94. Subscale reliabilities were also favorable for Re-experiencing stressful memories (alpha = .89), Avoidance and psychic numbing (alpha = .81), and Hyperarousal (alpha = .75). Multidimensionality of the PCL was reflected by finding two eigenvalues above 1.0 in the principal components analysis (8.42 and 1.18) as well as by the confirmatory factor analysis for three factors representing Re-experiencing, Avoidance, and Hyperarousal. Goodness-of-fit indices suggested a good fit to the data (GFI = .93, CFI = .93, RMR = .038, and RMSEA = .067).

The PCL score and the three subcomponents have been used by Blanchard et al. (1996) to arrive at a “DSM-based” recommendation for PTSD diagnosis, defined by a PCL score of 44 or higher and having positive scores on Re-experiencing, Avoidance, and Hyperarousal. Therefore, the mean score of 38.8 on the PCL (reflecting PTSD) would suggest a high percentage of females with PTSD symptoms. Based on the Blanchard criteria, 26% of the sample would meet a PTSD classification.

Mental and Physical Health Measures

The K10 index from the HLTHForm for measuring psychological distress had consistent coefficient alpha reliabilities of .92 based on the total covariance matrix (α_T ; $N = 2,665$) and .91 based on the within covariance matrix (α_w). Results on dimensionality for the K10, however, were mixed. There was only one eigenvalue above 1.0 in the principal components analysis, accounting for 57% of the variance, but the goodness-of-fit indices from the confirmatory factor analysis suggested that one factor was inadequate to fit the data (GFI = .85, CFI = .85, RMR = .057, and RMSEA = .16). Distributional characteristics of this indicator of psychological distress (in Table 1), show an average score of 22.6 on the K10, where the range of possible scores is 10 to 50. For the present samples, 36% would be classified as having moderate or severe mental disorder using the cutoff of 25 or higher as reported in the literature (Andrews & Slade, 2001).

Psychological and Social Functioning

All five psychological scales from the PSYForm – Self Esteem, Depression, Anxiety, Decision Making, and Expectations for recovery – had satisfactory coefficient alpha

reliabilities: Self Esteem ($\alpha_T = .79$; $\alpha_w = .79$), Depression ($\alpha_T = .78$; $\alpha_w = .78$), Anxiety ($\alpha_T = .82$; $\alpha_w = .81$), Decision Making ($\alpha_T = .78$; $\alpha_w = .77$), and Expectations ($\alpha_T = .82$; $\alpha_w = .78$). Also, social functioning scales for the SOCForm had satisfactory coefficient alpha reliabilities, including Hostility ($\alpha_T = .85$; $\alpha_w = .84$), Risk Taking ($\alpha_T = .82$; $\alpha_w = .81$), Social Support ($\alpha_T = .81$; $\alpha_w = .78$), and Social Desirability ($\alpha_T = .71$; $\alpha_w = .66$).

Drug Use Severity

Coefficient alpha for the drug use severity index (TCUDS II) was .86 ($\alpha_w = .85$). Because a score of 3 or higher (out of a possible nine comprising this composite) suggests a clinical diagnosis of dependency, the distribution for the females in this study shows that 75 percent would be considered to be drug dependent. Overall, the mean score was 5.6; the first quartile was 3, the second quartile was 6, and the third quartile was 8.

Group Differences in Background

Table 2 presents results on between-program differences. The *SNF* sample was significantly older (35 years) and more likely to be Black (23%), while the *RTF* was younger (32.8 years) and more likely Hispanic (26%). These groups did not differ with respect to marital status. With respect to alcohol and illegal drug use, *SNF* offenders had significantly higher TCUDS mean scores, indicating more severe drug issues upon entering treatment. They were more likely to be weekly users of cocaine, crack and speedball users, while the *RTF* offenders reported higher levels of weekly use for marijuana and methamphetamines. The groups did not differ with respect to weekly alcohol use.

