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An Assessment for Criminal Thinking

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Risk assessments generally rely on actuarial measures of criminal history. However, these static measures do not address changes in risk as a result of intervention. To this end, this study examines the basic psychometric properties of the TCU Criminal Thinking Scales (TCU CTS), a brief (self-rating) instrument developed to assess cognitive functioning expected to be related to criminal conduct. Findings demonstrate that these scales have good psychometric properties and can serve as a short but reliable self-reported criminal thinking assessment. Their applications as part of an assessment system to determine offender progress and effectiveness are discussed.

Keywords: *criminal thinking; risk principle; needs assessment; drug treatment*

One of the primary goals for correctional programs is to minimize offenders' potential for reoffending. Because offenders who abuse substances are at high risk for continued drug use and associated criminal activity, the need for providing drug treatment services for those involved in the legal system remains high. However, "because it is neither possible nor necessary to provide services (particularly intensive residential treatment) to

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every drug-involved offender entering a correctional system, referral decisions must be made about whether drug use problems are serious enough to warrant treatment" (Simpson, Knight, & Dansereau, 2004, p. 27).

Identifying criminal risk and associated problem severity (such as poor psychological and social functioning) and reserving intensive services for those at the highest risk and severity levels is good policy and well supported by recent research. For example, severity of drug and psychosocial problems at intake can predict long-term outcomes, and outcomes have been shown to improve in direct relation to level of treatment exposure. Specifically, Simpson and his colleagues (Simpson, Joe, & Broome, 2002) examined long-term outcomes of community treatment for cocaine dependence in relation to problem severity at treatment entry and treatment exposure throughout a 5-year follow-up period. Results indicated that poorer long-term outcomes were found to be related to higher problem severity at treatment admission and less time spent in treatment during follow-up (Simpson et al., 2002).

Studies of offending populations also have identified the need to provide the most intensive rehabilitation services to offenders with the greatest risks

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of reoffending to achieve optimal public safety and health gains (Dowden & Andrews, 2000). According to Andrews, Bonta, and Hoge (1990), the most intensive treatment services and correctional supervision should be reserved for those offenders who are most likely to reoffend, and effective classification of these individuals needs to include an assessment of risks and needs (particularly in areas known to be related to criminality, such as drug use and unemployment). This risk principle is particularly relevant for long-term prison-based therapeutic community treatment programs where reductions in drug use and criminal activity are most apparent for offenders with the highest level of crime and drug-related problems (Knight, Simpson, & Hiller, 1999). In addition, other research with offender populations has shown that when compared with programs that target low-risk cases, programs targeting individuals who are high risk are up to 5 times more effective in reducing recidivism (Andrews, Zinger, et al., 1990).

Within the criminal justice system, however, the utility of risk or problem severity assessments as tools to assist in the identification of offender treatment need has been undervalued. What has emerged is a highly subjective assessment process based on staff clinical experience and “gut feeling” in making a determination of treatment need. Even though clinical experience rightly plays an important role in the treatment referral decision, by itself it can lead to inconsistencies within and across agencies in terms of which offenders are referred to the limited number of available services. A subjective process often is driven by a first-come, first-served approach based on the availability of services rather than on offender risk or problem severity. The result has been placement of many offenders with low severity into programs with intensive services, which have no benefits in reducing their recidivism rates. In some instances, these offenders actually had an increased likelihood of reoffending (Andrews & Bonta, 1998; Lowenkamp & Latessa, 2005), whereas in other instances positive outcomes were achieved only when intensive prison-based treatment was followed by participation in community aftercare (Wexler & Melnick, 2004).

Objective approaches historically have used measures that define risk or problem severity strictly by an offender’s prior arrest or incarceration history (Andrews & Bonta, 1998; Latessa, 2003-2004). Although the resulting “risk scores” may be helpful in identifying who may be at greatest risk for reoffending and perhaps in need of intensive services, this type of static measure cannot be used to assess changes in risk level over time—particularly those that result from participation in rehabilitation programs. Furthermore, reliance on actuarial risk measures paints a static, dated, and distorted picture.

