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Examining Concurrent Validity and Predictive Utility for the Addiction Severity Index and Texas Christian University (TCU) Short Forms

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Abstract

Treatment providers need tools which are designed to identify risk, treatment needs, and monitor client engagement. These are essential components in substance abuse treatment for offender populations. This study evaluated a flexible set of 1-page modular assessments known as the TCU Short Forms and compared them with the measures of global domains contained in the Addiction Severity Index (ASI). The sample was based on 540 adult males and females in corrections-based substance abuse treatment services located in Arkansas and Missouri. Results suggest the set of TCU forms and ASI both reliably represent core clinical domains, but TCU Short Forms explained more variance in therapeutic engagement criteria measured during treatment. Similarities and differences of the assessment tools are discussed, along with applications

Keywords

Substance abuse treatment; treatment process; assessments; TCU Short Forms; ASI

INTRODUCTION

According to the Center for Substance Abuse Treatment (CSAT), comprehensive assessment practices facilitate treatment planning and delivery. Treatment providers and researchers alike recognize the need for efficient and effective tools to record client sociodemographics, gauge treatment needs, and monitor treatment progress. These are fundamental elements of a treatment process perspective (Simpson, 2004) which indicates that assessments are dynamically related to therapeutic engagement and treatment effectiveness. Indeed, CSAT states that “information needs to be collected continuously, and assessments revised and monitored as the client moves through recovery” (Center for Substance Abuse Treatment, 2005). This philosophy advances the idea that assessments need to be designed for a certain level of specificity with regard to the target population. For example, women who abuse substances in their role as mothers may include areas of psychosocial and behavioral risks not typically identified in men (Milligan et al., 2010; Rowan-Szal, Joe, Bartholomew, Pankow, & Simpson, this issue). Ultimately, the goal is to identify risks which are predictive of relapse for the purpose of informing treatment

planning, as well as risks which create barriers to treatment effectiveness (especially early treatment dropout).

Special challenges face assessments for comprehensively and seamlessly screening and monitoring treatment for criminal justice (CJ) populations. Consider criminogenic risk, a highly relevant area for offenders and a focus in drug treatment. Research shows that offenders who are classified as high risk (based on factors such as more frequent prior arrests, incarcerations, and violent offenses) respond differentially to treatment, particularly when compared to offenders in low and medium risk groups (Lowenkamp & Latessa, 2005). This is addressed by findings by Andrews et al. (1990) in a meta-analytic review of the treatment effects for correctional programs, as well as by Hiller, Knight, and Simpson (1999) who demonstrated that higher risk level was predictive of leaving treatment early. Taxman and Thanner (2006) describe criminogenic risk as being an indicator of future criminal involvement, but distinguishable from noncriminogenic static factors such as mental health. Andrews et al. (1990) discuss particular criminogenic factors that warrant treatment consideration, including areas such as antisocial attitudes and negative peer associations, identification with anticriminal role models, and conduct such as lying, stealing, and aggression. Strategic applications of prosocial interventions depend of course on obtaining relevant information on risks and readiness for treatment. A good example of the relationship between criminogenic risk and treatment can be found in the literature on antisocial or psychopathic characteristics (in offender samples) and treatment experience (Ogloff, Wong, & Greenwood, 1990; Richards, Casey, & Lucente, 2003). In these studies, antisocial attributes (cognitive and behavioral) were associated with treatment resistance and lower levels of clinical improvement.

A series of brief, integrated assessments that address these issues is included in the Texas Christian University (TCU) Short Forms to assess cognitive and behavior risk factors in offenders as well as monitor treatment progress. These forms were designed for stage-based administration, an approach that parallels the sequential stages of treatment process represented in the TCU Treatment Model (Simpson, 2004, 2006, 2009). The model illustrates how individual characteristics and motivation (at intake) set the stage for early engagement, a precursor to early changes (cognitive and behavioral) that clients undergo during recovery. Supporting research has demonstrated how the stages in the treatment model are interdependent. For example, motivation at intake is a significant predictor of early treatment participation and has been shown to influence subsequent treatment outcomes (Simpson & Joe, 1993). This knowledge has been foundational in the development of evidenced-based interventions aimed at reducing or eliminating barriers that impede treatment. TCU Short Forms are brief modular instruments that provide clinicians with the capability to measure problem areas, needs severity, and motivation. They also assess during-treatment functioning and engagement to help gauge needs, progress, and effectiveness of specific interventions. In short, the assessments address a broad range of psychosocial functioning (including criminal thinking) in a self-reported format that offers clinicians administration flexibility. Their scope and design offer applications as stand-alone instruments or as complements to other prominent screening tools such as the Addiction Severity Index (ASI; McLellan et al., 1992; McLellan, Luborsky, Woody, & O'Brien, 1980).