Group Differences in Trauma

Females in the *SNF* and *RTF* programs were found to be significantly different with respect to the symptoms of posttraumatic stress disorder, as the significant mean difference between the PCL scores for the two treatment groups represented a large effect size of .75. To corroborate PTSD symptoms scored from the PTSD checklist (PCL), cutoff values of 30, 37, and 44 have been advocated in the literature for non-military samples (while a score of 50 has been advised for those in the military). The means for each of the treatment groups suggest the following: the *RTF* group mean (34.5) falls in the “non PTSD” category, while the *SNF* group mean (45.7) would be classified as positive for “PTSD.” The same interpretations apply for scores above 50 (the strictest cutoff). These treatment program percentages were significantly different and indicate clearly the increasing probability of variation in PTSD symptoms across the two treatment groups *SNF* (42%) and *RTF* (14%). Using the DSM-based criteria of 44 as recommended by Blanchard and colleagues (Blanchard et al., 1996), the results again are similar: *SNF* (41%) and the *RTF* (16%).

Analysis of the three subscales within PCL measuring specific aspects of PTSD provide insight into the prevalence of each of these psychological symptoms for each treatment program. Re-experiencing (56%) is the most frequent of the three, followed by Hyperarousal (45%), and then Avoidance (36%). The importance of examining the subscales can be seen in the *RTF* group. While the mean for this group would be classified as being non-PTSD, the analysis of the PTSD subcomponents would suggest that at least a third of the offenders report Re-experiencing (46%) and Hyperarousal (33%).

Group Differences in Mental and Physical Health

Comparable differences were found for the indicators of psychological stress. The Kessler scale (K10) has been shown to be related to CIDI diagnoses of anxiety and affective disorders, and has been used as a screen for anxiety and depression. Means for K10 group scores were highly different ($ES = .84$). As expected, the mean for the *SNF* offenders was

highest (27.0) and falls into the “likely moderate” disorder category, while the *RTF* offenders had a mean (19.8) which is borderline between “likely well” and “likely mild” disorder classifications. With regard to the cutoff score used to screen for either “moderate or severe” disorder, 57% of the *SNF* group would have this classification, compared to only 23% of the *RTF* group. The two groups of offenders also differed significantly on the number of physical health problems reported, with the *SNF* offenders (16.6) having a higher mean than the *RTF* offenders (14.1).

Group Differences in Psychological and Social Functioning

Group differences for trauma and health indicators are paralleled by those for psychological and social functioning scales. As shown in Table 2, each of these scales differentiated significantly between the *SNF* and *RTF* groups. As with the PCL and K10, the *SNF* sample was found to have more needs and problems. With respect to psychological functioning, they scored lower on Self Esteem and Decision Making, but higher on Depression and Anxiety. While the *SNF* sample also were lower on Expectancy for relapse, the difference was only 1.5 points representing a small effect size (.18). With regard to social functioning scales, the *SNF* sample was comparatively higher on Hostility and Risk Taking, and lower on Social Support and the Social Desirability scale.

Correlations among Scales

To help understand the complexity and importance of psychological stress (PCL and K10 scores), their relationships to demographics and background characteristics, health issues, psychological functioning, social functioning, and drug issues were examined. Results are presented in Table 3 for both the *SNF* and *RTF* groups.

Background characteristics were inconsistently related to these two measures of psychological stress (and generally below .20). Slightly higher correlations were seen for race-ethnicity and age in the *SNF* compared to the *RTF* group. In terms of previous treatments, both indicators predictably were more highly correlated with emergency room and previous mental health treatment episodes than with previous alcohol or drug treatments. In addition, correlations of PCL and K10 with health treatment and the health problems index were between .20 and .30, and not significantly different between the treatment groups.

As expected, correlations of psychological stress measures were highest with the indicators of psychological functioning, particularly Depression and Anxiety (correlations with these two measures were .61 to .67 across the programs). Between-program differences on correlations, however, were negligible. Although the correlations of Self Esteem with K10 and PCL were lower in absolute magnitude (.49 to .52) than those found for Depression and Anxiety, they were the next highest (indicating strong negative relationships) between Self Esteem and psychological stress in all programs. Individuals with higher psychological stress scores also were more likely to be lower in Decision Making and have lower expectations for recovery. For the latter measure, the relationship was stronger in *RTF* than in *SNF*.

The correlations of K10 and PCL with indicators of poorer social functioning were positive. That is, more psychological stress was related to greater Hostility (.31 to .44) and Risk Taking (.15 to .23) and lower Social Support (–.11 to –.19). This appears to be consistent across the treatment groups, with the differences being non-significant. The negative correlations with Social Desirability suggest the women were unlikely to be responding in a manner to cause others to view them in a more favorable light. The significant negative relationship of Social Desirability with PCL was stronger in *RTF* than in *SNF*.