For persons who know that they are now committed to nonviolence and lawful behavior, it is difficult to accept that they will be given no chance to have their resolve tested because of the risk category into which they have been placed . . . creating a notion that nothing the person does to change really matters. (Harris, 2005, p. 319)

Clearly there is a need to supplement traditional static risk measures with an assessment process that includes indicators capable of estimating dynamic changes in risk and severity levels. One assessment of risks and needs currently popular within the criminal justice system that includes these types of measures is the Level of Service Inventory–Revised (LSI-R), developed by Andrews and Bonta (1995). As an objective and comprehensive classification instrument, it includes a file review and a structured interview component shown to be highly predictive of recidivism (Gendreau, Goggin, & Smith, 2002). An established assessment of problem severity is the Texas Christian University (TCU) Client Evaluation of Self and Treatment (CEST; Joe, Broome, Rowan-Szal, & Simpson, 2002). It is a comprehensive self-report inventory of an individual's level of motivation, psychosocial functioning, social network support, and treatment engagement. Results from repeated administrations of the TCU CEST have been found to be useful in identifying need for treatment and providing feedback for counselors and programs when addressing the impact of treatment interventions.

Other instruments designed to measure client changes are much narrower in scope, such as the TCU Drug Screen II but have been adopted by agencies that desire a brief, reliable screener focused only on identifying an offender's drug use severity (Knight, Simpson, & Hiller, 2002). Indeed, given the strong relationship between drug use and criminality (Hiller, Knight, & Simpson, 1999), measuring substance abuse severity needs to be a critical part of the treatment referral and decision-making process. In a report by the National Center on Addiction and Substance Abuse (1998), almost one half (43%) of those identified as "regular drug users" in state correctional systems were incarcerated for a violent offense, including murder, manslaughter, rape, robbery, kidnapping, and aggravated assault.

Despite the fact that these instruments can be a complement to traditional static risk measures, they do not directly assess criminal thinking, a dynamic type of cognitive risk that has been found to be correlated with static risk factors (such as prior incarceration; Walters, 2003). Criminal thinking constructs, such as antisocial attitudes, can be targeted for change and are addressed in nearly all theories of criminal behavior (e.g., Walters, 2002; Yochelson & Samenow, 1976). Furthermore, research has consistently found significant associations between criminal thinking (e.g., antisocial attitudes) and criminal behavior. In a meta-analysis of the predictors of criminal behav-

ior among adult offenders, Gendreau, Little, and Goggin (1996) reported that antisocial attitudes were associated strongly with criminal conduct. Antisocial attitudes also have been among the best estimators of prison misconduct (Gendreau, Goggin, & Law, 1997). Evidence that these dynamic types of cognitive risk factors predict outcome needs to be more definitively established; however, they clearly are worth considering when assessing offender treatment needs.

As Simourd and Olver (2002) pointed out, however, criminal attitudes and thinking remain a neglected aspect of offender assessment and treatment. Although this neglect may be the result of a lack of empirically verified assessment instruments, research during the past decade has examined and provided general support for some recently developed comprehensive assessments. These include the Criminal Sentiments Scale–Modified (CSS-M; Simourd, 1997), the Psychological Inventory of Criminal Thinking Styles (PICTS; Walters, 1995a, 1995b, 1996; Walters & Geyer, 2005), and the TCU Criminal Thinking Scales (TCU CTS; Knight, Simpson, & Morey, 2002).

THE TCU CTS

In an effort to provide the criminal justice system with a brief and cost-effective criminal thinking instrument (i.e., using self-reports and available at no charge), the TCU CTS were developed based on collaborative research conducted with the federal Bureau of Prisons (BOP). (For details regarding the original development, including content domain, item selection, and theoretical background, see Knight, Simpson, & Morey [2002], Walters [1998], and the BOP Survey of Program Participants available from their Office of Research and Evaluation.) These scales were designed initially to focus on the Residential Drug Abuse Programs (RDAP) cognitive-based curriculum but were further adapted and revised as a result of pilot research conducted by TCU using the initial version of the TCU CTS (Knight, Simpson, & Morey, 2002). A conceptual review of findings with BOP leadership also helped to shape the final instrument.