The main goal of this study is to gain a better understanding how domains assessed with the TCU forms and the ASI relate to CJ-based treatment engagement, a critical step in establishing the predictive utility of the scales for identifying barriers to treatment. This objective builds on past and present evidence showing that earlier versions of TCU scales (recently adapted for use in a series of special-purpose short forms) demonstrate good reliability and validity for monitoring client progress as well as identifying risk factors. The

study focuses on composite score data from corrections-based treatment systems in two states for (1) making comparisons of global domains of functioning captured in the ASI and TCU forms, and (2) contrasting the predictive utility of their measures for client self-reported engagement.

METHODS

Sample

The total sample ($N = 540$) contributed de-identified secondary client data obtained under protocols reviewed and approved by the TCU Institutional Review Board from treatment referral and delivery programs located in Arkansas and Missouri. These programs each serve diverse populations as described below. Both completed assessments with ASI and TCU Short Forms as part of their standard treatment practice, and data were provided to TCU research staff in electronic format delinked from respondent identity.

Prison-based program—The prison-based treatment sample ($n = 278$) was from a 650-bed TC program for adult males. Client ages ranged from 20 to 63, with mean age of 36.5. Treatment is structured in four phases so that clients begin with the most intense treatment dose early in the program. On an individual basis, clients gradually achieve treatment status and may earn an opportunity to take on more responsibility as they progress through the first three phases. Phase 4 extends treatment for high-severity (i.e., chronic) clients. TCU forms were administered at specified time points that separate phases of treatment (e.g., orientation, early engagement, primary treatment). Intake screening was accomplished with the ASI 5th edition at the central reception and diagnostic center; alternately some clients were administered the ASI through the Drug Evaluation Network System (DENS) at the treatment program site. Client data for this sample are based on treatment admissions during 2008 to 2010.

Community-based program—Several treatment modalities comprised the community-based treatment site that participated in this study ($n = 262$). Adult men and women (ages 18 to 71) were assessed for placement into residential, outpatient (OP), or detoxification programs, and a large percentage were mandated drug court participants. The sample was predominantly male (59.2%), and mean age for the sample (males and females) was 32.5. Average stay for residential clients was 42 days, compared to 90 days for clients receiving OP care. The majority of individuals with mandated drug court are required to participate in OP treatment for 2 years. The primary mode of treatment was in groups (approximately 20 clients per group), with clients in the residential and OP tracks participating in the same group sessions. Clients completed a computerized self-report version of the ASI on an individual basis, and TCU forms were administered by staff in small group settings. Short Forms were collected and processed with optical scanning software to produce graphical reports of score results for planning care (and later for monitoring progress). Generally, both assessment inventories were administered within the first 72 hours of the client's contact with the community program. Data from the community provider are based on treatment admissions during 2009 and 2010.

Measures

Addiction Severity Index (ASI)—The ASI was originally conceptualized as a diagnostic tool to evaluate the multidimensionality of problems related to substance abuse for the purpose of determining treatment needs in these areas (McLellan et al., 1980). Today the ASI is a well-recognized and validated measure of client functioning in seven areas (medical, legal, drugs, alcohol, family, psychiatric, and employment). Generally used (and often mandated) as an intake screening tool prior to drug treatment, the flagship ASI semi-

structured interview requires approximately one hour for a trained clinician to administer and additional time for scoring.

Each of the domains addressed (except employment) includes questions for gathering the client's perception of problem severity coupled with 30-day, 6-month, and lifetime history. Various editions of the ASI (e.g., 3rd and 5th) report two types of general status measures. The first is a *severity rating* which reflects the interviewer's estimate of problem severity in each of the seven domains [Note: interviewer severity ratings have been eliminated from the ASI-6 version; McLellan, Cacciola, Alterman, Rikoon, & Carise, 2006]. The second measure is based on a composite score (CS) for each domain of items. The resulting scores supply clinicians with an indication of areas in which the client perceives a need for treatment. Rosen, Henson, Finney, and Moos (2000) report that reliabilities for CSs (interview ASI version) range from .62 to .87, and CSs for the self-administered version range from .58 to .91. Due to the subjectivity of interviewer severity ratings, CSs are considered to be appropriate for evaluating changes over time relative to treatment need (McGahan, Griffith, Parente, & McLellan, 1986).

Various ASI formats are available in addition to the interview version, including a self-administered ASI which is reported to be an acceptable alternative to the semi-interview edition (Rosen et. al., 2000). The programs participating in the present study collected their ASI data with different versions. While the number of questions varies per format and scoring options differ somewhat, CSs have remained constant across the 3rd and 5th ASI editions. Therefore, CS data from the self-administered ASI edition were deemed appropriate for comparison with client self-reported responses on the TCU Short Forms.

