

# TCU Psychosocial Functioning and Motivation Scales: Manual on Psychometric Properties

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## INTRODUCTION

Research has consistently indicated that psychopathology frequently coexists with drug abuse (Woody, McLellan, Luborsky, & O'Brien, 1990). For example, Platt (1986) and De Leon (1989) have found that only a small percentage of drug addicts studied had normal psychological profiles. With few exceptions, Dembo et al. (1990) have found that youths classified as having emotional problems and as being socially isolated/lonely tend to report higher levels of alcohol, marijuana, and other illicit drug use than other youths. In addition, Mann, Charuvastra, and Murthy (1984) have found that poor motivation is the preeminent factor associated with shorter periods of abstinence for many opiate addicts.

Achieving behavioral change during drug abuse treatment has been tied to ameliorating client problems of poor psychosocial functioning and low motivation (Becker, 1974; Miller, 1989; Pender, 1987; Prochaska & DiClemente, 1986). These factors are particularly important for theories underlying drug treatment models. For example, the Health Belief Model (Rosenstock, 1966) suggests that psychosocial variables have a considerable impact on drug recovery by mediating clients' perceptions regarding the threat posed by a disease as well as their likelihood of taking effective action to prevent or treat the disease. Applied to drug treatment, this suggests that an individual's level of psychological and social functioning directly influences the perceived threat of drug abuse and subsequent steps taken to prevent or treat it. Treatment models adhering to Bandura's social learning theory focus on the tenet that beliefs about drugs and the ability to cope with the demands of everyday life are crucial determinants of the extent to which one becomes psychologically dependent on drugs (Blane & Leonard, 1987). Individuals with deficits in general coping skills, such as an inability to manage everyday stress and temptations, are viewed as being particularly vulnerable to using drugs to moderate their distress (Moos & Billings, 1982; Wills & Shiffman, 1985). Likewise, theories centering on motivation are supported by research that has consistently indicated client personality traits such as resistance and overuse of defense mechanism are key determinants to treatment outcome (Miller, 1985). These motivation theories often view treatment failures as stemming from negative dispositional characteristics of the client, such as poor motivation for treatment.

Since psychopathology frequently coexists with drug abuse and these problems should be addressed as part of an overall intervention strategy, there is a need to measure psychosocial functioning and motivation problems to help guide the development of a comprehensive treatment plan (Powell & Taylor, 1992). Ideally, standardized clinical assessments can be used to evaluate client impairments and monitor changes as treatment progresses (Allen & Mattson, 1993). However, administering a battery of these instruments is often impractical for field use in community-based treatment and evaluation research settings because a trained professional is frequently required. Limited staff time and assessment skills also tend to be accompanied by the lack of available psychological or vocational services to meet identified needs.

A need therefore exists for short, more efficient "screening" instruments for use in community programs operating with limited resources. Treatment outcome evaluations should also benefit from having indicators of psychosocial functioning and motivational characteristics. This report describes psychometric properties of the TCU Self-Rating Form (TCU/SRF), which contains a set of brief scales developed to assess psychosocial and motivational barriers identified as being closely related to drug-using behavioral change (Simpson, 1992). It is one of several treatment evaluation research instruments developed as part of a comprehensive data system in conjunction with the NIDA-funded Improving Drug Abuse Treatment for AIDS-Risk

Reduction project (Simpson, Chatham, & Joe, 1993; Simpson, 1993). Although prior studies have examined individual scales which are represented in the TCU/SRF across different populations, this study examines psychometric properties of the full set of scales administered to a large population of opiate-injecting addicts and a large substance abusing criminal justice population. Reliability coefficients, goodness-of-fit coefficients, response distributions, scale and composite means and standard deviations, item-total correlations, inter-scale correlations, and test-retest correlations are examined.

## CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

The TCU/SRF categorizes health-related psychosocial and motivational factors under three general conceptual domains: psychological functioning, social functioning, and treatment motivation. As noted below, a variety of scales and clinical assessment instruments were found to be available for most of the measurement areas targeted for inclusion in the TCU/SRF. Because they were so different with respect to length, vocabulary, reading level, writing style, and other characteristics, however, it was not feasible to meld a subset of these existing scales into a single instrument. Instead, a stable reading style and literacy level (e.g., about sixth grade) was required, and it was judged that individual items had to be more relevant and applicable to persons involved in chronic drug use and addiction. For instance, references to “stock markets and related financial investments” as risk-taking indicators were not plausible for this population.

In order to include all of the desired scales in an instrument that would meet attentional and response burden limits imposed in most publicly-funded treatment settings, it was necessary for each scale to be short (preferably containing no more than 7-10 items). Procedurally, items were developed after a review of pertinent conceptual review and research articles as well as existing instruments. Item pools were prepared using ideas and core phrases common to those generally regarded in the literature as the better and most reliable scales, but the wording used a standardized format and style based in part on our past experiences in questionnaire design with drug abuse samples. A series of pilot tests and studies on face validity and internal consistency of the scales was conducted to help select which items to retain, and they have been refined through further instrument revisions since their original development in 1989.

### Psychological Functioning

An important consideration in drug abuse intervention strategies is psychological functioning (Simpson, Joe, Knight, Ray, & Watson, 1992). For instance, psychological domains found to be related to coping with health threats include self-esteem (Namir, Wolcott, Fawzy, & Alumbaugh, 1987; Nyamathi & Vasquez, 1989; Remafedi, 1988), depression (Ostrow et al., 1989), and anxiety (Atkinson et al., 1988; Botvin, 1985; Huang, Watters, & Case, 1988). Likewise, confidence in decision-making skills has been found to be related to health-related issues (Joe, Knezek, Watson, & Simpson, 1991). Consequently, the TCU/SRF psychological functioning domain includes measures of self-reported self-esteem, depression, anxiety, and decision-making confidence.

**Self-esteem.** Self-esteem has consistently been found to be related to drug treatment outcome. For example, clients with lower self-esteem tend to have a shorter length of stay in treatment than do clients with higher self-esteem (Berry & Sipps, 1991). Also, higher levels of self-esteem have been found to be associated with an active-behavioral coping method (Namir

et al., 1987). Because of its critical role in treatment, a measure of self-esteem was included as one of the TCU/SRF scales.

Overall, the TCU/SRF 7-item self-esteem scale has consistently maintained good psychometric properties. Prior research has repeatedly found the scale to have a relatively high alpha reliability coefficient (Myers, Knight, Simpson, & Stevens, 1991; Simpson et al., 1992; Simpson, 1991; Simpson, Knight, & Ray, 1993). Preliminary evidence also suggests the scale has a high test-retest reliability coefficient (Simpson, 1991) and item-total correlations have been acceptable.

The TCU/SRF self-esteem measure has been found to be positively associated with the TCU/SRF decision-making confidence scale, and negatively associated with the TCU/SRF scales of anxiety, depression, and risk-taking behavior (Simpson et al., 1992). In addition, the self-esteem scale has been found to be significantly inversely related to risky needle-use and sexual behaviors (Simpson et al., 1993).

**Depression.** Individuals with higher depression scores have been found to engage in riskier health-related behaviors (Malow, Corrigan, Pena, Calkins, & Bannister, 1992). For drug abusers, assessing and treating depression can have a major impact on reducing such risky behavior (Joe et al., 1991). In addition, assessment of depression can help in providing better individualized treatment plans. For example, opiate addicts have been found to have more severe psychopathology, including higher levels of depression, anxiety, and adjustment, than compulsive cocaine users (Malow, West, Pena, & Lott, 1990). An accurate assessment of the degree of depression can be a major factor in treatment assignment and represents a useful index of treatment effectiveness in terms of patient response (Nelson & Cichetti, 1991).

Psychometrically, the TCU/SRF 7-item depression scale has had a history of a relatively high alpha reliability coefficient (Myers et al., 1991; Simpson et al., 1992; Simpson, 1991; Simpson et al., 1993). In addition, the TCU/SRF depression scale score has been found to be highly correlated with the SCL-90 depression scale score ( $r=.81$ , Myers et al., 1991) and the Beck Depression Inventory ( $r=.75$ , Simpson et al., 1992). Preliminary evidence has also found a test-retest reliability coefficient of .86 (Simpson, 1991). Item-total correlations have been acceptable, with the exception of item 40, "You feel hopeful about the future," which has had an item-total correlation of .19 (Joe et al., 1991).

Results from previous studies using the TCU/SRF depression scale have indicated that higher depression is associated with lower decision-making confidence (Joe et al., 1991). Higher depression scores have also been found to be strongly associated with clients who are female, younger, white (vs. non-whites), and less educated (Joe et al., 1991; Simpson et al., 1992). Also, Joe et al. (1991) reported that significant positive correlations were found between depression scores and intravenous use of cocaine only, heroin and cocaine combined, and heroin only, and that AIDS risky sex behavior was positively correlated with depression. Within the TCU/SRF scales, depression scores have been found to be positively correlated with anxiety, risk-taking, drug problem recognition, and desire for help; depression scores have been found to be negatively associated with the measures of self-esteem and decision-making confidence (Simpson et al., 1992).

**Anxiety.** High anxiety, like high depression, has been found to be significantly related to a higher degree of drug use behavior (Malow et al., 1992) and to be associated with avoidance behavior as a coping method (Namir et al., 1987). Higher levels of anxiety have also been linked

with HIV drug-risk behaviors (Malow et al., 1992). Measures of anxiety have also been valuable in predicting differences among drug abusers; specifically, opioid users have been found to have higher levels of anxiety and depression than compulsive cocaine users (Malow et al., 1990). To provide a quick assessment of depression, 7 items related to depression were included in the TCU/SRF.

Prior research with the TCU/SRF anxiety scale has demonstrated good psychometric characteristics. For example, several studies have found an acceptable reliability alpha coefficient (Myers et al., 1991; Simpson et al., 1992; Simpson, 1991; Simpson et al., 1993). A test-retest reliability coefficient of .84 was found with a sample of 44 substance abusing probationers tested 8-10 days apart (Simpson, 1991). In addition, the TCU/SRF anxiety scale score has been found to be highly correlated with the SCL-90 anxiety scale score ( $r=.74$ , Myers et al., 1991). Finally, all TCU/SRF anxiety scale items have consistently demonstrated acceptable item-total correlations and individual item distributions have been relatively normal.