The current version of the TCU CTS is a two-page, 37-item instrument that takes between 5 and 10 minutes to complete (the instrument and scoring guide are available at www.ibr.tcu.edu). It includes scales to measure Entitlement, Justification, Personal Irresponsibility, Power Orientation, Cold Heartedness, and Criminal Rationalization. Entitlement (EN) conveys a sense of ownership and privilege and misidentifies wants as needs. Offenders who score high on the EN scale believe that the world “owes them” and they deserve special consideration. Justification (JU), also referred to as Mollification within the BOP RDAP, reflects a thinking pattern characterized by the

offender's minimizing the seriousness of antisocial acts and by justifying actions based on external circumstances. High scores on this scale suggest that antisocial acts are justified because of perceived social injustice. Personal Irresponsibility (PI) assesses the degree to which an offender is willing to accept ownership for criminal actions. High scores suggest an offender's unwillingness to accept responsibility and are associated with the offender's casting blame on others. Power Orientation (PO) is a measure of need for power and control. Offenders who score high on the PO scale typically show an outward display of aggression in an attempt to control their external environment, and they try to achieve a sense of power by manipulating others. Cold Heartedness (CH) addresses callousness, and high scores on this scale reflect a lack of emotional involvement in relationships with others. Finally, Criminal Rationalization (CN) displays a generally negative attitude toward the law and authority figures. Offenders who score high on this scale view their behaviors as being no different than the criminal acts they believe are committed every day by authority figures.

For each of the scales, items are rated using a 5-point Likert-type scale (1 = *disagree strongly*, 2 = *disagree*, 3 = *uncertain*, 4 = *agree*, 5 = *agree strongly*). Scores are obtained by averaging the ratings on items that make up each scale (after reversing scores on reflected items) and then multiplying this mean score by 10 to rescale the final scores so they range from 10 to 50 (e.g., an average response of 2.6 for a scale becomes a score of 26).

The primary purpose of the current study was to examine the basic psychometric properties of the TCU CTS when administered across a variety of correctional treatment settings. It is noted that although designed to provide a baseline measure of an offender's "criminal thinking," items in the TCU CTS refer to current or recent thinking and behaviors rather than static criminal history. Thus, the TCU CTS also can serve as a measure of change in criminal thinking when administered repeatedly over time. For example, one of the Entitlement items asks offenders to rate the degree to which they agree with the statement "Society owes you a better life." Offenders who abuse substances may "agree" with this statement as a way to justify criminal behavior but may change to "disagree" as a direct result of therapeutic intervention focused on reducing criminal thinking errors.

METHOD

Five research centers, funded as part of the National Institute of Drug Abuse (NIDA) Criminal Justice–Drug Abuse Treatment Studies (CJ-DATS) Cooperative Agreement, participated in a study of performance indicators

TABLE 1 Demographic Characteristics

	<i>Calibration</i> (<i>n</i> = 1,633)	<i>Validation</i> (<i>n</i> = 1,633)	<i>Full</i> (<i>N</i> = 3,266)
Age			
Mean years (<i>SD</i>)	34.14 (9.63)	33.72 (9.84)	33.93 (9.73)
Race			
% White	44.29	44.62	44.45
% Black	16.25	17.30	16.78
% Other	39.45	38.08	38.77
Gender			
% Male	70.71	71.21	70.96
% Female	29.29	28.79	29.04

for corrections (PIC; see Fletcher, 2003, for details about CJ-DATS). These included Texas Christian University (Southwest Research Center), which serves as the lead center for the PIC study; National Development and Research Institutes, Inc. (Rocky Mountain Research Center); University of Delaware (Mid-Atlantic Research Center); University of California, Los Angeles (Pacific Coast Research Center); and University of Kentucky (Central States Research Center). As part of the PIC study, the TCU CTS instrument was administered by research staff members to a sample of offenders incarcerated in a variety of correctional settings.

PARTICIPANTS

A cross-sectional sample of 3,266 offenders participating in 26 corrections-based drug treatment programs in the United States in 2003 and 2004 consented to participate in the study, representing 90% of those recruited for the current study. Seventeen of the programs were male only, six were female only, and three included both genders. Twenty of the programs were state funded, whereas six programs were federally funded. A sample cross-validation design was employed with the full sample from these programs being randomly divided into a calibration sample ($n = 1,633$) and a validation sample ($n = 1,633$). The demographic characteristics of the calibration, validation, and full samples are shown in Table 1.

PROCEDURES

The TCU CTS was administered immediately after study participants completed the criminal justice version of the TCU CJ-CEST (Joe et al., 2002). Both forms were administered to participants who had been in the

drug treatment program for a minimum of 2 weeks. Data collection was conducted in small group settings (approximately 25 per group). An interviewer read each item aloud as the participants followed along. In addition, for purposes of collecting test-retest reliability data, all assessments were readministered to a random sample ($n = 322$) within 2 weeks of the first administration. All procedures and materials used in the current study were reviewed and approved by the TCU Institutional Review Board (IRB). Participation was voluntary, and written consent was obtained from all participants after providing a brief introduction to and explanation of the study.