ASI CSs are calculated using a subset of items from each of the seven domains. For example, the Medical domain covers detailed information on physical health and medical treatment history, but the Medical CS is scored only on the basis of three questions that ask the client to rate (1) how many days in the last 30 that he/she has experienced medical problems, (2) how much these issues bothered the client in the last 30 days, and (3) how important treatment would be for these medical problems.

Questions in the other six ASI domains are similarly framed (like the Medical CS) to gauge client functioning in the past 30 days as well as a self-rating of the need for treatment in each domain (except Employment). For the Alcohol CS, core questions address drinking levels, amount of money spent on alcohol, and number of days of intoxication. Core questions for the Drug CS address substance use from an inventory of commonly abused psychotropic substances, including heroin, cocaine, barbiturates, and amphetamines. Family/social CS questions probe relationships and areas of conflict within the past 30 days and the number of stable relationships that the client identifies. The Psychiatric CS screens for a range of problems including depression, anxiety, violent behavior, hallucinations, and suicide-related episodes in the past 30 days. Additionally, clients provide information on prescribed medications for any psychological/emotional problems. In the Legal CS section, clients indicate the number of days (in the last 30) of for-profit illegal activity and any pending charges, trial, or sentencing at the time of assessment. Finally, Employment questions ask respondents about a driver's license and vehicle availability in addition to paid work history and income from employment during the past 30 days, but this domain does not ask client to rate severity of their problems.

TCU Short Forms—TCU forms likewise have been refined through iterations of investigation aimed at achieving effective care planning by providing clinicians with the capability to obtain a comprehensive inventory of client functioning. They have roots in several national outcome evaluation studies (Simpson & Sells, 1982) as well as treatment

process research beginning in 1989 (Simpson, 2004). This cornerstone research was carried out initially in a community-based methadone treatment setting with a focus on the development of instruments for assessing socio-demographic information (i.e., client background) and risk indicators (i.e., drug use, family history, health-related information, and criminality) for use in treatment planning (see Joe, Simpson, Greener, & Rowan-Szal, 2004). Later research led to adapting the treatment-monitoring scales known as the TCU Client Evaluation of Self and Treatment (CEST) for CJ populations (Garner, Knight, Flynn, Morey, & Simpson, 2007). The TCU Criminal Thinking Scales (CTS; Knight, Garner, Simpson, Morey, & Flynn, 2006) also were added to the complement of TCU assessments. These instruments and other more recent scales (e.g., for trauma and HIV risk) have been adapted into the 1-page Short Forms.

These forms are used with community as well as corrections-based populations and may be administered in recommended sequences which are guided by the TCU Treatment Process Model. An optical scanning option produces clinically useful snapshots of the client's responses, with program-level and national norms for individual and organizational monitoring. The forms are modular in design and provide clinicians with an inexpensive, easy-to-administer assessment method particularly useful in CJ settings. Recent evaluations of their reliabilities are based on a national sample, and overall, the scales demonstrate strong psychometric properties evidenced by a majority of scale reliabilities exceeding .79 (for an in depth discussion of the TCU Short Forms, see Simpson, Joe, Knight, Rowan-Szal, and Gray, in this volume).

The inventory of TCU forms is grouped below (for descriptive purposes) into areas of (1) socio-demographic information and other key risk indicators, (2) assessments for monitoring client needs and progress, and (3) drug use and crime risk assessment. There are four forms related to client background information. The Global Risk Assessment (RSKForm) provides socio-demographics (e.g., age, gender, race, and ethnicity) and is available in adult and youth versions. The RSKForm collects 6-month history of employment, marital status, incarceration history, and education. The Family and Friends Assessment (FMFRForm) is designed for reporting on family relationships, family drug use, peer socialization, and peer criminality (adult and youth versions also are available) during the last 6 months prior to incarceration. Physical and Mental Health Status Screen (HLTHForm) provides a past-year inventory of physical health for heart, kidney, lungs, and other organs, and a second half includes 10 items from the K10 scale, developed by Kessler et al. (2003) to screen psychological distress in the past 30 days. Finally, the Mental Trauma and PTSD Screen (TRMAForm) was originally developed by Weathers, Litz, Herman, Huska, and Keane (1993) in research with the US Veterans Administration, leading to the development the PTSD Checklist (PCL). The TRMAForm measures client functioning in the past 30 days, and the scoring is based on three relevant diagnostic clusters in the American Psychiatric Association (2000) Diagnostic and Statistical Manual of Mental Disorders (DSM-IV): Re-experiencing, Avoidance, and Hyperarousal. Research findings reported by Rowan-Szal et al. (in this volume) demonstrated that TRMAForm scales were sensitive at differentiating between psychological functioning in two female offender groups (one special needs and one regular female offender) from prison-based treatment programs for substance abuse.