Based on prior research with the TCU/SRF scales, the anxiety scale has been found to be positively correlated with race (white), gender (female), risky needle use practice, risk-taking, and perceptions of drug use problems (Simpson et al., 1992). In addition, anxiety was inversely related to decision-making confidence and self-esteem.

**Decision-making confidence.** Although the decision-making construct has not received considerable attention in the literature, research has found that confidence in decision-making ability is a critical factor in recovery (Joe et al., 1991). Also, researchers have acknowledged that the interaction between decision-making and coping skills plays a key role in the relapse process (Saunders & Allsop, 1987). In addition, decision-making skills have been found to be an important determinant of risk-taking behavior in adolescents (Frank, Green, & McNeil, 1993). Because decision-making plays a key role in the risk-taking of substance abusers, the TCU/SRF decision-making confidence scale was created to help in the assessment and understanding of the role decision-making confidence plays in the treatment intervention process.

Prior research has demonstrated the reliability coefficient alpha for this scale to be consistently high (Simpson et al., 1992; Simpson, 1991; Simpson et al., 1993). Preliminary evidence also suggests that the test-retest reliability coefficient is acceptable (Simpson, 1991). Although most item-total correlations have been good, item 52, "Your problems are caused by someone else," has had an item total correlation as low as .00 (Joe et al., 1991).

Studies with the TCU/SRF decision-making confidence scale have found that older, less depressed, and more educated drug users have tended to score higher on the scale (Simpson et al., 1992). Also, Joe et al. (1991) found that the scale score was inversely related to the frequency of intravenous use of cocaine alone and cocaine and heroin mixed. In addition, AIDS sex-risky behavior was negatively correlated with the decision-making confidence scale. Within the TCU/SRF scales, the decision-making confidence scale has been found to be inversely related to the depression, anxiety, problem recognition, and desire for help scales, and positively related to the self-esteem scale (Simpson et al., 1992).

## **Social Functioning**

The usefulness and need of a social functioning measurement scale has been widely established (Simpson & Joe, 1993). For example, Powell and Taylor (1992) suggest there is a

strong need for treatment programs to measure and treat anger and hostility of addicts while in treatment, particularly after detoxification. Typically, scale construction designed to assess the “antisocial” personality has relied on DSM-III classification; however, social functioning has been found to involve other more specific elements such as hostility (Miller, Gold, & Mahler, 1990), risk-taking (Chien, 1980), poor socialization (Chien, 1980), and an origin in childhood problems (Mutaner et al., 1989). In the TCU/SRF, measures of social functioning therefore include separate assessments of social conformity, risk-taking, hostility, and childhood problems.

**Childhood problems.** Childhood problems have been found to play a major role in addiction (Mutaner et al., 1989). Researchers have found statistically significant relationships between childhood problems and subsequent use of illicit drugs (Dembo et al., 1987; Dembo, LaVoie, Schmeidler, & Washburn, 1987; Mutaner et al., 1989). Specifically, Tubman, Vicary, VonEye, and Lerner (1990) found that negative emotional-behavioral states in middle childhood precede problematic patterns of substance use. In addition, antisocial behavior generally begins at an early age and is often marked by impulsivity and conduct problems together with a lack of insight (Hesselbrock, 1991). Consequently, the measurement of childhood problems also needs to be addressed in a measurement of social functioning problems (Simpson & Joe, 1993).

With the TCU/SRF 9-item measure of childhood problems, research by Simpson and Joe (1993) suggests that support existed for either a one or two factor solution for this scale. Because of the high coefficient alpha (.70) for the one factor solution, they suggested using a single scale score. However, with the two factor solution (assessing “poor well-being while growing up” and “acting out problems while growing up”), the psychometric properties were also acceptable. Nonetheless, the single-factor solution, in addition to having a high alpha reliability coefficient, has demonstrated other good psychometric properties, including a high test-retest reliability coefficient (Simpson, 1991).

Although limited, research with this scale has demonstrated that the scale is positively correlated with hostility and risk-taking, and negatively correlated with social conformity (Simpson & Joe, 1993). Also, concurrent validity analyses have indicated that the scale was significantly correlated with perceptions of parental rearing and with family interaction variables (Simpson & Joe, 1993). Specifically, higher scores on the childhood problems scale were related to more negative perceptions of mother and father. Individuals who scored higher on the scale also tended to describe their family as not getting along together, having no real enjoyment in being together, not talking openly about each other's interests and needs, not helping each other with problems, placing blame on the individual, having disagreements, having loud arguments or fights, and being boring (Simpson & Joe, 1993).

**Hostility.** As Chien (1980) notes, high levels of hostility are typically found with drug users, particularly during the initial transition process into treatment. A cross-cultural study by Ahmad, Ramalingum, and Ahmad (1984) has provided additional support for the notion that drug users have higher levels of hostility in comparison to nonusers. Consequently, because it is important for the counselor to be able to assess existing levels of client hostility, the 8-item hostility scale was included as part of the TCU/SRF.

This scale has continually had good psychometric properties across multiple studies. For example, coefficient alpha reliabilities have been found to be above .75, and a principal components analysis confirmed its unidimensionality (Simpson & Joe, 1993; Simpson, 1991). A test-retest reliability coefficient of .88 was found with a sample of 44 substance abusing

probationers tested 8-10 days apart (Simpson, 1991). In addition, the TCU/SRF hostility scale score has been found to be correlated with the SCL-90 hostility scale score ( $r=.61$ , Myers et al., 1991).

The hostility scale has been found to be positively correlated with TCU/SRF measures of childhood problems and risk-taking. Likewise, the hostility scale has been found to be negatively associated with the TCU/SRF measure of social conformity (Simpson & Joe, 1993). In addition, older addicts tended to score lower on this scale, while whites tended to score higher (Simpson & Joe, 1993).

**Risk-taking.** As noted by Chien (1980), drug users tend to be greater risk-takers. Prior research has shown that risk-taking measures are able to provide strong and independent contributions to predicting self-reported drug and alcohol use (Murray & Singer, 1988). Treatment programs must assess and work to lessen health-related risky behaviors. The TCU/SRF 8-item risk-taking measure was designed to assess such behavior.

Prior research has established the alpha reliability coefficient for this scale to be relatively high (Simpson et al., 1992; Simpson, 1991). In addition, preliminary evidence suggests that the scale's test-retest reliability coefficient is acceptable (Simpson, 1991). However, it is important to note that although results from previous studies have suggested that the risk-taking scale has acceptable psychometric properties as a single scale, a principal components analysis has provided modest support for a two subfactor solution, interpreted as "doing risky things" and "doing safe things" (Simpson & Joe, 1993).

The TCU/SRF risk-taking scale has been found to be positively correlated with depression, anxiety, childhood problems, and hostility. In addition, the scale has been found to be negatively correlated with self-esteem and social conformity (Simpson & Joe, 1993; Simpson et al., 1992). The scale has also been found to be positively correlated with an index measuring the sharing of "dirty" needles (Simpson et al., 1993).

**Social conformity.** Chien (1980) notes that poor social functioning plays a key role in addiction. In general, addicts have a deep distrust of others, comprehending interpersonal relationships in terms of conning, manipulating, and pushing people around. For example, psychological improvement for women participating in a 2-year follow-up study who had previously graduated from a therapeutic community appears to have been related to social-role factors that were modified during their treatment tenure (De Leon & Jainchill, 1981-82).

The 10-item TCU/SRF scale designed to tap this domain has had limited success. After several revisions, the most recent version of the social conformity scale has found a marginally acceptable alpha reliability coefficient around .65, with a principal components analysis providing support for the existence of the single factor (Simpson & Joe, 1993; Simpson, 1991). A test-retest reliability coefficient of .78 was found with a sample of 44 substance abusing probationers tested 8-10 days apart (Simpson, 1991). However, items 11, "You are ashamed of the things you do," and 38, "You believe most people can be trusted," have consistently had poor item-total correlations.

Although prior research with this revised social conformity scale is limited, a study by Simpson and Joe (1993) found that persons who scored higher on this scale tended to rate religion as more important in their lives and engaged less often in alcohol or drug-related fights. They were also less likely to use drugs because of anger, and to be less involved in illegal

activities involving violence against others. In addition, older addicts tended to score higher on the scale, while whites tended to score lower. Within the TCU/SRF social functioning scales, social conformity was found to be negatively correlated with risk-taking and hostility.

### **Treatment Motivation**

Motivation has long been regarded as an important factor in the treatment of addictive behaviors such as alcoholism and drug use (Karoly, 1980; Miller, 1985). Often a lack of motivation is, in turn, attributed to client characteristics such as personality traits, resistance, and overuse of defense mechanisms such as denial (Miller, 1985). In stage theories of motivation, client characteristics such as a recognition of drug-related problems and a desire for help represent motivational considerations in the process of change (De Leon, 1984; Simpson & Sells, 1982). As De Leon and Jainchill (1986) suggest, an individual's perceived need for any treatment to assist in personal change (readiness for treatment), as opposed to being motivated to change but not seeing the necessity for treatment, may also be directly related to treatment outcome.

The TCU/SRF measures of these motivational domains includes an assessment of drug-related problem recognition, desire for help, and readiness for treatment. Previous studies with these scales administered to a variety of populations have found a consistent pattern of significant correlations with several background and pretreatment functioning measures in the predicted directions, representing concurrent validity (Knight, Simpson, & Dansereau, in press; Simpson & Joe, 1993; Simpson et al., 1993).

**Problem recognition.** Research has demonstrated that the recognition of drug use problems and the perception of the severity of related problems is directly related to tenure in treatment (De Leon & Jainchill, 1986; Simpson, 1984; Simpson & Joe, 1993). The recognition of drug use problems may be the result of intrinsic pressures, such as a desire to live a drug-free lifestyle, or the result of external pressures stemming from loss or fear. Lack of such recognition has often been defined as denial and found to be an important first obstacle to be overcome in the treatment process. In Prochaska and DiClemente's model of change (1986), this scale represents an assessment of movement from "precontemplation" to "contemplation" of change in that it addresses denial of problems as the first barrier to change. In the TCU/SRF, the problem recognition scale is designed to measure personal acknowledgment (or denial) of behavioral problems resulting from drug use.