ANALYSES

Refinement and validation of the TCU CTS were conducted in two stages. In the first stage, the calibration sample was used to examine the factor structure of the scales and determine whether any items needed to be dropped or redefined. Using SAS 9.1 (SAS Institute, 2004), an orthogonal varimax-rotated exploratory factor analysis was conducted with squared multiple correlations as the communality estimates. In addition to examining the eigenvalues as proposed by Kaiser (1960) and the related scree test proposed by Cattell (1966) as criteria, theoretical and clinical considerations also were used as criterion for determining the number of factors to be retained. In the second stage, the validation sample was used to evaluate fit of the factor solution derived in the first stage of analysis. A confirmatory factor analysis was conducted using LISREL 8.7 (Jöreskog & Sörbom, 2004).

As indicated by Bollen (1989), the assessment of model fit is not a simple process, and there is no universally agreed-on method to assess how well a statistical model matches the data. Therefore, several standard fit indices were used as indicators of the goodness-of-fit. The minimum fit χ^2 evaluates the fit of the model to the data under the null hypothesis, namely, that the population covariances are equal to the covariances predicted from the model estimates. However, it has been noted that there are problems with using the χ^2 as a goodness-of-fit measure (especially in large samples of real-world data); and it, therefore, should not be relied on solely (Bollen & Long, 1993; Hatcher, 1994). The Goodness-of-Fit Index (GFI) assesses the degree to which a specified model fits the observed data relative to no model at all, whereas the Adjusted Goodness-of-Fit Index (AGFI) indicates a goodness of model fit after correcting for differential effects associated with sample size and the number of parameters in a statistical model (Bollen, 1989). Finally, the Comparative Fit Index (CFI) assesses the fit of the model of interest with a competing model and includes an equal number of factors and observed vari-

ables. The GFI, AGFI, and CFI fit indices range from 0 to 1, with values greater than .90 indicating acceptable fit (Bentler, 1990; Byrne, 1989).

The standardized root mean square residual (SRMR) indicates the average remaining variance in the data after extracting the systematic variance explained by the model of interest, and low values of SRMR indicate a good fit. The root mean square error of approximation (RMSEA) evaluates lack of model fit by comparing the observed model with a hypothetical population distribution of parameter values. As noted by Browne and Cudeck (1993), RMSEA values of less than .05 indicate a close fit in relation to the degrees of freedom; values of .08 or less indicate a fit with reasonable errors of approximation in the population, and values greater than .10 are a poor fit. Internal consistency reliability was determined using Cronbach's (1951) coefficient alpha.

RESULTS

Exploratory Factor Analysis

An exploratory principle factor analysis was used to investigate the dimensionality of the TCU CTS. Using the criterion of retaining factors with an eigenvalue greater than 1.0 resulted in a four-factor solution. This solution also was supported by examination of the corresponding scree plot. Together, the four-factor solution explained approximately 19% of the variance. Table 2 shows the factor loadings (loadings < .25 omitted for presentation purposes), eigenvalues, and percentage of variance accounted for by each factor. Because of theoretical and clinical implications, the large first factor was divided into three scales: Entitlement (EN), Justification (JU), and Personal Irresponsibility (PI), with the remaining three factors labeled Power Orientation (PO), Cold Heartedness (CH), and Criminal Rationalization (CN), respectively.

Confirmatory Factor Analysis

The minimum fit χ^2 was statistically significant ($p < .01$) for all models except CH. Because this statistic is sensitive to sample size, several other commonly used fit indices (i.e., GFI, AGFI, CFI, SRMR, RMSEA) also were examined. Results supported an acceptable fit of the model to the data for each of the TCU CTS scales. The results of the confirmatory factor analysis of each TCU CTS scale are presented separately and jointly in Table 3.