Research shows that identifying client needs and monitoring treatment progress is an important component for planning services and gauging client changes over time (Joe, Broome, Rowan-Szal, & Simpson, 2002). TCU forms that measure client functioning during treatment fall into four areas. The first is the Treatment Needs and Motivation Form (MOTForm) which contains five scales relating to the client's acknowledgement of problems and readiness for change, including Problem Recognition (PR), Desire for Help (DH), Treatment Readiness (TR), and two index scales (i.e., Treatment Needs [TN] and

Pressures for Treatment [PT]). Items in these scales measure a client's acceptance and readiness to make cognitive and behavior changes to help achieve sobriety. Motivation and treatment readiness have been shown to be important predictors of early treatment engagement in adult probationers (Hiller, Knight, Leukefeld, & Simpson, 2002) and adolescents in treatment (Broome, Joe, & Simpson, 2001).

The Psychological Functioning Form (PSYForm) includes scales to assess Depression (DP), Anxiety (AX), Self-Esteem (SE), Decision-Making (DM), and Expectancy (EX; likelihood of refraining from drug use within the next few months). Like the TRMAForm scales, PSYForm scales have been shown to differentiate between subsamples. For example, female offenders in a special needs prison program scored lower on self esteem and decision making, but higher on depression and anxiety compared to female inmates in a regular treatment program (Rowan-Szal et al., in this volume). PSYForm scales also were correlated with trauma and health indicators in the Rowan-Szal et al. study.

The Social Functioning Form (SOCForm) is measured with responses on four scales, including Hostility (HS), Risk-Taking (RT), Social Support (SS), and Social Desirability (SD). The later is an indicator of a client's distortion of self presentation in an effort to create social desirability bias (original research by Crowne & Marlowe, 1960). The last assessment in this group is the Engagement Short Form (ENGForm). Its scales include Treatment Participation (TP), Treatment Satisfaction (TS), Counselor Rapport (CR), and Peer Support (PS). The majority of the 36 items in the ENGForm relate to the client's self-perception about his or her progress with the treatment program (scale scores on this assessment are the source of outcome data for examining predictors of treatment engagement in the present study).

The third group of forms measure drug use, HIV-risk related topics, offending history, and criminal thinking as areas which are prominent in identifying treatment needs and risk behaviors. The TCU Drug Screen II (TCUDS II; Knight, Simpson, & Hiller, 2002) identifies a history of drug or alcohol use based on criteria established by the DSM-IV. Items address tolerance and withdrawal, substance type, and mode of use (e.g., injection) based on the past 12 months (of opportunity to use) corresponding to dependency indicators in the DSM. The TCUDS II is widely used in both community and correctional settings as part of the complete TCU battery and as a stand-alone tool (see Simpson et al., in this volume). A related area of risk is assessed with a 17-item screen for the HIV/Hepatitis Risk Assessment Form (HVHPForm). Clients respond to questions about injection drug use and sexual activities in the past 30 days and to their views on condom use and attitudes about AIDS/hepatitis. Criminogenic risk factors are the subject of the Criminal History Risk Assessment Form (CRHSForm) which asks respondents about arrest history, convictions, and incarceration detail for lifetime and past 6 months. Related to it is the Criminal Thinking Scales Form (CTSForm) which gauges cognitive risk factors in six areas labeled as Entitlement (EN), Justification (JU), Power Orientation (PO), Cold Heartedness (CH), Personal Irresponsibility (PI), and Criminal Rationalization (CR). These scales identify cognitive traits that are characteristic of antisocial functioning and other related personality disorders (e.g., narcissistic PD) described in the DSM-IV. Taxman and Thanner (2006) suggest that when criminal thinking contributes to a pattern of persistent negative behaviors, there is a need for ongoing monitoring to measure persistent problem functioning for treatment planning and allocation of resources. In fact, this perspective (linking cognition with behavior) is at the center of treatment philosophy in therapeutic community (TC) methods and the belief that addiction is a disorder of the whole person (De Leon, 2000).