Although prior psychometric analyses with items from this scale have consistently yielded high coefficient alpha reliabilities and acceptable item-total correlations (Simpson & Joe, 1993; Simpson et al., 1992; Simpson, 1991; Simpson et al., 1993), marginal support has emerged for the existence of two separate factors, "general problems" and "specific problems" (Simpson & Joe, 1993). A subsequent confirmatory factor analysis for a model of one factor yielded a relatively low goodness-of-fit index (.85), suggesting that the possibility of a two-factor solution needs to be further analyzed. A test-retest reliability coefficient of .54 was found with a sample of 44 substance abusing probationers tested 8-10 days apart (Simpson, 1991).

In addition to psychometric problems, the scale has also had little success as a correlate or predictor of treatment process and outcome measures. This is believed to be due in large part to the homogeneous nature of the clients tested. Because the scale has been administered primarily to individuals already in treatment, it is not surprising that there has been little



differentiation among clients on their recognition of drug use problems. In general, mean scores for this scale across samples have averaged around 3.30 (scale range 0 to 4), with a standard deviation typically around .50.

**Desire for help.** Once problems related to substance abuse are acknowledged, the client must move toward a stage of recognizing the desire for help. According to De Leon and Jainchill (1986), the perception of the need for treatment as well as the understanding of particular treatment alternatives appears to be directly related to tenure in treatment. Other researchers have found that substance abusers who recognize their drug-related problems and who have a desire for help were more likely to participate in group therapy, whereas those without such recognition were more likely to attend self-help groups such as Alcoholics Anonymous (Moos & Finney, 1988). This stage represents further cognitive movement towards what Prochaska and DiClemente (1986) refer to as an “action” stage, based on a recognition of “hitting bottom.” The 7-item TCU/SRF desire for help scale is designed to assess this awareness of intrinsic need for change and interest in getting help.

Psychometrically, the scale has good psychometric properties, with coefficient alpha reliabilities between .64 and .91, item-total correlations typically above .30, and a goodness-of-fit coefficient of .97 (Simpson & Joe, 1993; Simpson et al., 1992; Simpson, 1991; Simpson et al., 1993). A test-retest reliability coefficient of .74 was found with a sample of 44 substance abusing probationers tested 8-10 days apart (Simpson, 1991). In addition, the desire for help scale has been found to be a significant predictor of treatment retention beyond 60 days of treatment (Simpson & Joe, 1993).

**Treatment readiness.** Although substance abusers may be motivated to end their cycle of addiction and perceive a need for treatment to assist in change, they may still not be ready for treatment (De Leon & Jainchill, 1986). For example, they may feel that there are too many current outside responsibilities to be in treatment, or they may not be ready to commit to long-term treatment. Therefore, an assessment of the degree of commitment to active change through participation in a treatment program is needed. According to Prochaska and DiClemente's model of change, an assessment of treatment readiness, such as the TCU/SRF treatment readiness scale, represents a measurement of the decision for “action” in the form of specific commitments to formal treatment.

Prior principal components analyses of the 8-item treatment readiness scale have suggested the possibility that the treatment readiness scale should be divided into two scales, reflecting “external pressures to enter treatment” and “intrinsic expectations about helpfulness of treatment” (Simpson & Joe, 1993). Although the coefficient alpha reliability for the single scale has consistently ranged from .64 to .75, a confirmatory factor analysis for a one-factor solution has not been as promising with a goodness-of-fit index of .90 (Simpson & Joe, 1993; Simpson, 1991). Item-total correlations have also varied widely across samples for the individual items (between .05 and .59). As suggested by Simpson and Joe (1993), the internal structure of this scale needs to be examined further. A test-retest reliability coefficient of .79 was found with a sample of 44 substance abusing probationers tested 8-10 days apart (Simpson, 1991).

## **Purpose of Present Study**

As noted above, the set of TCU/SRF scales were developed to address several domains of psychosocial functioning believed to be important on the basis of previous research. Evidence

based on our preliminary samples suggests that these short scales are reliable, but the present study provides a more comprehensive and formal series of psychometric analyses. It includes split-half samples from an outpatient methadone treatment population as well as an additional sample of probationers in residential treatment in order to examine questions about the integrity and reliability of the scales. The sources of data will be described first, along with procedural details (including item range and patterned responding checks), before results of internal consistency, intercorrelations, and test-retest reliabilities for the scales are presented.

## METHOD

### Sample

Data were collected from subjects drawn from methadone and residential drug-free treatment programs. First, data were obtained from a sequential sample of 794 opioid addicts from three methadone treatment clinics participating in the Drug Abuse Treatment for AIDS-Risks Reduction (DATAR) project, a treatment enhancement grant funded by the National Institute on Drug Abuse. Data from seven of these clients were omitted from analyses because they failed to meet the range and consistency checks described later, leaving a total sample size of 787 from the DATAR project. Clients participating in this study were admitted to treatment between May, 1990 and June, 1993. The clinics were located in three cities in Texas, with the first clinic having 349 clients, the second clinic having 230 clients, and the third clinic having 208 clients who participated in this study. There were no client fees for treatment.

Background information revealed that the average age of this methadone treatment sample was 37 years, and 68% were males. In terms of race-ethnic composition, 22% were African-American, 36% were White, 38% were Mexican-American, and 4% were from other race-ethnic groups. Forty percent reported having graduated from high school. Forty-three percent were married or living as married, 39% were separated, widowed, or divorced, and 18% had never married. In terms of employment, 45% of the sample reported either part-time (13%) or full-time (32%) employment in the 6 months prior to the intake interview; 45% were unemployed. The major sources of support came from jobs (28%), a mate, family, or friends (30%), and prostitution or illegal activities (11%). In terms of drug use, 97% used at least one illicit drug on a daily basis in the prior 30 days; 83% were daily users of heroin, 28% were daily users of heroin plus cocaine (speedballs), and 10% were daily users of cocaine. No other drug category (excluding alcohol) exceeded 10% daily use. Essentially the same drug use patterns were also reported for the last 6 months before intake.

For analytic purposes of this study, the total DATAR sample of 787 clients was randomly split into two halves. The first half, labeled "DATAR 1," had a sample size of 406, and the second half, labeled "DATAR 2," had a sample size of 381.

The second source of data was a sequential sample of 331 probationers charged with a drug-related crime and sentenced to a 4-month residential drug treatment facility. Two of these clients had incomplete data forms, and four were identified as "random" responders because they failed a series of range and consistency checks (described later); consequently, these six clients were excluded from the analyses, leaving a total of 325. Treatment admissions for this sample occurred between February and November of 1992. The treatment facility, also referred to as the Substance Abuse Treatment Facility (SATF), is located in Texas and targets non-violent first time offenders.

With respect to background information, the average age of the sample was 29 years, and 65% were males. In terms of race-ethnic composition, 36% were African-American, 56% were White, 7% were Mexican-American, and 1% were from other race-ethnic groups. Forty-five percent had graduated from high school. Thirty-one percent were married or living as married, 34% were separated, widowed, or divorced, and 35% had never married. In terms of employment, 71% of the sample reported either part-time (15%) or full-time (56%) employment in the 6-months prior to the intake interview; 23% were unemployed. For the SATF sample, the major sources of support came from jobs (42%), a mate, family, or friends (32%), and prostitution or illegal activities (15%). In terms of drug use, 34% used at least one illicit drug on a daily basis in the prior 30 days; 14% were daily users of marijuana and 12% were daily users of crack. No other drug category (excluding alcohol) exceeded 10% daily use. Essentially the same drug use patterns were also reported for the last 6 months before intake.

### **Procedure for Intake Data Collection**

Upon admission to both the DATAR and SATF treatment programs, clients completed a battery of intake assessments. One of the assessments completed was the TCU Self-Rating Form (TCU/SRF), an 11-scale, 88-item self-administered instrument that includes four psychological functioning scales, four social functioning scales, and three motivation scales (Simpson, 1992; see Appendix A). The four psychological functioning scales include composite measures of self-esteem (SE), depression (DP), anxiety (AX), and decision-making confidence (DM). The four social functioning scales includes measures of childhood problems (CP), hostility (HS), risk-taking behavior (RT), and social conformity (SC). The three motivational scales includes measures of problem recognition (PR), desire for help (DH), and treatment readiness (TR). On average, clients took approximately 20 minutes to complete the TCU/SRF.

The scales each consist of 7 to 10 items, with items rated on a 5-point Likert scale (0=strongly disagree, 1=disagree, 2=undecided, 3=agree, 4=strongly agree). With the self-esteem, decision-making confidence, social conformity, and three motivational scales, higher scores imply better functioning. With the depression, anxiety, childhood problems, hostility, and risk-taking scales, higher scores indicate poorer functioning.

Upon completion of the TCU/SRF, a structured intake assessment (see Simpson, 1992) was conducted by a drug treatment counselor. The face-to-face interview lasted approximately 1 hour and provided measures of the client's sociodemographic background, family background, peer relations, criminal history, health and psychological status, drug use history, and behavioral risks for AIDS.

### **Range and Consistency Checks**

During data editing, response patterns were detected that appeared to be random. In an effort to isolate these forms in which respondents were inattentive, functionally illiterate but attempted to complete the form, or simply refused to conscientiously complete the form, an algorithm was developed to detect repeatedly inconsistent responses to similar or closely related pairs of items. For example, if a respondent indicated he or she **often** *had much to be proud of*, but was **never** *satisfied with him or herself*, then that pair of items was scored as being inconsistent.

Similar pairs of items were chosen from each of the eleven subscales from the three conceptual domains, based on similarity of meaning and on having the highest overall correlation among pairs of items within each scale. These are listed below.

- SE-- 7. You have much to be proud of.  
8. In general, you are satisfied with yourself.
- DP-- 4. You feel sad or depressed.  
18. You feel lonely.
- AX-- 36. You feel anxious or nervous  
57. You feel tense or keyed-up
- DM-- 15. You plan ahead  
39. You analyze problems by looking at all the choices
- CP-- 20. You had good relations with your parents while  
growing up  
48. You had good self-esteem and confidence while  
growing up
- HS-- 31. You have a hot temper  
41. Your temper gets you into fights or other trouble
- RT-- 9. You like the “fast” life  
19. You like friends who are wild
- SC-- 2. You feel people are important to you.  
33. You keep the same friends for a long time
- PR-- 68. Your drug use is causing you problems in thinking  
or doing your work  
70. Your drug use is causing problems in finding or  
keeping a job
- DH-- 74. You need help in dealing with your drug use  
77. It is urgent that you find help immediately for  
your drug use
- TR-- 86. This treatment program can really help you  
88. You want to be in a drug treatment program

If the scale score difference for each of these pairs was 2 or more (e.g., 1-“disagree” on one item, and 3-“agree” on the other), the responses were then marked as inconsistent. The results are summarized below.