Psychological stress was significantly related to drug use with the TCUDS correlations (.19 to .25). The other perceptions of drug use problems scales showed correlations below .20 and were generally similar between the *SNF* and *RTF* groups (with the exception of injection frequency). Overall, the relationship of psychological stress (PCL and K10) was stronger with psychological functioning, social functioning, and health problems than to previous treatments or drug use measures.

DISCUSSION

Given the extensive trauma and mental health histories that characterize many women serving prison sentences, easy-to-administer and brief assessments hold promise for helping criminal justice programs prioritize and manage services. The present study focused particularly on the efficacy of two short assessments for identifying trauma and mental health symptoms (*TRMAForm* and *HLTHForm*) prominent in female prison populations. Both yielded reliable psychometric properties and offer practical measures of posttraumatic stress (such as re-experiencing stressful memories, avoidance of these memories, and emotional hyperarousal), as well as overall measures of mental health problems. Each one effectively discriminated between two female treatment groups believed (on the basis of their institutionalized classification guidelines) to have different levels of psychological and mental health severity. Because formal clinical diagnoses of individuals in these two programs were not available, measures of sensitivity and specificity of the scales from these two instruments could not be computed. Nevertheless, the specialized *SNF* unit (for women identified with special medical and mental health problems) reported significantly more psychological problems (57%), compared to female offenders (23%) entering substance abuse treatment in the *RTF* unit. These results suggest women with more severe mental health symptoms were more likely to be placed as expected into the special needs facility, although there were some apparent exceptions and details for these facility assignments were not available for this study. In addition, both the *TRMAForm* and *HLTHForm* were correlated as expected with other brief screening tools for psychological functioning (*PSYForm*), social functioning (*SOCForm*), and drug use severity (*TCUDS II*). High correlations with both psychological and social functioning scales supported the clinical relevance of the TCU screening tools, reflecting favorable construct validity.

The *TRMAForm* was based on the PTSD Checklist (PCL) created by Weathers et al. (1993). Blanchard et al. (1996) explored combinations of the PCL score and developed three trauma subscales (Re-experiencing, Avoidance, and Hyperarousal) to create a DSM-supported recommendation for making PTSD diagnosis. Based on this algorithm, special needs offenders (41%) in the present study were found to be more than twice as likely to have met criterion levels compared to the regular female offenders upon entering treatment (16%). However, these are lower than the 50–60% rates of PTSD reported for women in prison-based substance abuse treatment in other correctional systems that have been studied (Kubiak, 2004; Zlotnick et al., 2003).

The *HLTHForm* contains 21 items, ten of which comprise the Kessler Psychological Distress Scale or K10 (Andrews & Slade, 2001; Kessler et al., 2003). Female offenders in the *SNF* were more than twice as likely to report K10-based psychological distress, compared to women in the *RTF*. The average overall rate K10 – positive was 36%, which is consistent with evidence by Kubiak, Beeble, and Bybee (2010) who found that a shortened 6-item version of the K10 identified 37% of jailed women as having a serious mental illness.

The differences found between *SNF* and *RTF* treatment groups included in the present study extend and complement findings using other TCU Short Forms as reported in Simpson et al. (in this volume) based on large samples of substance abuse treatment facilities. More

specifically, they found special-needs females were higher in measures of psychological dysfunction (i.e., lower self esteem, decision making, and expectancy for recovery, along with higher depression and anxiety) than females in regular facilities. Special-needs women also reported higher scores on drug use severity at intake (TCUDS II), as well as social functioning scores for higher hostility, risk taking, and lower scores on social support and social desirability. These findings help underscore the value of developing specialized gender-based norms for making comparative interpretations of inmate needs and treatment progress.

A limitation of the present study was that only two female prison units were included. Although their sample sizes were rather large, each type of program (*SNF* or *RTF*) was only represented by a single program. Nevertheless, this allowed important comparisons for the assessments being evaluated, particularly when viewed in the context of findings for male samples in the parallel evaluations by Simpson et al. (in this volume). More data from a larger sample of prison facilities for women are scheduled to be available for further study in the future. Also, noteworthy are organizational program data from this same research base that indicates prison-based treatment facilities vary considerably in staffing and functional climate, and these differences can be related to treatment process and outcomes (Lehman, Greener, & Simpson, 2002; Lehman et al., in this volume).