(text continues on p. 171)

TABLE 2 Four-Factor Solution for the CTS (Calibration Sample: $n = 1,633$)

	Factor 1	Factor 2	Factor 3	Factor 4
Entitlement				
You deserve special consideration.	.32 ^a			
You have paid your dues in life and are justified in taking what you want.	.53 ^a		-.29	
You feel you are above the law.	.56 ^a		-.34	
It is okay to commit crime to pay for the things you need.	.55 ^a			
Society owes you a better life.	.59 ^a			
Your good behavior should allow you to be irresponsible sometimes.	.51 ^a			
It is okay to commit crime to live the life you deserve.	.57 ^a		-.36	
Justification				
You rationalize your irresponsible actions with statements such as "Everyone else is doing it, so why shouldn't I?"	.36 ^a	.32		
When questioned about the motives for engaging in crime, you justify your behavior by pointing out how hard your life has been.	.46 ^a	.34		
You find yourself blaming the victims of some of your crimes.	.48 ^a	.33		
Breaking the law is no big deal as long as you do not physically harm someone.	.49 ^a	.25	-.32	
You find yourself blaming society and external circumstances for the problems in your life.	.54 ^a	.27		
You justify the crimes you have committed by telling yourself that if you had not done it, someone else would have.	.56 ^a	.28		
Personal irresponsibility				
You are in prison now because you had a run of bad luck.	.42 ^a			.31
Nothing you do here is going to make a difference in the way you are treated.	.26 ^a			.32
You are not to blame for everything you have done.	.41 ^a			
You may be a criminal, but your environment made you that way.	.48 ^a			
Laws are just a way to keep poor people down.	.54 ^a			.32
The real reason you are in prison is because of your race.	.42 ^a			

Power orientation				
When people tell you what to do, you become aggressive.	.60 ^a			
When not in control of a situation, you feel the need to exert power over others.	.66 ^a			
You argue with others over relatively trivial matters.	.54 ^a			
You like to be in control.	.45 ^a			
If someone disrespects you, then you have to straighten them out, even if you have to get physical with them to do it.	.25	.28		
You think you have to pay back people who mess with you.	.26			
The only way to protect yourself is to be ready to fight.	.27			
Cold heartedness				
You get upset when you hear about someone who has lost everything in a natural disaster.		.52 ^a		
Seeing someone cry makes you sad.		.64 ^a		
You are sometimes so moved by an experience that you feel emotions that you cannot describe.		.50 ^a		
You worry when a friend is having personal problems.		.50 ^a		
You feel people are important to you.		.48 ^a		
Criminal rationalization				
Anything can be fixed in court if you have the right connections.			.48 ^a	
Bankers, lawyers, and politicians get away with breaking the law every day.			.55 ^a	
This country's justice system was designed to treat everyone equally.			-.47 ^a	
Police do worse things than the "criminals" they lock up.			.50 ^a	
Prosecutors often tell witnesses to lie in court.			.51 ^a	
It is unfair that you are imprisoned for your crimes when bank presidents, lawyers, and politicians get away with their crimes.	.36		.49 ^a	
Eigenvalue	11.22	4.19	2.11	1.59
Variance accounted for (%)	6.69	5.27	4.22	2.93

NOTE: Factor loadings less than .25 are not shown.
a. The highest factor loadings for each item.

TABLE 3 Confirmatory Factor Analysis of the CTS (Validation Sample: $n = 1,633$)

Scale	χ^2	df	p	GFI	AGFI	CFI	SRMR	RMSEA	CI
Entitlement	195.61	14	.00	.96	.93	.96	.04	.09	.08 - .11
Justification	76.98	9	.00	.99	.96	.98	.03	.07	.05 - .08
Personal irresponsibility	24.58	9	.00	.99	.99	.99	.02	.03	.02 - .05
Power orientation	167.20	14	.00	.97	.94	.97	.04	.09	.07 - .10
Cold heartedness	5.17	5	.40	.99	.99	.99	.01	.00	.00 - .03
Criminal rationalization	38.68	9	.00	.99	.98	.99	.02	.04	.03 - .06

NOTE: GFI = Goodness-of-Fit Index; AGFI = Adjusted Goodness-of-Fit Index; CFI = (Bentler's) Comparative Fit Index; SRMR = standardized root mean square residual; RMSEA = root mean square error of approximation; CI = Confidence Interval; CTS = Criminal Thinking Scales.
 Confirmatory factor analysis for total CTS scales: Minimum fit $\chi^2(614) = 3,372.05$; GFI = .88; AGFI = .87; CFI = .95; SRMR = .06; RMSEA = .06.