	% Inconsistent	
	DATAR	SATF
Psychological Functioning		
SE	17	9
DP	13	9
AX	10	9
DM	22	10
Social Functioning		
CP	15	22
HS	9	9
RT	23	14
SC	27	29
Treatment Motivation		
PR	14	14
DH	4	6
TR	5	16

If six or more pairs (out of a possible 11 pairs) were marked as inconsistent, then the form was visually checked to confirm an overall random response pattern. For the DATAR sample, this constituted less than one percent of the sample (n=7), and for the SATF sample, slightly over one percent (n=4) were identified as inconsistent. Consequently, these cases were excluded from the analyses in this study.

## RESULTS

### Internal Consistency and Dimensionality

For each of the original 11 scales, a principal components analysis (using SAS PROC FACTOR; SAS, 1990) was performed to examine the dimensionality of each scale using the DATAR 1 sample. Eigenvalues greater than or equal to 1.00 and visual inspection of the scree test were used to determine the number of factors for each scale and potentially for rotation. Distributions of the scale items and the item-total correlations were also considered, along with means, standard deviations, and coefficient alpha internal reliabilities. Subsequent confirmatory factor analysis using PC-LISREL (Jöreskog & Sörbom, 1988) was then conducted to establish a goodness-of-fit measure. Once these steps were taken, the composite scales were validated by establishing reliability coefficients and goodness-of-fit coefficients with the DATAR 2 and SATF samples.

### Psychological Functioning Scales

**Self-esteem.** Two factors with an eigenvalue over one emerged from a principal components analysis of the seven self-esteem items (eigenvalues of 2.84 for the first factor and

1.03 for the second). Six of the items loaded on the first factor, accounting for 41% of the variance, while only Item 37 loaded on the second factor, accounting for 15% of the variance. Loadings for the first factor were between .44 and .81 for the six items, with Item 37 having a .23 loading on the first factor and .83 on the second factor. The second factor eigenvalue had a comparatively small eigenvalue, suggesting the existence of one factor in the self-esteem scale, particularly if Item 37 were omitted.

Further evidence for a 6-item self-esteem factor (omitting Item 37) was based on review of item-total correlations; all were at or above .29, with the exception of Item 37 which had an item-total correlation of .16. As demonstrated in [Table 1](#), item-total correlations with Item 37 omitted fared much better, all at or above .29. Also, the coefficient alpha for the self-esteem scale increased from .73 to .75 with the omission of Item 37.

Subsequent exploratory analyses using the DATAR 1 sample suggests that the abbreviated 6-item self-esteem scale also had other good psychometric properties. The distributions of the six self-esteem items, presented in [Table 2](#), indicates that all six items demonstrated a relatively normal distribution. As indicated in [Table 1](#), both composite and specific item means and standard deviations were also acceptable. Finally, a confirmatory factor analysis (see [Table 3](#)) revealed an acceptable goodness-of-fit index of .98 for the 6-item self-esteem scale.

The abbreviated scale also maintained stable and consistent findings when examined with the DATAR 2 and SATF samples. As illustrated in [Table 3](#), reliability coefficients were .79 for the DATAR 2 sample, and .77 for the SATF sample. Likewise, confirmatory factor analyses revealed satisfactory goodness-of-fit coefficients for the DATAR 2 sample (.94) and for the SATF sample (.92).

**Depression.** As with the original self-esteem scale, two factors with an eigenvalue greater than 1.00 emerged from a principal components analysis of the seven depression items (eigenvalues of 2.94 and 1.10 for the first and second factors, respectively). Six of the seven items loaded on the first factor, accounting for 42% of the variance, while Item 40 loaded on the second factor, accounting for 16% of the variance. Loadings for the first factor were between .55 and .78, with the exception of Item 40, which had a loading of .37 on the first factor and .75 on the second factor. Item-total correlations for the original set of items were above .40, except for Item 40 which had an item-total correlation of .26. Item-total correlations for an abbreviated 6-item scale (excluding Item 40) were much better, with all item-total correlations at or above .35. Likewise, the coefficient alpha increased from .75 with the 7-item scale to .77 with the 6-item scale. Consequently, one 6-item factor was retained -- omitting Item 40.

Analyses using the DATAR 1 sample indicates that the psychometric properties of the six individual depression items were satisfactory. Distributions of the items, presented in [Table 2](#), were acceptable, with Items 13 and 26 being moderately skewed. Also, a confirmatory factor analysis (see [Table 3](#)) revealed a goodness-of-fit index of .98 for the six depression items.

Psychometric properties of the 6-item depression scale were also consistent and reliable when examined using the DATAR 2 and SATF samples. As illustrated in [Table 3](#), reliability coefficients were .78 for the DATAR 2 sample, and .77 for the SATF sample. Likewise, confirmatory factor analyses revealed acceptable goodness-of-fit coefficients for the DATAR 2 (.98) and SATF (.96) samples.

**Anxiety.** Only one factor with an eigenvalue over 1.00 emerged from a principal components analysis of the anxiety items. The 7-item factor accounted for 50% of the variance, and loadings on the factor ranged between .48 and .84.

As indicated in Table 2, subsequent analyses using the DATAR 1 sample suggests that the 7-item anxiety scale had good distribution qualities, except for Item 49 which was slightly skewed. As indicated in Table 1, means and standard deviations were acceptable for both the individual items and the composite, and all of the item-total correlations were at or above .35. Also, the coefficient alpha for the 7-item anxiety scale was satisfactory at .82. Finally, a confirmatory factor analysis (see Table 3) revealed a reasonable goodness-of-fit index of .98 for the anxiety items.

Results from the 7-item anxiety scale with the DATAR 2 and SATF samples were also consistent. As illustrated in Table 3, reliability coefficients were .80 for the DATAR 2 sample and .78 for the SATF sample. Confirmatory factor analyses revealed acceptable goodness-of-fit coefficients for the DATAR 2 sample (.98) and for the SATF sample (.97).

**Decision-making confidence.** Two factors with an eigenvalue over 1.00 emerged from a principal components analysis of the 10 decision-making confidence items (first factor eigenvalue was 3.03, and the second factor eigenvalue was 1.53). Nine of the 10 items loaded on the first factor, accounting for 30% of the variance, while three items loaded on the second factor, accounting for 15% of the variance. However, loadings for two of the three items from the second factor also had relatively high loadings on the first factor (Item 32 had a loading of .39 on the first factor and .67 on the second; Item 42 had a loading of .49 on the first factor and .56 on the second). Only Item 52 had a high loading on the second factor (.50) and an extremely small loading on the first factor (.05). When examining all 10 items together, item-total correlations were at or above .30 for all items except for Item 52, which had an item-total correlation of .05. Because of the low first factor loading and the low item-total correlation, This item was dropped from the decision-making confidence composite; the coefficient alpha rose from .71 for the original 10-item scale to .74 for the revised 9-item scale.

Subsequent analyses using the DATAR 1 sample suggests that the 9-item decision-making confidence scale exhibited further promising psychometric properties. The distributions of the nine items, presented in Table 2, indicated that all items had a relatively normal distribution. As indicated in Table 1, means and standard deviations for both the composite and individual items were satisfactory. Finally, a confirmatory factor analysis (see Table 3) revealed a marginally acceptable goodness-of-fit index of .91 for the 9-item decision-making confidence scale.

The scale maintained consistent psychometric properties when examined using the DATAR 2 and SATF samples. As illustrated in Table 3, coefficients alphas were .74 for the DATAR 2 sample, and .81 for the SATF sample. Confirmatory factor analyses revealed respectable goodness-of-fit coefficients for the DATAR 2 sample (.94) and for the SATF sample (.94).

## **Social Functioning Scales**

**Childhood problems.** Two factors with an eigenvalue over 1.00 emerged from a principal components analysis of the childhood problems items. Although all eight items loaded on the first factor with loadings above .44, four had loadings above .29 on a second factor. The

first factor accounted for 38% of the variance, while the second factor accounted for 20% of the variance. Rotating the items to a varimax solution suggested that the two factors were tapping different factor structures. Empirically, the first factor contained items indicating “acting out problems while growing up” (Items 3, 10, 35, 43), and the second factor contained items indicating “poor well-being while growing up” (Items 20, 25, 48, 58). All eight items had an item-total correlation at or above .31, with an alpha coefficient of .76. Therefore, since all eight items had sufficiently high loadings on the first factor and acceptable item-total correlations, and since conceptually they reflect a general childhood problems composite measure, the decision was made to leave all of the original eight items of this scale intact. Nonetheless, efforts to gain a more microanalytic look into childhood problems may warrant using the two-factor solution. Reliability coefficients for the two factors as well as the global factor are reported in [Table 3](#).

Further analyses using the DATAR 1 sample suggested that the 8-item childhood problems scale continued to have good psychometric properties. As presented in [Table 2](#), all items had acceptable distributions, although Items 20 and 58 were moderately skewed. Means and standard deviations for the composite and the individual items were also acceptable, and all of the eight item-total correlations were at or above .31 (see [Table 1](#)). Also, the scale's coefficient alpha was acceptable at .76. Finally, a confirmatory factor analysis (see [Table 3](#)) revealed a goodness-of-fit index of .95 for the eight childhood problems items.

The scale maintained good psychometric properties when examined using the DATAR 2 and SATF samples. As shown in [Table 3](#), reliability coefficients were .76 for the DATAR 2 sample, and .69 for the SATF sample. Likewise, confirmatory factor analyses revealed acceptable goodness-of-fit coefficients for the DATAR 2 sample (.95) and for the SATF sample (.96).

**Hostility.** Only one factor with an eigenvalue over 1.00 emerged from the principal components analysis of the 8-item hostility scale. The factor accounted for 47% of the variance, and factor loadings were between .52 and .78.