Women represent a smaller proportion of the total incarcerated population, but the needs they pose to correctional systems often are more diverse and challenging than those for males. As noted earlier, incarcerated women tend to have more extensive trauma histories (Green, Miranda, Daroowalla & Siddique, 2005; McDaniels-Wilson & Belknap, 2008) and higher rates of mental health issues compared to men (James & Glaze, 2006; Trestman, Ford, Zhang & Wiesbrock, 2007). Previous research shows that detection and treatment of serious mental health disorders among women, particularly trauma related disorders such as PTSD and major depression (Battle, Zlotnick, Najavitis, Guttierrez, & Winsor, 2003; Bloom, Owen & Covington, 2003) may decrease future recidivism in women (Holtfreter & Morash, 2003; Pelissier, Camp, Gaes, Saylor, & Rhodes, 2003). Therefore, it is beneficial to seek and use efficient screens for these trauma and mental health issues early in treatment.

There is a clear need for special treatment services in the areas of trauma, mental, and physical health. Post-release participation in mental health treatment has been found to decrease women's substance use (Pelissier et al., 2001). Seeking Safety (a cognitive behavioral intervention) in particular has evidenced significant reductions in substance use, PTSD or trauma-related symptoms, as well as other domains (for a review see Najavits, 2007). A recent study by Zlotnick et al. (2009) demonstrated promising results using Seeking Safety and suggests that women with co-morbid PTSD and substance abuse issues improve more when given an in-prison residential substance abuse treatment program. Both treatment units included in the current study used the Seeking Safety intervention, and studies are planned to further investigate related changes in trauma and psychological functioning across time. Future efforts also are planned for examining male samples (of *SNF* and *RTF* offenders) to determine if similar relationships between trauma and psychological functioning apply. Another future direction will focus on how these assessments might be used to understand the mechanisms of action in addressing co-occurring trauma and substance use, what approaches work best for whom under what conditions, and how can assessments be most effectively tailored to guide treatment practices.

Providing meaningful and effective rehabilitation services depends on reliable identification of needs, problem service, and progress over time. This study establishes psychometric properties of these instruments for women – which is critical and a contribution to the literature since many of the tools out there have been developed and validated for men. TCU

Short Forms such as those examined here offer efficient and low-cost assessment strategies adapted for correctional settings. By incorporating brief public-domain instruments into a series of targeted assessments, these forms can be selectively packaged to help meet special needs such as those represented by the present study.

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Table 1
 Psychometrics for Health-Related TCU Short Forms for Females in Prison Treatment (Time 1 Means and Quartiles)

Scales	N	M	S.D.	1 st quartile	2 nd quartile	3 rd quartile	Inter-quartile range	Coefficient Alpha Total Within	Alpha N
Trauma Scales									
PCL	1390	38.82	15.98	26.0	37.0	49.0	23.0	.94	3157
PCL (% > cutoff of 44)	1390	.25	.43	0	0	0	0	na	na
Re-experiencing (%)	1390	.56	.50	0	1.0	1.0	1.0	.89	3201
Avoidance (%)	1390	.36	.48	0	0	1.0	1.0	.81	3180
Hyperarousal (%)	1390	.45	.50	0	0	1.0	1.0	.75	3181
Mental & Physical Health Scales									
K10	1397	22.59	9.34	15.0	20.0	29.0	14.0	.92	2634
K10D (% > cutoff of 25)	1397	.36	.48	0	0	1.0	1.0	na	na
Physical Health Index (%)	1397	15.10	5.18	11.0	14.0	18.0	7.0	na	na
Psychological Functioning Scales									
Self Esteem	833	33.25	8.90	26.7	33.3	40.0	13.3	.79	1829
Depression	833	28.23	8.58	21.7	28.3	35.0	13.3	.78	1804
Anxiety	833	31.18	9.32	24.3	31.4	38.6	14.3	.82	1813
Decision Making	833	35.11	5.93	31.1	35.6	38.9	7.8	.78	1820
Expectancy	833	40.83	8.18	35.0	47.5	50.0	12.5	.82	1838
Social Functioning Scales									
Hostility	872	25.20	8.90	18.8	23.8	31.3	12.5	.85	1808
Risk Taking	872	31.20	7.96	25.7	31.5	37.1	11.4	.82	1806
Social Support	872	42.41	5.70	38.9	43.3	46.7	7.8	.81	1814
Social Desirability (dichotomy)	872	4.94	2.43	3.0	5.0	7.0	4.0	.71	1815
Drug Use Scale									
TCUDS II	1322	5.57	2.84	3.0	6.0	8.0	5.0	.86	1734