Outcome Measures

Treatment engagement scales—Engagement outcomes are indicators of self-reported client perceptions of treatment process in four areas (Treatment Participation, Treatment Satisfaction, Counselor Rapport, and Peer Support) taken from the ENGForm listed above. Item responses for the TCU Forms are based on a 5-point scale (1 = disagree strongly, 2 = disagree, 3 = uncertain, 4 = agree, and 5 = agree strongly). These are averaged and multiplied by 10, yielding scores ranging from 10-50. For the ENGForm, higher scale scores indicate increasing client engagement in the treatment process. An example of a Treatment Participation (TP) item is, “You are willing to talk about your feelings during counseling.” Treatment Satisfaction (TS) is evaluated with items such as, “You are satisfied with this program.” An example of a Counseling Rapport (CR) item is, “You trust your counselor,” and a Peer Support (PS) sample item is, “Other clients at this program care about you and your problems.”

Procedure

Approval to request de-identified secondary data was obtained through the TCU Institutional Review Board (IRB). Generally, client intake assessments were conducted within 7 days of program intake. ASI and TCU form data were provided to the research team in electronic format from both sites. In the current study, a comparison between ASI and TCU assessments was accomplished by identifying a subset of the forms (for correlational analysis) to similarly reflect content in key areas of ASI composites. The final selection of Short Forms for the first analytic objective was determined to be the TCUDS II, HLTH (K10 scale), TRMA, PSY, SOC, and MOT scales (CTS scales also were included because of the cognitive orientation of the items). As a result of delayed and inconsistent administration of the FMFRForm, this assessment was not included in the analyses. TCU Short Form scales were scored (range of 10 to 50) according to established protocols (available at www.ibr.tcu.edu). ASI CSs are based on scoring procedures developed by McGahan et al. (1986), with scores for its domains determined with a system of weighted algorithms.

Analyses

The first analytic objective of the present study was to evaluate dimensions represented in the TCU Short Forms in relation to areas of global functioning which are commonly impacted by substance abuse. Initially, the TCU scale scores and ASI CSs were reviewed at the item level to confirm comparable domains between instruments on the seven global constructs represented by ASI CSs (legal, medical, psychiatric, alcohol, drug, social, and employment). This was important for two main reasons: (1) ASI composites are determined only on the basis of a small subset of questions, and (2) TCU forms encompass areas of information (e.g., health risk associated with HIV/hepatitis and trauma symptomology) not specifically assessed in the ASI. Thus, examination of TCU forms was limited primarily to the same scope of the global functioning domains included in the ASI CSs. Concurrent validity findings for global domains in the TCU forms and ASI CSs are interpreted from Pearson’s correlations as an indication of the congruence between instruments.

Further evidence of the association between scales was obtained with canonical correlations. This multivariate approach assesses the relationship between several constructs by finding linear combinations of measures that have the maximum possible correlation with each other. Canonical loadings were interpreted on the basis of theoretically meaningful themes and variables (i.e., scales) having a minimum loading of .40. The goal of this analytic step was to identify the most prominent areas of overlap between TCU scales and ASI CSs.

A second objective was to explore the relationship between client responses on TCU forms (administered at intake) and self-reported engagement during primary treatment. For this

aim, stepwise regression analysis was conducted with TCU scales and ASI CSs as indicators for client self-ratings of therapeutic engagement (collected as part of during-treatment practices) for a subsample of clients where data (from primary treatment) was available. This analytic procedure retains (sequentially) the predictors that make the largest and unique contributions to the overall prediction. Any variables that fail to contribute anything further (i.e., statistically) are dropped, and the results of stepwise regression are interpreted by the amount of variance accounted for in each of the engagement outcome measures.

RESULTS

Correlation coefficients between the ASI and TCU Short Form domains are reported in Table 1. It shows the majority of TCU scales (68%) were significantly correlated with one or more ASI scales ($p < .05$ to $p < .0001$). For three ASI categories (Drug, Psychiatric, and Legal), 18 of the 22 TCU scales were significantly correlated. In the case of the Drug CS, 16 TCU forms were significant at $p < .0001$. Of particular interest are the correlations between domains with similar content. For example, the TCUDS II was correlated with the ASI Drug composite ($r = .42$, $p < .0001$) and modestly but significantly correlated with the ASI Alcohol CS ($r = .10$, $p < .05$). As expected, all five scales in the PSYForm were highly correlated with the overall Psychiatric CS ($p < .0001$), along with K10 and PCL scales from HLTHForm and TRMAForm ($r = .61$ and $r = .54$ respectively, $p < .0001$). Similarly, K10 and PCL scales demonstrated significant associations with the overall Medical CS (significant at $p < .0001$). All but one CTSForm scale (i.e., Entitlement) were significantly correlated with the Legal CS. Significant correlations also were demonstrated between Employment CS and motivation for treatment ($p < .0001$) from MOTForm. Interpersonal conflict reflected in the ASI Family domain was associated with TCU scales for hostility, K10, PCL, and mental health domains represented in the PSYForm (unfortunately, the FMFRForm was not available for these analyses but would be directly pertinent).