Subsequent analyses using the DATAR 1 sample suggests that the 8-item hostility scale had good psychometric properties. The distributions of the hostility items, presented in [Table 2](#) indicate that all items had a relatively normal distribution. [Table 1](#) shows the means and standard deviation of the composite and individual items, all being acceptable. Also, all of the eight item-total correlations were at or above .40, and the scale's coefficient alpha was .83. Finally, a confirmatory factor analysis (see [Table 3](#)) revealed an acceptable goodness-of-fit index of .94.

Analyses using the DATAR 2 and SATF samples demonstrated reliability coefficients of .83 and .78, respectively (see [Table 3](#)). Likewise, confirmatory factor analyses revealed marginally acceptable goodness-of-fit coefficients for the DATAR 2 sample (.89) and for the SATF sample (.93).

**Risk-taking.** A principal components analysis of the eight risk-taking items revealed two factors with an eigenvalue over 1.00. Although all eight items had factor loadings above .60 on the first factor, three (Items 29, 50, and 59) had loadings above .42 on the second factor. The first factor accounted for 42% of the variance, while the second factor accounted for 18% of the variance. Rotating the items to a varimax solution confirmed the existence of these two factors. The first contained items referring to “engaging in risky behavior,” while the second factor



contains items referring to “engaging in non-risky behavior.” However, these two factors can be viewed conceptually as being measures of risk-taking behavior. Because of this, and the fact that all of the items had high loadings on the initial factor, the risk-taking scale was left intact with all eight items. However, these two factors could be examined separately if more detail on the risk-taking domain is desired. Reliability coefficients and goodness-of-fit coefficients for these two factors as well as the unitary factor are reported in [Table 3](#).

Subsequent analyses using the DATAR 1 sample suggest that the 8-item risk-taking scale has good distributional qualities. As presented in [Table 2](#), all eight items had a relatively normal distribution. As indicated in [Table 1](#), means and standard deviations for the composite and individual items were acceptable, and all of the item-total correlations were at or above .44. Also, the coefficient alpha was acceptable at .77. Finally, a confirmatory factor analysis (see [Table 3](#)) revealed an acceptable goodness-of-fit index of .97 for the risk-taking items.

The scale also maintained consistent and reliable findings when the DATAR 2 and SATF samples were examined. As illustrated in [Table 3](#), reliability coefficients were .77 for the DATAR 2 sample and .70 for the SATF sample. Likewise, confirmatory factor analyses revealed acceptable goodness-of-fit coefficients for the DATAR 2 sample (.95) and for the SATF sample (.98).

**Social conformity.** Three factors with an eigenvalue over 1.00 emerged from a principal components analysis of the social conformity items. The first factor, explaining 25% of the variance, consisted of Items 2, 5, 46, 53, and 61, all with first factor loadings above .53. The second factor, explaining 14% of the variance, included Items 11 and 24, with loadings above .56 on the second factor. Item 24 had a loading of .52 on the first factor, whereas Item 11 only had a .14 first factor loading. The third factor, explaining 11% of the variance, consisted of Items 33 and 38. Item 33 had a first factor loading of .31, a second factor loading of .27, and a third factor loading of .63. Item 38 had a loading of .17 on the first factor, .21 on the second factor, and .71 on the third factor. Although three factors emerged, it was difficult to determine how they differed conceptually. As a result, the fact that the first eigenvalue was comparatively much larger than the second and third factor eigenvalue, and because of the high initial first factor loadings of all items except 11 and 38, it was determined that the final social conformity composite would remain intact. However, because Items 11 and 38 had low loadings on the first factor and had low item-total correlations (.13 and .08, respectively), the two items were dropped from the composite. Consequently, reliability coefficients changed from .61 for the 10-item scale to .64 for the 8-item scale, with item-total correlations at or above .20 for the 8-item scale.

Subsequent analyses using the DATAR 1 sample suggests that the revised 8-item social conformity scale had relatively normal distributions, with Items 2, 5, and 61 being moderately skewed (see [Table 2](#)). As indicated in [Table 1](#), means and standard deviations for the composite and individual items were also acceptable. Finally, a confirmatory factor analysis (see [Table 3](#)) revealed a marginally satisfactory goodness-of-fit index of .96.

The 8-item social conformity scale continued to maintain marginally acceptable psychometric properties when examined using the DATAR 2 and SATF samples. As illustrated in [Table 3](#), reliability coefficients were .64 for the DATAR 2 sample and .65 for the SATF sample. Although consistently low across samples, the reliability coefficients were stable. Likewise, confirmatory factor analyses revealed stable goodness-of-fit coefficients for the DATAR 2 sample (.97) and for the SATF sample (.96).

## Treatment Motivation Scales

**Problem recognition.** A principal components analysis of the drug problem items revealed the existence of two factors (with eigenvalues of 4.3 and 1.2, respectively). Although all nine items loaded on the first factor with loadings at or above .53, four of the items also loaded on a second factor (factor loadings all above .19). The first factor accounted for 48% of the variance, while the second factor accounted for 13% of the variance. Rotating the items to a varimax solution suggested that the two factors were distinct; empirically, the first factor contained Items 65, 66, 71, 72, and 73, indicating an assessment of “general” problems, and the second factor contained Items 67, 68, 69, and 70, indicating an assessment of “specific” problems. Nonetheless, a decision was made to leave all of the original nine items of this scale intact because (1) there was a large difference in eigenvalues between the first factor eigenvalue and the second factor eigenvalue on the initial factor, (2) all nine items had sufficiently high loadings on the first factor, and (3) the nine items taken together conceptually reflect an assessment of problem recognition. In addition, item-total correlations were at or above .44 for all nine items, the coefficient alpha (.85) was relatively high when all nine items are included in the composite (see [Table 1](#)), and the goodness-of-fit coefficient was acceptable at .94 (see [Table 3](#)). Nonetheless, the two-factor structure reliability coefficients and goodness-of-fit coefficients are reported along with the coefficients from the one-factor solution in [Table 3](#).

Descriptive analyses using the DATAR 1 sample suggests that the 9-item problem recognition scale had a limited response range, resulting in almost all of the items being moderately skewed. However, as indicated in [Table 1](#), the mean (3.05) and standard deviation (.72) for the composite was acceptable.

The scale maintained consistent psychometric properties when examined using the DATAR 2 and SATF samples. As illustrated in [Table 3](#), reliability coefficients were .87 for the DATAR 2 sample, and .90 for the SATF sample. Likewise, confirmatory factor analyses revealed acceptable goodness-of-fit coefficients for the DATAR 2 sample (.92) and for the SATF sample (.88).

**Desire for help.** Only one factor emerged from a principal components analysis of the seven desire for help items. The factor accounted for 41% of the variance and loadings for the factor were between .35 and .79. Psychometric analyses for this scale indicate that six of the seven item-total correlations were above .40, with the exception of item 83 which had an item-total correlation above .20. Together, the 7-item scale had an acceptable coefficient alpha of .72. Finally, a confirmatory factor analysis revealed an acceptable goodness-of-fit index of .98 for the desire for help items (see [Table 3](#)).

Descriptive analyses using the DATAR 1 sample suggest that the 7-item desire for help scale had a limited response range, with all seven items being skewed toward a higher desire for help (see [Table 2](#)). As indicated in [Table 1](#), however, the mean (3.32) and standard deviation (.53) for the composite were acceptable.

The scale did maintain consistently acceptable psychometric properties when examined using the DATAR 2 and SATF samples. As illustrated in [Table 3](#), reliability coefficients were .75 for the DATAR 2 sample and .82 for the SATF sample. Likewise, confirmatory factor

analyses revealed acceptable goodness-of-fit coefficients for the DATAR 2 sample (.98) and for the SATF sample (.93).

**Treatment readiness.** Two factors emerged from a principal components analysis of the treatment readiness items (eigenvalues of 2.47 and 1.54, respectively). Although all eight items loaded on the first factor with loadings above .32, Items 78, 82, 86, and 88 had second factor loadings above .29. The first factor accounted for 31% of the variance, while the second factor accounted for 19% of the variance. Varimax rotation suggested that the two factors were distinct; empirically, the first factor contained Items 75, 76, 81, and 84, indicating “extrinsic motivation--treatment readiness,” and the second factor contained Items 78, 82, 86, and 88, indicating “intrinsic motivation--treatment readiness.” However, since all eight items had sufficiently high loadings on the first factor, and since the eight items taken together conceptually reflect treatment readiness, a decision was made to leave all of the original eight items of this scale intact in one scale. This decision was also based in part on the fact that the item-total correlations for the scale were above .32, with the exception of Item 78, which had an item-total correlation of .14 (see [Table 1](#)). The item was retained, however, because of its relatively high first factor loading (.32), and because the coefficient alpha for the 8-item scale was .65 (see [Table 3](#)), increasing only to .68 when Item 78 was omitted. Using all eight items, a confirmatory factor analysis revealed a goodness-of-fit coefficient of .96. Because of potential interest in the two-factor solution, reliability coefficients and goodness-of-fit coefficients for both the single and two-factor solutions are reported in [Table 3](#).

Descriptive analyses using the DATAR 1 sample suggest that, as presented in [Table 2](#), items for this scale were skewed toward higher readiness for treatment. As indicated in [Table 1](#), however, the composite mean (3.12) and standard deviation (.48) were acceptable.

Psychometrically, the scale fared better when examined using the DATAR 2 and SATF samples. As illustrated in [Table 3](#), coefficients alphas were .73 for the DATAR 2 sample, and .72 for the SATF sample. Likewise, confirmatory factor analyses revealed acceptable goodness-of-fit coefficients for the DATAR 2 sample (.97) and for the SATF sample (.95).

### **Intercorrelations of Scales**

As [Table 4](#) shows, several of the TCU/SRF scales have significant intercorrelations. However, with the exception of the Depression/Anxiety, Depression/Self-Esteem, and Problem Recognition/Desire for Help intercorrelations, all were below .60. As expected, scales within the psychological domain have relatively high intercorrelations, with measures of depression and anxiety having the highest association ( $r=.71$ ). Scales within the social functioning scale are moderately intercorrelated, with measures of hostility and childhood problems having the highest intercorrelation ( $r=.61$ ). Finally, the problem recognition and desire for help scales, and the desire for help and treatment readiness scales were highly intercorrelated ( $r=.60$  and  $r=.53$ , respectively), but the problem recognition and treatment readiness scales intercorrelation was not as strong ( $r=.28$ ). These moderately high intercorrelations within each domain suggest that the scales within a particular domain are interrelated. However, each scale accounts for at least some unique variance given that none of the scales are perfectly correlated, regardless of domain.