[†] $r < .10$,
 * $p < .05$,

 $p < .01$,

 $p < .001$

Table 2

Summary of Comparisons between Females in Regular (RTF) Versus Special Needs (SNF) Treatment Programs

	<i>SNF</i>	<i>RTF</i>	Total	Statistical Tests
Background Characteristics	399	828	1227	
Age	35.0 (10.7)	32.8 (9.6)	33.5 (10.0)	$F(1,1225)=12.99^{***}$
White (%)	51.3	55.6	54.2	$\chi^2= 1.95$ ns
Black (%)	23.3	14.4	17.2	$\chi^2= 14.92^{****}$
Hispanic (%)	20.9	26.1	24.5	$\chi^2= 4.08^*$
Single never married (%)	38.4	43.6	41.9	$\chi^2= 2.93+$
Married (living as) (%)	27.2	24.8	25.6	$\chi^2= .85$ ns
Widowed, separated, divorced (%)	34.4	31.6	32.5	$\chi^2= .89$ ns
High school grad/GED (%)	63.5	69.6	67.6	$\chi^2= 3.56+$
Trauma Scales	533	857	1390	
PCL	45.7 (18.8)	34.5 (13.8)	38.8 (15.0)	$F(1,1388)=183.09^{****}$
PCL cutoff	.42 (.49)	.14 (.35)	.25 (.41)	$F(1,1388)=142.84^{****}$
PTSD (% > cutoff of 44)	.41 (.49)	.16 (.37)	.26 (.42)	$F(1,1388)=118.24^{****}$
Re-experiencing	.71 (.45)	.46 (.50)	.56 (.48)	$F(1,1388)=85.42^{****}$
Avoidance	.51 (.50)	.27 (.44)	.36 (.47)	$F(1,1388)=89.56^{****}$
Hyperarousal	.63 (.48)	.33 (.47)	.45 (.47)	$F(1,1388)=132.75^{****}$
Mental & Physical Health Scales	542	855	1397	
K10	27.0 (9.9)	19.8 (7.7)	22.6 (8.6)	$F(1,1395)=234.84^{****}$
K10 cutoff	.57 (.50)	.23 (.42)	.36 (.45)	$F(1,1395)=182.84^{****}$
Physical Health Index	16.6 (6.0)	14.1 (4.3)	15.0 (5.0)	$F(1,870)=76.65^{****}$
Psychological Functioning Scales	367	465	832	
Self Esteem	31.1 (9.4)	35.0 (8.2)	33.3 (8.8)	$F(1,830)=40.39^{****}$
Depression	31.2 (8.4)	25.7 (8.0)	28.1 (8.2)	$F(1,830)=92.73^{****}$
Anxiety	35.3 (8.8)	27.8 (8.4)	31.1 (8.6)	$F(1,830)=159.12^{****}$
Decision Making	33.8 (6.0)	36.1 (5.7)	35.1 (5.9)	$F(1,830)=30.26^{****}$
Expectancy	40.0 (8.8)	41.5 (7.6)	40.8 (8.2)	$F(1,830)=7.44^{**}$
Social Functioning Scales	364	508	872	
Hostility	26.5 (8.6)	24.1 (8.8)	25.1 (8.7)	$F(1,870)=16.44^{****}$
Risk Taking	32.7 (8.3)	31.4 (7.7)	32.0 (8.0)	$F(1,870)=5.59^*$
Social Support	41.5 (5.9)	43.2 (5.2)	42.5 (5.5)	$F(1,870)=20.21^{****}$
Social Desirability	4.7 (2.3)	5.1 (2.5)	5.0 (2.4)	$F(1,870)=6.26^*$
Drug Use Scales	494	832	1326	
TCUDS (%)	6.0 (2.7)	5.3(2.9)	5.6 (2.8)	$F(1,1320)=16.22^{***}$
Alcohol weekly (%)	29.4	26.6	27.6	$\chi^2= 1.21$ ns