These results indicate a consistent pattern of relationships exists across core ASI CSs (Psychiatric, Legal, and Drug) and specific domains of the TCU scales. To help integrate these results, canonical correlations were calculated to summarize the most prominent relationships by content domains and extent of concordance. Findings demonstrated a dominant psychological/ mental health theme as the primary factor, shared by PSYForm scales (i.e., DP, AX, SE), HLTHForm scales (i.e., K10), TRMAForm (i.e., PCL), and ASI Psychiatric and Medical CSs. Together, this collection of scales accounted for 39% of the variance in the general measurement model. A second measurement domain was represented by drug scales (TCUDS II and Drug CS), which accounted for 27% of the variance. However, the ASI Alcohol CS did not emerge as part of this second factor, an indication that the specialized Alcohol CS did not line up with the more global substance use problem index from the TCUDS II. There are likely benefits of having a separate alcohol inventory available, and a new ACLForm was recently added to the TCU Short Forms (but was not available at the time of this study analysis).

The results of a series of stepwise regression analyses (one for each of the four engagement outcomes) showed that TCU forms accounted for 13% of the variance in Treatment Participation, compared to only 4% by the ASI CSs. For the Treatment Satisfaction outcome, TCU scales accounted for 20% of the variance, compared to 7% by the ASI CSs. The third engagement scale, measuring Peer Support for mutual recovery efforts, demonstrated 22% of the variance explained by TCU forms, compared to 3% by the ASI CSs. In the case of the remaining engagement scale (Counselor Rapport), TCU forms accounted for 11% of the variance, compared to 5% by the ASI CSs.

Table 2 summarizes the relationships between these predictors and outcomes identified by stepwise regressions. The most prominent correlations in the table are between the TCU motivation scales and the four engagement outcomes; all correlations were positive and significant for PR, DH, and TR scales. Several of the TCU scales also demonstrated significant correlations with Treatment Participation ratings, particularly in the CTS scales for EN, CH, RN, and PI. In fact, the RN scale (for rationalization) was significantly negatively correlated with all four engagement outcome indicators, suggesting a “perceived injustice” by individuals in the CJ system may have a major impact on their willingness to engage in treatment. The SOCForm hostility (HS) scale also demonstrated a negative association with Treatment Participation and Satisfaction, while its social support (SS) scale was positively correlated with Treatment Participation and Peer Support indicators. In the psychological functioning domain, depression (DP) was significantly negatively correlated with two engagement outcomes (i.e., for Treatment Participation and Peer Support). In contrast, the ASI composite scores had limited and minimal relationship with engagement indicators in Table 2.

DISCUSSION

The use of evidence-based instruments has become a benchmark for best practices in the delivery of substance abuse treatment. In today’s treatment climate, collaborative efforts by key agencies involved in providing treatment are directed at integrating assessments, services, and aftercare planning in a continuum-of-care framework which is aimed at treating the whole person. This biopsychosocial view of addiction requires comprehensive assessments for evaluating global domains of functioning which are deemed to be important in determining risk and identifying needs in addictions treatment. They are equally important in planning for re-entry, as evidenced by the ASAM Patient Placement Criteria, Second Edition Revised (ASAM PPC-2R; American Society of Addiction Medicine, 2001). The ASAM guidelines are used by providers around the globe to guide decisions about aftercare including housing, readiness for change, medical cognitive/behavioral/emotional issues effecting daily functioning, and withdrawal/intoxication and relapse considerations. These core domains are consistent with scale content in both the ASI and TCU forms.

The findings of this study provide evidence of significant concordance between TCU Short Forms and ASI Composite Scores across global domains. More than two-thirds of the scales they contain were found to be significantly related, and TCU scales had especially strong patterns of correlations with ASI Drug, Psychiatric, and Legal composites. In these three ASI domains, 82% of the correlations were significant. The ASI and TCU forms are both used to evaluate global areas of functioning in medical, legal, substance abuse, mental health, social, and employment domains, although notable informational differences exist between the two assessments. For example, only the TCU forms include criminal thinking and engagement monitoring scales for identifying potential barriers particularly relevant to treatment in CJ populations. On the other hand, at the time of this study only the ASI included a separate alcohol scale, and it did not correlate with the TCUDS II composite index score. It will be useful to re-examine this issue in the future with data from the recently-added TCU ALCForm-R3 (Alcohol Use and Problem Symptoms in the Last 3 Months).

The ASI and TCU instruments also differ in format in that ASI functions as a single tool, while the TCU forms have evolved into a modular system which can be customized to promote assessment flexibility and focus for treatment providers (an advantage for specialized prison-based programs). Recognizing these differences is part of the evaluative process for customized services and specialized populations.