## **Test-Retest Reliabilities**

As part of the overall SATF evaluation plan, clients were routinely asked to complete assessments throughout treatment, one of which contained eight of the TCU/SRF scales. These scales included the SE, DP, AX, DM, SC, HS, DH, and TR scales. For 139 probationers in the SATF sample, data on these TCU/SRF scales that were readministered within the first 2 weeks of treatment were collected and compared to their TCU/SRF data from admission.

Results of the test-retest correlations revealed that all of the eight scales were highly correlated (see [Table 5](#)). Although retest data were not collected for the RT, CP, and DP scales, test-retest correlations for the eight remaining TCU/SRF scales were .80 for SE, .76 for DP, .79 for AX, .79 for DM, .75 for SC, .87 for HS, .74 for DH, and .85 for TR. These relatively high correlations suggest that the scales are temporally consistent and reliable.

## **CONCLUSIONS**

This study demonstrates that the TCU/SRF form provides a quick and reliable self-reported psychosocial and motivational profile assessment of substance abusers. Clients in a methadone maintenance outpatient program as well as an inpatient probation drug treatment facility were able to complete the assessment in a timely (approximately 20 minutes) and reliable manner.

The TCU/SRF scales were found to have good psychometric properties. Of the four psychological functioning scales (Self-esteem, Depression, Anxiety, and Decision-making Confidence), all had good factor structures as well as respectable response distributions, and all maintained relatively high reliability and goodness-of-fit coefficients across the split-half DATAR samples and the SATF sample. Likewise, the social functioning scales (Childhood Problems, Hostility, Risk-taking, and Social Conformity) had similarly acceptable psychometric properties, although the Social Conformity scale continues to be marginally acceptable. Of the three treatment motivation scales (Problem Recognition, Desire for Help, and Treatment Readiness), reliability and goodness-of-fit coefficients were high for the Problem Recognition and Desire for Help scales, with the Treatment Readiness scale coefficients being marginally acceptable for the DATAR 1 sample, but high with the DATAR 2 and SATF samples.

Subscales with acceptable psychometric properties were also identified within the Childhood Problems, Risk-taking, Problem Recognition, and Treatment Readiness scales. Specifically, the Childhood Problems subscales included one measuring “Acting Out Problems While Growing Up” and another measuring “Poor Well-being While Growing Up.” Risk-taking subscales included “Engaging in Risky Behavior” and “Engaging in Non-risky Behavior.” Subscales for the Problem Recognition scale included “General Drug Use Problems” and “Specific Drug Use Problems.” Finally, the Treatment Readiness scale included subscales assessing “Extrinsic Motivation--Treatment Readiness” and “Intrinsic Motivation--Treatment Readiness.”

Although the original TCU/SRF form contained 88 items, it was determined that five items can be safely eliminated. These included one item from the Self-esteem, Depression, Decision-making scales, and two items from the Social Conformity scale. The remaining 83 items were found to be acceptable when administered as part of the treatment intake battery. However, some items need to be reconsidered if the TCU/SRF is repeatedly administered over a

client's treatment tenure to assess psychosocial and motivational change. For example, change would not be expected with motivation items such as “you are in this treatment program because someone made you come,” and therefore would not need to be included with repeated administration of the TCU/SRF.

Current work is underway to develop a version of the TCU/SRF that is shorter (see Appendix B). In addition to eight of the original TCU/SRF abbreviated psychosocial subscales, the shorter version of the TCU/SRF also includes a measure of “Distractibility” and a measure of “Hopefulness.” Future research will be undertaken to validate and explore the utility of the abbreviated version of the TCU/SRF psychosocial measures.

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Table 1  
TCU Self-Rating Scales:  
Means, Standard Deviations, and Item-Total Correlations

SCALES ITEMS	DATAR 1 (N=406)			DATAR 2 (N=381)			SATF (N=325)		
	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>
<b>Self-Esteem (SE)</b>									
7. You have much to be proud of. ....	2.43	1.12	.45	2.34	1.13	.49	2.85	.99	.54
8. In general, you are satisfied with yourself. ....	2.04	1.08	.52	2.11	1.09	.60	2.55	1.00	.57
22. You feel like a failure. (R) .....	2.14	1.04	.67	2.15	1.07	.70	2.39	1.04	.62
30. You feel you are basically no good. (R) .....	2.76	1.11	.66	2.75	1.05	.59	2.98	1.04	.64
54. You wish you had more respect for yourself. (R) .....	1.40	1.13	.29	1.41	1.08	.43	1.46	1.14	.31
62. You feel you are unimportant to others. (R) .....	2.11	1.14	.42	2.10	1.14	.49	2.22	1.13	.45
Composite .....	2.15	.74		2.14	.77		2.41	.72	
Coefficient Alpha Reliability:									
Raw Variables .....		.75			.79			.77	
Standardized Variables .....		.76			.80			.78	

Note. Items 11, 37, 38, 40, and 52 were not included in any analyses.

(R) indicates item scoring was reflected.

Table 1 (Continued)

SCALES ITEMS	DATAR 1 (N=406)			DATAR 2 (N=381)			SATF (N=325)		
	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>
<b>Depression (DP)</b>									
4. You feel sad or depressed. ....	2.17	.93	.63	2.17	.92	.69	1.89	.84	.67
13. You have thoughts of committing suicide. ....	.67	.97	.51	.67	.89	.56	.59	.87	.47
18. You feel lonely. ....	1.96	1.03	.59	1.92	1.02	.61	2.06	1.01	.59
26. You feel interested in life. (R).....	1.10	1.01	.35	1.21	.99	.28	.86	.88	.35
45. You feel extra tired or run down. ....	2.28	.99	.49	2.22	.95	.52	1.52	.93	.47
55. You worry or brood a lot. ....	2.04	1.12	.53	2.13	1.13	.55	1.89	1.05	.54
Composite .....	1.70	.69		1.72	.68		1.47	.64	
Coefficient Alpha Reliability:									
Raw Variables .....			.77			.78			.77
Standardized Variables .....			.77			.78			.77

Table 1 (Continued)

SCALES ITEMS	DATAR 1 (N=406)			DATAR 2 (N=381)			SATF (N=325)		
	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>
<b>Anxiety (AX)</b>									
14. You have trouble sitting still for long. ....	2.01	1.22	.52	2.03	1.14	.44	1.86	1.08	.41
23. You have trouble sleeping. ....	2.47	1.06	.58	2.51	1.08	.50	1.65	1.09	.52
36. You feel anxious or nervous. ....	2.24	1.07	.73	2.18	1.06	.71	1.95	.90	.62
44. You have trouble concentrating or remembering things. ....	1.65	1.02	.47	1.69	1.02	.47	1.66	1.09	.45
49. You feel afraid of certain things, like elevators, crowds, or going out alone. ....	.95	1.13	.35	.86	1.09	.37	.95	1.05	.32
57. You feel tense or keyed-up. ....	1.93	1.10	.68	1.99	1.08	.61	1.74	.95	.65
64. You feel tightness or tension in your muscles. ....	2.14	1.14	.66	2.17	1.07	.60	1.73	1.05	.56
Composite .....	1.91	.77		1.92	.72		1.65	.67	
Coefficient Alpha Reliability:									
Raw Variables .....		.82			.80			.77	
Standardized Variables .....		.82			.80			.78	

Table 1 (Continued)

SCALES ITEMS	DATAR 1 (N=406)			DATAR 2 (N=381)			SATF (N=325)		
	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>
<b>Decision-Making Confidence (DM)</b>									
6. You consider how your actions will affect others. ....	2.77	1.00	.41	2.71	.97	.34	2.71	.86	.47
15. You plan ahead. ....	2.24	.99	.44	2.20	.99	.44	2.26	.90	.56
28. You think about probable results of your actions. ....	2.45	1.07	.41	2.38	1.05	.33	2.33	.97	.52
32. You have trouble making decisions. (R) .....	2.31	.94	.27	2.23	.96	.32	2.17	.93	.49
34. You think of several different ways to solve a problem. ....	2.74	.92	.49	2.77	.91	.53	2.53	.86	.59
39. You analyze problems by looking at all the choices. ..	2.52	.99	.53	2.69	.96	.58	2.32	.90	.65
42. You make decisions without thinking about consequences. (R).....	2.34	1.05	.37	2.34	1.03	.37	2.14	.93	.46
47. You make good decisions. ....	2.40	.84	.49	2.31	.82	.49	2.39	.76	.60
60. You think about what causes your current problems. ....	2.82	.94	.38	2.86	.88	.34	2.99	.82	.25
Composite .....	2.51	.56		2.50	.54		2.43	.56	
Coefficient Alpha Reliability:									
Raw Variables .....			.74			.74			.81
Standardized Variables .....			.75			.74			.81

Table 1 (Continued)

SCALES ITEMS	DATAR 1 (N=275)			DATAR 2 (N=254)			SATF (N=325)		
	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>
<b>Childhood Problems (CP)</b>									
3. You skipped school while growing up. ....	1.93	1.01	.34	1.95	1.02	.22	1.89	1.13	.30
10. You took things that did not belong to you when you were young. ....	1.55	1.03	.31	1.51	.97	.26	1.50	.96	.41
20. You had good relations with your parents while growing up. (R).....	1.14	1.17	.42	1.09	1.15	.48	1.16	1.15	.51
25. You had feelings of anger and frustration during your childhood. ....	1.60	1.19	.61	1.86	1.15	.50	1.95	1.10	.61
35. You got involved in arguments and fights while growing up. ....	1.78	.97	.50	1.76	.97	.33	1.90	.97	.45
43. While a teenager, you got into trouble with school authorities or the police. ....	1.39	1.17	.52	1.43	1.07	.39	1.44	1.16	.45
48. You had good self-esteem and confidence while growing up. (R).....	1.42	1.09	.48	1.46	1.08	.46	1.63	1.12	.56
58. You were emotionally or physically abused while you were young. ....	.97	1.33	.52	.83	1.17	.41	1.15	1.35	.45
Composite .....	1.47	.70		1.49	.61		1.58	.70	
Coefficient Alpha Reliability:									
Raw Variables .....			.76			.69			.77
Standardized Variables .....			.76			.69			.77