TABLE 4 Internal Consistency Reliabilities as Measured by Cronbach's Coefficient Alpha

<i>Scale</i>	<i>Calibration Sample</i> (<i>n</i> = 1,633)	<i>Validation Sample</i> (<i>n</i> = 1,633)	<i>Full Sample</i> (<i>N</i> = 3,266)
Entitlement	.78	.79	.78
Justification	.74	.75	.75
Personal irresponsibility	.67	.68	.68
Power orientation	.79	.82	.81
Cold heartedness	.68	.68	.68
Criminal rationalization	.71	.72	.71

Internal Consistency Reliability

The internal consistency reliability of each TCU CTS scale was measured using Cronbach's (1951) coefficient alpha. Table 4 presents the coefficient alpha for each of the scales computed from the calibration, validation, and full sample, which were consistent between each of the subsamples. The greatest coefficient alpha difference was .03, which was found between the calibration and validation samples for the PO scale.

Test-Retest Reliability

In addition to evaluating the internal consistency reliability, the test-retest reliability was examined using a random sample of 322 participants, who were readministered the TCU CTS within 2 weeks of the first administration. Results indicated that each of the TCU CTS had acceptable test-retest reliability: EN = .69, JU = .70, PO = .81, CH = .66, CN = .84, and PI = .75 (average test-retest reliability = .74).

Intercorrelations

Table 5 presents the zero-order correlations among the TCU CTS. The majority of the scale intercorrelations were statistically significant, which is not surprising given the large sample size, the fact that they are each measuring aspects of criminal thinking, and the factor analysis results. However, results did indicate that there was not a significant relationship between CH and three other scales: JU, CN, and PO.

TABLE 5 Intercorrelations Among CTS Subscales (Full Sample: *N* = 3,266)

<i>Scale</i>	<i>EN</i>	<i>JU</i>	<i>PI</i>	<i>PO</i>	<i>CH</i>	<i>CN</i>
1. Entitlement (EN)	—					
2. Justification (JU)	.64	—				
3. Personal irresponsibility (PI)	.66	.55	—			
4. Power orientation (PO)	.49	.57	.43	—		
5. Cold heartedness (CH)	.18	.03	.13	.03	—	
6. Criminal rationalization (CN)	.35	.32	.47	.37	.03	—

NOTE: CTS = Criminal Thinking Scales.

TABLE 6 Means, Standard Deviations, and Tritile Scores (Full sample: *N* = 3,266)

<i>Scale</i>	<i>M</i>	<i>SD</i>	<i>33rd Percentile</i>	<i>67th Percentile</i>
Entitlement	19.74	5.91	17.14	21.43
Justification	21.30	6.74	18.33	23.33
Personal irresponsibility	21.88	6.73	18.33	25.00
Power orientation	25.76	7.62	22.86	28.57
Cold heartedness	22.93	6.69	20.00	24.00
Criminal rationalization	32.32	7.91	28.33	36.67

Means and Standard Deviations

TCU CTS scale scores did not differ significantly between the calibration and validation samples. The means and standard deviations for each of the scales for the full sample are reported in Table 6. In addition, the 33rd and 67th percentiles are provided; these tritile scores are useful when assessing how the scale scores of an individual offender compares with the scale scores of other offenders.

DISCUSSION

Findings show that the TCU CTS have good psychometric properties and offers the corrections field a quick and reliable self-report assessment of criminal thinking. All six criminal thinking scales had relatively good factor structures and respectable response distributions, and all maintained acceptable reliability and acceptable goodness-of-fit coefficients across the split-half samples. Offenders across 26 corrections-based drug treatment programs completed the instrument in a timely (approximately 5 to 10 minutes) and reliable manner.

Given that many current corrections-based drug treatment programs place a heavy emphasis on changing offender criminal thinking as well as drug use, it is recommended that criminal thinking and drug use baseline severity be assessed when making treatment referral decisions (see Taxman, Thanner, & Weisburd, 2005 [this issue], an article that documents experimental findings regarding the failure to consider criminal thinking and drug use severity in program assignment). At a practical level, the TCU CTS and the TCU Drug Screen II (Knight, Simpson, & Hiller, 2002) can be used in this process. Offenders who disclose serious problems on both instruments clearly need to be referred to programs that provide intensive services that target offender changes in criminal thinking and drug use. Those who report more severe drug use problems and less severe criminal thinking are likely to be the best candidates for (and may only benefit from) intensive treatment services primarily focused on addressing drug use. Conversely, offenders with less severe or no drug use problems who report more severe criminal thinking may need to be referred to intensive services primarily focused on criminogenic thinking errors.