The research strategy for this study pivoted around two main themes. First, risk/needs assessment is essential in determining the appropriateness of treatment as it relates to guiding treatment planning and maximizing treatment effectiveness. A second theme relates to the importance of ongoing performance monitoring for evaluating the progress a client has made in treatment and adjusting on-coming services accordingly. Both acknowledge recovery as a complex process in which clinical objectives are formulated to support behavioral and cognitive changes necessary to achieve successful recovery. The process is one that relies on multidimensional assessments to supply critical information about biopsychosocial functioning, hence the emphasis on validating the global domains in this study. Based on the correlational analyses reported here, the TCU forms represent several clinical domains which parallel ASI domains.

However, risk/needs assessment aimed at measuring cognitive and behavioral functioning in these global domains should extend beyond program intake. Logically, instruments that can be used to evaluate the client's status (a) coming into the program, (b) during treatment, and (c) in transition back into the community have potential value for those involved in the continuum-of-care delivery of services. At the center of this rationale is the ability to gauge client progress by comparing baseline responses with longitudinal responses on the same instruments in order to conclude that treatment is having an impact, and whether the effect is positive or negative.

TCU Short Forms are designed to provide scales suited for intake assessment *and* treatment monitoring. This recommendation is supported by the results of analyses with a subsample of data from the prison-based program, demonstrating that a client's motivation for treatment is significantly predictive of engagement (rated on Treatment Participation, Treatment Satisfaction, Counselor Rapport, and Peer Support scales). This is consistent with previous research by Simpson and Joe (1993). Another strong indicator of engagement surfaced in the CTS scale for criminal rationalization. Clients with higher criminal orientation scores were less likely to engage in the treatment process. Similarly, clients with high hostility also were less likely to be satisfied with treatment and to participate.

Indeed, the link between criminal cognitions and resistance to treatment is well-documented in studies with high asocial offenders (Ogloff et al., 1990). The dynamic risk reflected in the correlations reported here, once identified, creates a need for either targeting interventions or reevaluating program responsiveness toward a goal of increasing treatment effectiveness (Lowenkamp & Latessa, 2005). There was, however, no indication of this criminogenic risk in the ASI CS correlations. The weak association between ASI CSs and engagement also was evidenced in the low proportion of variance they accounted for in the regression analysis. Namely, the contribution of CSs in explaining the four (engagement) scales ranged from 3% to 7% across the scales, compared to 11% to 22% for the TCU forms.

Results of this study relied on several direct comparative analyses between TCU assessments and the ASI. There were limitations, including the lack of data for some TCU forms. As a result, the regression analysis could only be conducted within a subsample representing prison-based treatment. Further work is needed to reevaluate the findings with data from a more complete inventory of these forms including the ALCForm recently added and larger samples from several different treatment settings to improve generalizability. Post-treatment outcomes and recidivism also are needed for better validity evidence. Of particular importance is establishing stronger evidence on the value of such assessments in relation to readiness and conditions for community re-entry. For instance, the Inmate Prerelease Assessment for Re-Entry Planning (IPASS; Farabee, Knight, Garner, & Calhoun, 2007) recommends the use of background drug use and criminal involvement as well as treatment engagement and performance indicators as a basis for determining post-treatment

release strategies. Several of the TCU forms specifically address these issues (e.g., RSKForm, CRHSForm, CTSForm, PSYForm, SOCFForm, MOTForm, ENGForm), but further evaluation of their applications for post-release planning is needed.

Clinical applications for the TCU Short Forms have been expanded with the findings reported in this study by demonstrating their utility in capturing core clinical domains which are specifically involved and impacted by substance abuse disorders. The wide range of information made available to treatment providers from client responses using these forms is suitable for evaluating risk indicators at intake and monitoring treatment progress. They offer alternatives to using the ASI in some settings where specialized assessments are needed, or as useful supplements to the ASI.