Table 1 (Continued)

SCALES ITEMS	DATAR 1 (N=406)			DATAR 2 (N=381)			SATF (N=325)		
	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>
<b>Hostility (HS)</b>									
12. You feel mistreated by other people. ....	1.61	.98	.40	1.70	.97	.38	1.60	.87	.32
16. You like others to feel afraid of you. ....	.55	.83	.44	.51	.77	.28	.68	.78	.36
27. You have urges to fight or hurt others. ....	.70	.89	.63	.72	.81	.54	.97	.86	.66
31. You have a hot temper. ....	1.49	1.08	.63	1.55	1.07	.64	1.69	1.06	.63
41. Your temper gets you into fights or other trouble. ....	1.15	1.08	.69	1.08	.98	.68	1.35	1.06	.69
51. You get mad at other people easily. ....	1.45	.99	.60	1.49	.93	.53	1.55	.90	.53
56. You have carried weapons, like knives or guns. ....	1.39	1.23	.44	1.20	1.09	.28	1.24	1.33	.38
63. You feel a lot of anger inside you. ....	1.64	1.20	.67	1.70	1.10	.55	1.86	1.11	.54
Composite .....	1.14	.70		1.13	.64		1.37	.65	
Coefficient Alpha Reliability:									
Raw Variables .....		.83			.78			.80	
Standardized Variables .....		.83			.78			.80	

Table 1 (Continued)

SCALES ITEMS	DATAR 1 (N=406)			DATAR 2 (N=381)			SATF (N=325)		
	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>
<b>Risk-taking (RT)</b>									
1. You like to take chances. ....	1.83	1.06	.31	1.83	.99	.39	2.16	.85	.44
9. You like the “fast” life. ....	1.84	1.13	.50	1.81	1.01	.40	2.03	1.02	.51
19. You like friends who are wild. ....	1.20	1.01	.50	1.18	.98	.49	1.58	.99	.55
21. You like to do things that are strange or exciting. ....	1.65	1.02	.46	1.69	.96	.42	2.24	.98	.53
29. You avoid anything dangerous. (R) .....	1.30	1.11	.44	1.39	1.09	.43	1.53	1.02	.46
50. You only do things that feel safe. (R).....	1.74	1.06	.53	1.76	1.08	.41	1.79	.95	.53
59. You are very careful and cautious. (R).....	1.50	1.00	.48	1.61	.98	.36	1.65	.87	.35
Composite .....	1.58	.69		1.61	.62		1.85	.61	
Coefficient Alpha Reliability:									
Raw Variables .....			.77			.70			.76
Standardized Variables .....			.77			.70			.76



Table 1 (Continued)

SCALES ITEMS	DATAR 1 (N=406)			DATAR 2 (N=381)			SATF (N=325)		
	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>
<b>Social Conformity (SC)</b>									
2. You feel people are important to you. ....	3.20	0.95	.59	3.18	.89	.34	3.20	.82	.35
5. You feel honesty is required in every situation. ....	2.94	1.01	.60	3.06	.96	.30	3.19	.80	.42
17. You have trouble following rules and laws. (R) ....	2.56	1.02	.59	2.43	.98	.34	1.95	.80	.32
24. You depend on “things” more than “people”. (R).....	2.14	1.10	.63	2.06	1.09	.23	2.41	.97	.33
33. You keep the same friends for a long time. ....	2.74	1.08	.64	2.67	1.09	.26	2.34	1.00	.23
46. You work hard to keep a job. ....	2.76	1.26	.61	2.81	1.20	.36	2.97	1.05	.36
53. Your religious beliefs are very important in your life. ....	2.65	1.22	.59	2.52	1.23	.33	2.93	1.14	.34
61. Taking care of your family is very important. ....	3.39	.88	.60	3.35	.90	.47	3.45	.86	.41
Composite .....	2.77	.61		2.73	.59		2.89	.50	
Coefficient Alpha Reliability:									
Raw Variables .....			.64			.63			.65
Standardized Variables .....			.65			.64			.66

Table 1 (Continued)

SCALES ITEMS	DATAR 1 (N=406)			DATAR 2 (N=380)			SATF (N=325)		
	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>
<b>Problem Recognition (PR)</b>									
In your opinion, your drug use is --									
65. a problem for you. ....	3.49	.76	.52	3.53	.73	.55	3.25	.98	.67
66. more trouble than it's worth. ....	3.40	.83	.47	3.44	.81	.50	3.39	.97	.54
67. causing problems with the law. ....	2.51	1.30	.44	2.68	1.28	.49	3.39	.94	.56
68. causing problems in thinking or doing your work. ....	2.82	1.11	.61	2.95	1.06	.73	2.87	1.14	.75
69. causing problems with your family or friends. ....	3.06	1.09	.65	3.19	1.01	.72	3.17	1.08	.74
70. causing problems in finding or keeping a job. ....	2.88	1.23	.58	2.98	1.15	.65	2.64	1.32	.66
71. causing problems with your health. ....	2.99	1.04	.65	3.14	.93	.64	2.81	1.19	.66
72. making your life become worse and worse. ....	3.27	.97	.72	3.38	.89	.75	3.25	1.09	.76
73. going to cause your death if you do not quit soon. ....	3.01	1.11	.61	3.17	1.00	.55	3.11	1.19	.69
Composite .....	3.05	.72		3.16	.70		3.10	.83	
Coefficient Alpha Reliability:									
Raw Variables .....			.85			.87			.90
Standardized Variables .....			.86			.88			.90

Table 1 (Continued)

SCALES ITEMS	DATAR 1 (N=406)			DATAR 2 (N=380)			SATF (N=325)		
	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>
<b>Desire For Help (DH)</b>									
74. You need help in dealing with your drug use. ....	3.53	.69	.56	3.56	.70	.60	3.21	.90	.75
77. It is urgent that you find help immediately for your drug use. ....	3.44	.72	.65	3.42	.80	.59	3.02	1.03	.69
79. You are tired of the problems caused by drugs. ....	3.56	.70	.58	3.55	.61	.72	3.53	.76	.56
80. You will give up your friends and hangouts to solve your drug problems. ....	3.29	.84	.41	3.27	.79	.47	3.44	.89	.49
83. You can quit using drugs without any help. (R) .....	3.11	1.07	.20	3.14	.96	.24	2.98	1.14	.50
85. Your life has gone out of control. ....	2.69	1.18	.40	2.76	1.17	.38	2.84	1.20	.56
87. You want to get you life straightened out. ....	3.63	.62	.47	3.56	.64	.54	3.74	.54	.44
Composite .....	3.32	.53		3.32	.52		3.25	.65	
Coefficient Alpha Reliability:									
Raw Variables .....		.72			.75			.82	
Standardized Variables .....		.76			.79			.83	

Table 1 (Continued)

SCALES ITEMS	DATAR 1 (N=406)			DATAR 2 (N=380)			SATF (N=325)		
	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>	Mean	SD	Item total <i>r</i>
<b>Treatment Readiness (TR)</b>									
75. You have too many outside responsibilities now to be in this treatment program. (R).....	2.85	1.01	.38	2.89	.94	.38	2.50	1.24	.37
76. This treatment program seems too demanding for you. (R).....	2.75	1.01	.32	2.86	.90	.53	2.69	1.08	.30
78. This treatment may be your last chance to solve your drug problem. ....	3.01	1.02	.14	3.12	.95	.32	3.12	1.10	.47
81. This kind of treatment program will not be very helpful to you. (R).....	3.02	.99	.42	3.09	.88	.50	3.16	.94	.50
82. You plan to stay in this treatment program for awhile. ....	3.24	.79	.42	3.25	.69	.40	3.16	.87	.42
84. You are in this treatment program because someone else made you come. (R) .....	3.32	.87	.34	3.25	.86	.30	1.99	1.44	.32
86. This treatment program can really help you. ....	3.33	.74	.41	3.33	.68	.52	3.45	.70	.53
88. You want to be in a drug treatment program. ....	3.46	.66	.38	3.41	.72	.46	2.92	1.16	.50
Composite .....	3.12	.48		3.15	.49		2.87	.63	
Coefficient Alpha Reliability:									
Raw Variables .....		.65			.73			.72	
Standardized Variables .....		.67			.74			.74	

Table 2

TCU Self-Rating Scales:  
Item Response Distribution Based on DATAR1 Sample (N=406)

SCALES ITEMS	Response Percentages				
	0	1	2	3	4
<b><u>PSYCHOLOGICAL FUNCTIONING SCALES</u></b>					
<b>Self-Esteem (SE Scale)</b>					
7. You have much to be proud of. ....	3	19	33	21	24
8. In general, you are satisfied with yourself. ....	6	24	41	16	13
22. You feel like a failure. (R) .....	6	15	50	15	14
30. You feel you are basically no good. (R) .....	3	10	30	23	34
54. You wish you had more respect for yourself. (R) .....	28	23	34	10	5
62. You feel you are unimportant to others. (R) .....	11	12	46	17	14
<b>Depression (DP Scale)</b>					
4. You feel sad or depressed. ....	3	16	51	20	10
13. You have thoughts of committing suicide. ....	61	19	15	4	1
18. You feel lonely. ....	10	15	53	12	10
26. You feel interested in life. (R).....	34	30	29	5	2
45. You feel extra tired or run down. ....	4	13	46	24	13
55. You worry or brood a lot. ....	10	20	39	19	12
<b>Anxiety (AX Scale)</b>					
14. You have trouble sitting still for long. ....	13	19	36	17	15
23. You have trouble sleeping. ....	5	9	40	26	20
36. You feel anxious or nervous. ....	6	15	41	24	14
44. You have trouble concentrating or remembering things. ....	13	29	40	13	5
49. You feel afraid of certain things, like elevators, crowds, or going out alone. ....	49	21	20	6	4
57. You feel tense or keyed-up. ....	12	19	44	15	10
64. You feel tightness or tension in your muscles. ....	9	18	39	20	14

Note. Items 11, 37, 38, 40, and 52 were not included in any of the scales.