These measures can be used as part of a larger measurement system designed to examine treatment progress (i.e., offender performance during treatment) and program effectiveness. Programs need to be able to document that they are not only having a positive long-term impact on offender relapse and recidivism but also that they are accomplishing the shorter term gains with offenders that their services are designed to achieve. Documenting reductions in drug use and criminal thinking over the course of treatment is a positive sign that the risk for reoffending has been reduced. Furthermore, this information also can help programs gain a better understanding of the factors that are associated with an offender's amenability to change.

In addition, use of other assessments such as the TCU CJ-CEST to measure changes in psychosocial functioning can provide further evidence of progress and effectiveness. For example, improvements in psychosocial functioning (e.g., self-esteem, depression, and anxiety) have been shown to be associated with positive during-treatment indicators such as retention and progress (Joe et al., 2002; Knight et al., 1999). Being able to document such improvements and progress during treatment provides evidence of the effectiveness of treatment services. With repeated administration of the TCU CTS and CJ-CEST (such as at the end of each structured treatment phase), significant drops in scale scores can help identify the treatment services that are effectively targeting and reducing offender problems in criminal thinking and psychosocial functioning.

Studies have shown that repeated assessment of these domains can help alert staff persons to "red flags" during treatment. In one study, offenders

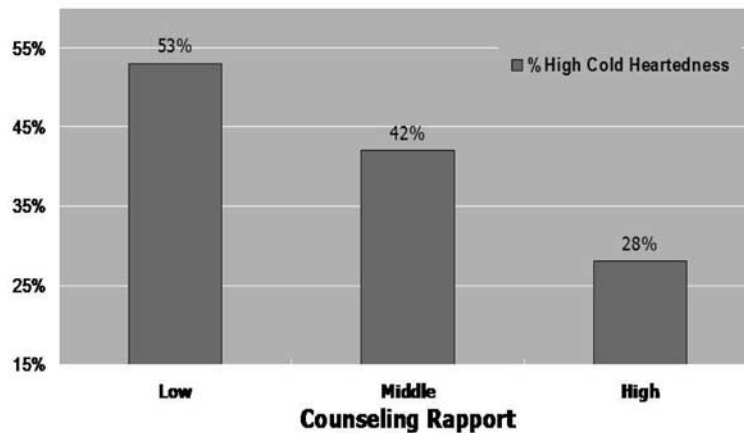


Figure 1: Percentage High Cold Heartedness by Counselor Rapport

with high levels of hostility measured during the 1st month in treatment were significantly more likely than offenders with low hostility levels to drop out of or be removed from a corrections-based drug treatment program (Broome, Hiller & Simpson, 2000). This suggests that programs might benefit by examining client hostility levels after the orientation phase of treatment to determine whether a specialized intervention on anger reduction is warranted. Similarly, future research needs to examine the impact changes in criminal thinking have on the treatment process and its relationship to treatment performance and progress.

Of special interest is whether the TCU CTS measures are predictive of program completion and postrelease recidivism, including reincarceration for new offenses and technical violations. Although outcome measures were not collected as part of the current study, data collection did include offender self-ratings of their rapport with their primary counselor (Simpson & Joe, 2004). Interrelationships between the CTS and the TCU CJ-CEST measure of Counselor Rapport (CR) revealed that there was a significant negative relationship between each of the TCU CTS and CR (e.g., see Figure 1 for the interrelationship between PO and CR). In other words, individuals with higher criminal thinking had lower ratings of counseling rapport. Although it will be important for future research to examine the predictive validity of the scales with proximal outcomes (such as treatment engagement and retention) and distal outcomes (such as rearrest), the present study suggests that the TCU CTS are associated with measures of treatment process previously found to be predictive of these types of outcomes (Hiller et al., 1999).

In summary, corrections-based treatment programs focus the way offenders think and act in hopes of getting them to make better, more prosocial, choices. Ingrained in living a criminal lifestyle, criminal thinking is viewed as a “dynamic” cognitive process that not only can but also must be altered before inmates are released to the community. The TCU CTS can serve as a reliable tool for measuring this process. When repeatedly administered over the course of treatment, the instrument provides programs with a brief self-rating that can help document the positive impact of interventions intended to change the way offenders think. When combined with other measures of dynamic risk (such as psychosocial functioning) and behavioral responses, the TCU CTS may enhance the assessment system for determining treatment progress and intervention effectiveness and an offender’s amenability to change. Our future research will be devoted to answering these questions as well as examining the predictive validity of the tool.

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