	<i>SNF</i>	<i>RTF</i>	Total	Statistical Tests
Marijuana weekly (%)	20.1	25.9	23.7	$\chi^2 = 5.64^*$
Hallucinogens weekly (%)	3.8	2.1	2.7	$\chi^2 = 3.66^+$
Inhalants weekly (%)	1.0	.4	.6	$\chi^2 = 2.29$ ns
Crack/freebase weekly (%)	30.9	18.8	23.3	$\chi^2 = 25.11^{****}$
Speedball weekly (%)	5.2	2.5	3.5	$\chi^2 = 6.26^*$
Cocaine only weekly (%)	19.9	10.8	14.2	$\chi^2 = 20.86^{****}$
Heroin only weekly (%)	7.2	6.7	6.9	$\chi^2 = .14$ ns
Illegal methadone weekly (%)	2.0	1.1	1.4	$\chi^2 = 2.00$ ns
Other Opiates weekly (%)	12.1	9.8	10.7	$\chi^2 = 1.71$ ns
Methamphetamines weekly (%)	14.9	24.9	21.2	$\chi^2 = 18.5^{****}$
Amphetamine weekly (%)	4.4	5.8	5.3	$\chi^2 = 1.19$ ns

$^+ < .10,$

$^* p < .05,$

$^{**} p < .01,$

$^{***} p < .001$

Table 3
Trauma and Mental Health Scale Scores for Females in Relation to Background, Drug Use, and Psychosocial Functioning Scores

	Trauma (PCL)			Mental Health (K10)		
	SNF	RTF	Z-test	SNF	RTF	Z-test
Age	.12*	-.10**	-3.54***	.10*	-.05	-2.42*
White	.02	-.04	-.95	.18***	-.02	-3.28***
Black	-.10*	.03	2.23*	-.17***	.02	3.12**
Single	-.08	.07*	2.43*	-.12*	.01	2.06*
Married	.03	-.05	-1.21	-.02	-.04	-.20
Education	-.09	-.05	.71	-.05	-.07	-.20
Children number	.07	-.03	-1.65	.12*	.00	-1.88
Emergency room treatment	.20***	.15***	-.77	.16**	.09**	-1.07
Mental health treatment	.25***	.15***	-1.74	.27***	.16***	-1.88
Alcohol treatment	.08	.04	-.67	.10	.04	-.93
Illegal drug treatment	.07	.09*	.46	.07	.09*	.32
Health treatment frequency	.24***	.19***	-.90	.21***	.14***	-1.17
Health problems composite	.39***	.35***	-.81	.38***	.33***	-.95
Psychological Functioning Scales						
Depression (DP)	.61***	.61***	-.05	.67***	.63***	-1.00
Anxiety (AX)	.66***	.64***	-.49	.64***	.62***	-.40
Self Esteem (SE)	-.49***	-.49***	-.09	-.51***	-.52***	-.17
Decision Making (DM)	-.18***	-.24***	-.99	-.21***	-.22***	-.09
Expectations non relapse (EX)	-.13*	-.26***	-2.04*	-.09	-.27***	-2.58**
Social Functioning Scales						
Hostility (HS)	.40***	.44***	.73	.31***	.36***	.68
Risk Taking (RT)	.17**	.23***	.96	.15**	.19***	.60
Social Support (SS)	-.11*	-.19***	-1.11	-.15**	-.16***	-.17

	Trauma (PCL)			Mental Health (K10)		
	SNF	RTF	Z-test	SNF	RTF	Z-test
Social Desirability (SD)	-.21***	-.35***	-2.17*	-.22***	-.28***	-.84
Drug Use Scales						
TCUDS II	.25***	.24***	-.18	.19***	.20***	.24
Injection frequency	.05	.16***	1.97*	.11*	.12***	.27
Drug problem seriousness	.16***	.20***	.58	.08	.14***	1.02
Drug treatment frequency	.05	.07	.42	.03	.03	-.02
Importance of Drug treatment	.14**	.14***	.12	.05	.13***	1.32

* p<.05,

** p<.01,

*** p<.001