Response Scale -- 0: Never, 1: Rarely, 2: Sometimes, 3: Often, 4: Almost Always.

(R) indicates item scoring was reflected.

Table 2 (Continued)

SCALES ITEMS	Response Percentages				
	0	1	2	3	4
<b>Decision-Making Confidence (DM Scale)</b>					
6. You consider how your actions will affect others. ....	2	7	30	34	27
15. You plan ahead. ....	4	16	44	24	12
28. You think about probable results of your actions. ....	6	10	37	29	18
32. You have trouble making decisions. (R) .....	3	12	48	24	13
34. You think of several different ways to solve a problem. ....	2	4	36	35	23
39. You analyze problems by looking at all the choices. ....	3	8	42	28	19
42. You make decisions without thinking about consequences. (R) .....	4	15	41	24	16
47. You make good decisions. ....	2	7	53	27	11
60. You think about what causes your current problems. ....	2	4	31	36	27
<b><u>SOCIAL FUNCTIONING SCALES</u></b>					
<b>Childhood Problems (CP Scale)</b>					
3. You skipped school while growing up. ....	11	23	37	21	8
10. You took things that did not belong to you when you were young. ....	17	30	39	10	4
20. You had good relations with your parents while growing up. (R).....	42	17	28	9	4
25. You had feelings of anger and frustration during your childhood. ....	22	25	33	12	8
35. You got involved in arguments and fights while growing up. ....	10	27	44	14	5
43. While a teenager, you got into trouble with school authorities or the police. ....	6	12	27	27	28
48. You had good self-esteem and confidence while growing up. (R).....	3	14	31	28	24
58. You were emotionally or physically abused while you were young. ...	57	15	11	9	8
<b>Hostility (HS Scale)</b>					
12. You feel mistreated by other people. ....	14	29	44	8	5
16. You like others to feel afraid of you. ....	62	25	10	2	1
27. You have urges to fight or hurt others. ....	52	31	13	2	2
31. You have a hot temper. ....	20	30	35	9	6
41. Your temper gets you into fights or other trouble. ....	31	39	31	10	4
51. You get mad at other people easily. ....	16	39	31	10	4
56. You have carried weapons, like knives or guns. ....	33	19	30	12	6
63. You feel a lot of anger inside you. ....	20	26	32	13	9

Table 2 (Continued)

SCALES ITEMS	Response Percentages				
	0	1	2	3	4
<b>Risk-Taking (RT Scale)</b>					
1. You like to take chances. ....	13	20	44	16	6
9. You like the "fast" life. ....	15	20	41	14	10
19. You like friends who are wild. ....	29	33	30	5	3
21. You like to do things that are strange or exciting. ....	15	25	43	12	5
29. You avoid anything dangerous. (R).....	31	25	31	9	4
50. You only do things that feel safe. (R).....	17	18	46	14	5
59. You are very careful and cautious. (R).....	20	24	44	10	2
<b>Social Conformity (SC Scale)</b>					
2. You feel people are important to you. ....	1	3	20	25	51
5. You feel honesty is required in every situation. ....	2	5	29	36	38
17. You have trouble following rules and laws. (R) .....	3	8	41	26	22
24. You depend on "things" more than "people". (R).....	8	19	37	24	12
33. You keep the same friends for a long time. ....	3	10	27	30	30
46. You work hard to keep a job. ....	5	10	27	21	37
53. Your religious beliefs are very important in your life. ....	4	17	25	19	35
61. Taking care of your family is very important. ....	1	2	14	23	60
<b><u>TREATMENT MOTIVATION SCALES</u></b>					
<b>Problem Recognition (PR Scale)</b>					
In your opinion, your drug use is --					
65. a problem for you. ....	1	2	3	35	59
66. more trouble than it's worth. ....	2	3	5	36	54
67. causing problems with the law. ....	8	20	10	36	26
68. causing problems in thinking or doing your work. ....	4	12	10	45	29
69. causing problems with your family or friends. ....	4	8	7	40	41
70. causing problems in finding or keeping a job. ....	6	13	6	37	38
71. causing problems with your health. ....	4	7	12	41	36
72. making your life become worse and worse. ....	4	3	6	37	50
73. going to cause your death if you do not quit soon. ....	4	8	14	32	42

Table 2 (Continued)

SCALES ITEMS	Response Percentages				
	0	1	2	3	4
<b>Desire For Help (DH Scale)</b>					
74. You need help in dealing with your drug use. ....	1	1	2	36	60
77. It is urgent that you find help immediately for your drug use. ....	1	2	4	40	53
79. You are tired of the problems caused by drugs. ....	1	2	2	31	64
80. You will give up your friends and hangouts to solve your drug problems. ....	1	3	9	39	48
83. You can quit using drugs without any help. (R).....	5	5	8	39	43
85. Your life has gone out of control. ....	5	16	12	39	28
87. You want to get you life straightened out. ....	1	1	0	30	68
<b>Treatment Readiness (TR Scale)</b>					
75. You have too many outside responsibilities now to be in this treatment program. (R).....	3	10	10	52	25
76. This treatment program seems too demanding for you. (R) .....	4	8	18	49	21
78. This treatment may be your last chance to solve your drug problem. ....	2	9	14	37	38
81. This kind of treatment program will not be very helpful to you. (R).....	4	5	11	46	34
82. You plan to stay in this treatment program for awhile. ....	1	3	9	46	41
84. You are in this treatment program because someone else made you come. (R) .....	1	6	3	41	49
86. This treatment program can really help you. ....	1	1	8	45	45
88. You want to be in a drug treatment program. ....	0	2	3	42	53



Table 3

## Summary of Statistics for Self-Rating Scales

Scales (Items in each scale)	Items Omitted	No. of Factors	Samples		
			DATAR 1 Raw/Std/GFI <sup>a</sup> (N=406)	DATAR 2 Raw/Std/GFI <sup>a</sup> (N=381)	SATF Raw/Std/GFI <sup>a</sup> (N=325)
<b><u>Psychological Functioning</u></b>					
Self-esteem (7,8,22,30,54,62)	37	1	.75/.76/.98	.79/.80/.94	.77/.78/.92
Depression (4,13,18,26,45,55)	40	1	.77/.77/.98	.78/.78/.98	.77/.77/.96
Anxiety (14,23,36,44,49,57,64)		1	.82/.82/.98	.80/.80/.98	.78/.77/.97
Decision-making (6,15,28,32,34,39,42,47,60)	52	1	.74/.75/.91	.74/.74/.94	.81/.81/.94
<b><u>Social Functioning</u></b>					
Childhood Problems [(3,10,35,43)(20,25,48,58)]		2 <sup>b</sup>	.76/.76/.95 <sup>b</sup> [(.71/.69/.70) (.78/.80/.80)]	.70/.69/.95	.77/.77/.96
Hostility (12,16,27,31,41,51,56,63)		1	.83/.83/.94	.78/.78/.89	.80/.80/.93
Risk-taking [(1,9,19,21)(29,50,59)]		2 <sup>b</sup>	.77/.77/.97 <sup>b</sup> [(.73/.71/.74) (.73/.70/.65)]	.70/.70/.95	.76/.76/.98
Social Conformity (2,5,17,24,33,46,53,61)	11,38	1	.64/.65/.96	.64/.64/.97	.65/.66/.96
<b><u>Treatment Motivation</u></b>					
Problem Recognition [(65,66,71,72,73)(67,68,69,70)]		2 <sup>b</sup>	.85/.86/.94 <sup>b</sup> [(.83/.82/.84) (.77/.82/.82)]	.87/.88/.92	.90/.90/.88
Desire For Help (74,77,79,80,83,85,87)		1	.72/.76/.98	.75/.79/.98	.82/.82/.93
Treatment Readiness [(75,76,81,84)(78,82,86,88)]		2 <sup>b</sup>	.65/.67/.96 <sup>b</sup> [(.64/.71/.54) (.65/.75/.71)]	.73/.74/.97	.72/.74/.95

<sup>a</sup> GFI refers to the Goodness of Fit Index.

<sup>b</sup> Standardized coefficient alphas for the three client samples shown for (Factor 1) and (Factor 2) of multiple factor scales.

Table 4

TCU Self-Rating Scales:  
Inter-Scale Correlations Based on DATAR 1 Sample (N=406)

Scales	1	2	3	4	5	6	7	8	9	10	11
<b><u>Psychological Functioning</u></b>											
1. Self-Esteem											
2. Depression	-.68**										
3. Anxiety	-.55**	.71**									
4. Decision-Making Confidence	.48**	-.41**	-.32**								
<b><u>Social Functioning</u></b>											
5. Childhood Problems	-.35**	.40**	.47**	-.37**							
6. Hostility	-.44**	.48**	.50**	-.35**	.61**						
7. Risk-taking	-.31**	.32**	.30**	-.51**	.37**	.45**					
8. Social Conformity	.44**	-.35**	-.32**	.52**	-.41**	-.42**	-.48**				
<b><u>Treatment Motivation</u></b>											
9. Problem Recognition	-.32**	.31**	.32**	-.05	.12*	.21**	.09	-.13*			
10. Desire for Help	-.33**	.33**	.38**	-.04	.10	.14**	.10*	-.08	.60**		
11. Treatment Readiness	-.08	.12	.19**	.07	.13*	.07	-.02	.06	.28**	.53**	

\*  $p \leq .05$

\*\*  $p \leq .01$

Table 5  
TCU Self-Rating Scales  
Test-Retest Correlations Based on Subset of SATF Sample (N = 139)

Scales	1	2	3	4	5	6	7	8
<b><u>Psychological Functioning</u></b>								
1. Self-Esteem	.80**							
2. Depression	-.58**	.76**						
3. Anxiety	-.40**	.63	.79**					
4. Decision-Making Confidence	.48**	-.48**	-.32**	.79**				
<b><u>Social Functioning</u></b>								
5. Hostility	-.38**	.58**	.56**	-.47**	.87**			
6. Social Conformity	.50**	-.53**	-.34**	.56**	-.54**	.75**		
<b><u>Treatment Motivation</u></b>								
7. Desire for Help	.11	-.13	-.10	.21*	-.16	.25**	.74**	
8. Treatment Readiness	.15	-.18*	-.13	.22**	-.25**	.34**	.60**	.85**

\*  $p \leq .05$

\*\*  $p \leq .01$