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Table 1

Correlations for TCU Short Form Scales and ASI Composite Scales

TCU Short Forms	ASI Composite Scales									
	Psychiatric	Medical	Legal	Family	Drug	Alcohol	Employment			
TCUDS II	.16**	.10*	.19***	.11*	.42***	.10*	.16**			
Motivation										
Problem Recognition (PR)	.13*	.14*	.31***	.07	.43***	.15**	.29***			
Desire for Help (DH)	.12*	.12*	.23***	.07	.40***	.13*	.27***			
Treatment Readiness (TR)	.07	.01	.23***	.09*	.40***	.16**	.22***			
Treatment Needs (TN)	.31***	.21***	.22***	.16**	.32***	.13*	.27***			
Psychological Functioning										
Self Esteem (SE)	-.41***	-.15**	-.08	-.30***	-.28***	-.20***	-.06			
Depression (DP)	.51***	.22***	.11*	.26***	.22***	.23***	.05			
Anxiety (AX)	.52***	.24***	.11*	.20***	.25***	.17***	.05			
Decision Making (DM)	-.25***	-.06	-.11*	-.12*	-.22***	-.14*	-.06			
Expectancy (EX)	-.26***	-.07	-.10*	-.14**	-.28***	-.15**	-.02			
Social Functioning										
Hostility (HS)	.29***	.12*	.17***	.16**	.16**	.06	.15**			
Risk Taking (RT)	.06	.05	.19***	-.02	.24***	-.00	.21***			
Social Support (SS)	-.07	-.02	.02	-.04	-.02	-.10*	-.04			
Social Desirability (SD)	-.24***	-.09*	-.20***	-.17***	-.28***	-.08	-.20***			
CTS										
Entitlement (EN)	.10	-.03	.06	-.07	.04	-.02	.08			
Justification (JU)	.20***	.04	.13*	.05	.16**	.01	.15**			
Power Orientation (PO)	.18***	.06	.18**	.05	.17***	.04	.17***			
Cold Heartedness (CH)	-.10*	-.10*	.10*	-.06	-.06	-.05	.02			
Rationalization (RN)	.10*	.14*	.15**	-.05	.10*	.04	.21***			

TCU Short Forms	ASI Composite Scales							
	.09*	.01	.12*	-.05	.02	.00	.11*	
Personal Irresponsibility (PI)								
Health								
K10	.61***	.25***	.08	.33***	.25***	.19***	-.02	
PCL	.56***	.28***	.09*	.30***	.22***	.20***	.02	

N=540.

* $p < .05$;

** $p < .001$;

*** $p < .0001$.

Table 2

Correlations for TCU Scales and ASI Composites (T1) with Engagement (T3)

Predictors Scales (T1)	TCU Engagement Scales (T3)			
	Treatment Participation (TP)	Treatment Satisfaction (TS)	Counselor Rapport (CR)	Peer Support (PS)
TCU Short Forms				
TCUDS II	.08	.09	.14 [*]	.11
Motivation				
Problem Recognition (PR)	.23 ^{**}	.14 [*]	.26 ^{**}	.19 [*]
Desire for Help (DH)	.29 ^{***}	.21 [*]	.30 ^{***}	.27 ^{***}
Treatment Readiness (TR)	.26 ^{**}	.23 ^{**}	.22 [*]	.25 ^{**}
Treatment Needs (TN)	.12	.04	.13	.05
Psychological Functioning				
Self Esteem (SE)	.08	.04	.00	.05
Depression (DP)	-.14 [*]	-.12	-.06	-.14 [*]
Anxiety (AX)	-.05	-.03	.01	-.02
Decision Making (DM)	.12	.05	.08	.02
Expectancy (EX)	.11	.00	-.04	.00
Social Functioning				
Hostility (HS)	-.17 [*]	-.15 [*]	-.09	-.10
Risk Taking (RT)	.00	-.04	-.03	.11
Social Support (SS)	.17 [*]	.11	.13	.18 [*]
Social Desirability (SD)	.07	.06	.03	.02
Criminal Thinking				
Entitlement (EN)	-.18 [*]	.04	-.07	-.01
Justification (JU)	-.10	.06	.00	.01
Power Orientation (PO)	-.13	-.09	-.06	-.05
Cold Heartedness (CH)	-.12	-.05	-.04	-.14 [*]
Rationalization (RN)	-.18 [*]	-.30 ^{***}	-.18 [*]	-.25 ^{**}
Personal Irresponsibility (PI)	-.16 [*]	-.06	-.09	-.13
Health				
K10	-.09	-.03	-.01	-.09
PCL	-.04	-.08	-.01	-.10
ASI Composite Scores (CS)				
Psychiatric	-.09	-.09	-.10	-.15 [*]
Medical	-.04	-.14 [*]	-.06	-.07
Legal	.12	-.03	.13	-.09

Predictors Scales (T1)	TCU Engagement Scales (T3)			
	Treatment Participation (TP)	Treatment Satisfaction (TS)	Counselor Rapport (CR)	Peer Support (PS)
Family	.01	-.12	.00	-.10
Drug	.15	.09	.17*	.09
Alcohol	.04	-.06	.00	-.03
Employment	-.09	-.13	-.09	.03

N ~ 215.

*
 $p < .05$;

**
 $p < .001$;

 $p < .0001$.