Final Report on the Manualized Cognitive Behavioral Therapy Program of the North Dakota District of United States Probation and Pretrial Services

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Table of Contents

List of Tables

Background and Purpose

The protection of the public is generally seen as the primary mission of modern probation services. This protection is achieved through two functions. The first involves the supervision of offenders in the community, usually facilitated by an actuarial assessment of the risk offenders pose to the public and the consequent establishment of appropriate levels of supervision. A second mechanism whereby probation services seek public protection is by reducing the potential for future offending through one or more treatment modalities. As will be explained shortly, it is increasingly common for both goals to be sought through the establishment and use of evidence-based practices (EBP).

While the demand for evidence-based practices has been growing throughout the human services, considerable interest has arisen in recent years for the introduction of these practices into community correctional settings. Nowhere is this truer than in Federal probation. Melissa Alexander and Scott VanBenschoten (2008) detailed Federal probation's shift toward a greater emphasis on a supervision philosophy that emphasizes outcomes and observable results,

> In 2002, the Federal Judicial Center, the training arm of the U.S. Courts, held a conference for all federal probation and pretrial services chiefs that resulted in the Charter for Excellence. This charter fueled a momentum behind the notion that federal probation was moving from outputs to outcomes. Among other things, this document states: "We are outcome driven and strive to make our communities safer and to make a positive difference in the lives of those we serve." This point was further reiterated in the 2004 Strategic Assessment of Federal Probation and Pretrial Services System conducted by a team of

consultants. The central recommendation of this assessment was that Federal Probation "become a results-driven organization with a comprehensive outcome measurement system." (pp. 15-16).

This larger philosophical vision has found expression in the Research to Results (R2R) initiative which provided grant support to Federal Probation and Pretrial Services offices that applied for it in order to develop innovative service strategies in 4 areas: "1) risk/needs assessment and case planning; 2) Motivational Interviewing; 3) manualized cognitive behavioral therapy; and 4) other offender intervention" (Miyashiro, 2008; p. 80). The current evaluation concerns a manualized cognitive behavioral therapy (MCBT) program conducted with the support of the R2R initiative by United States Probation and Pretrial Services for the District of North Dakota (USPPS-ND). As such, it aligns with area 3 of the R2R initiative identified above, and is part of a larger effort undertaken by the District of North Dakota which also included Motivational Interviewing. The manualized cognitive behavioral therapy program employed by the North Dakota District and evaluated in this document is the Adult Cognitive Life Skills Home Study Course (ACLSHSC) developed by American Community Corrections Institute (ACCI).

Agency, Geography and Population

The North Dakota District of United States Probation and Pretrial Services had a total staff of 28 entering FY 2009. Nineteen members of that staff were probation officers. Some of these probation officers have responsibility for the production of pre-sentence reports as their

exclusive or primary task and several officers have other specialized responsibilities. Those officers with primary responsibility for supervision typically have caseloads in the 40-50 range.

Two features of the North Dakota District are particularly noteworthy for the current evaluation. First, over half of the total caseload is Native American which is an important consideration for the North Dakota District's efforts regarding EBP. Second, the geographic range that the officers of the USPPS-ND must serve is considerable. The North Dakota District covers 70,700 square miles and is one of the three least densely populated states in the country with 9.3 persons per square mile. The considerable distances between offenders creates a challenge for USPPS-ND regarding the type of cognitive behavioral therapy programs that might be used in this setting and which are essential to EBP.

Evidence-Based Practices in Probation

As previously noted, a recognized need for practices that are grounded in research has become widespread in the human services arena in recent years. This is true of community corrections as well. As John Hughes (2008) notes, Federal Probation's "strategic goal to become a results-based program fits hand-in-glove with adopting evidence-based practices" (p. 4). In a widely cited work by the Crime and Justice Institute (2004), EBP is distinguished from things like "best practices" and "what works" in that, "…evidence-based practice implies that 1) there is a definable outcome(s); 2) it is measurable; and 3) it is defined according to practical realities (recidivism, victim satisfaction, etc.)" (page 2). In short, EBP is concerned with programs that produce practical outcomes that are measurable. With the introduction of EBP into probation the pursuit of public safety is increasingly sought through the integration of probation's supervision function (aided by the use of actuarial risk assessment techniques) and its treatment function.

This integration is clear when one examines the eight principles of EBP as articulated by the Crime and Justice Institute (2004);

1) Assess actuarial risk/needs.
2) Enhance intrinsic motivation.
3) Target interventions.
    a. Risk principle: Prioritize supervision and treatment resources for higher risk offenders.
    b. Need principle: Target interventions to criminogenic needs.
    c. Responsivity principle: Be responsive to temperament, learning style, motivation, culture, and gender when assigning programs.
    d. Dosage: Structure 40-70% of high-risk offenders' time for 3-9 months.
    e. Treatment: Integrate treatment into the full sentence/sanction requirements.
4) Skill train with directed practice (use Cognitive Behavioral treatment methods).
5) Increase positive reinforcement.
6) Engage ongoing support in natural communities.
7) Measure relevant processes/practices.
8) Provide measurement feedback (p. 3).

This project is significantly related to sub-principles b, c and e of principle number three, and well as principle number four. The latter principle specifies the use of cognitive behavioral

treatment approaches; the program currently being evaluated is consistent with this principle. The third principle of EBP identifies a number of characteristics that should be attended to in correctional interventions and clearly highlights the integration of supervision and treatment. The "responsivity principle" (sub-principle c) is particularly important to the current program and its evaluation. The need to be responsive to the unique cultural characteristics of offenders when assigning programs is vital given the makeup of the offender population served by the North Dakota office. As noted above, over half of the USPPS-ND's caseload is Native American. It is therefore important to identify and employ cognitive behavioral approaches that address the needs and sensitivities of this group.

Cognitive Behavioral Therapy

Cognitive behavioral therapy (CBT) has been gaining popularity as a treatment modality used by probation agencies. This is so much the case that CBT is specifically recommended within the EBP philosophy. CBT is a blanket term for a variety of more specific programs that maintain that criminal and many other problem behaviors are the result of counter-productive habits of thinking and belief. These programs expect that by restructuring the thoughts and beliefs of offenders in more constructive ways that more appropriate and socially acceptable behaviors will result. In turn, these more desirable behaviors, and the successes that result from their adoption, should reinforce the new habits of thought and belief. With respect to the probation setting it is expected that this mutually reinforcing relationship between cognition and behavior will result in fewer problems while on probation as well as reductions in future offending.

Cognitive behavioral treatment approaches in a wide variety of contexts and involving a

number of different populations have been well studied in recent years. In correctional settings specifically, a number of reviews and meta-analyses have indicated that CBTs are associated with reduced recidivism (Hansen, 2008; Landenberger & Lipsey, 2005; Pearson, Lipton, Cleland & Yee, 2002; Wilson, Bouffard & MacKenzie, 2005). In a 2002 meta-analysis of 69 independent studies, Pearson et al. examined behavior reinforcement/incentive programs and cognitive behavioral treatment programs regarding their effectiveness at reducing recidivism. The authors failed to find clear support for behavior reinforcement/incentive programs. In particular, they suggested that the failure to maintain contingencies of reinforcement might lead to desirable behaviors being extinguished shortly after program completion. On the other hand, they found that CBT had considerable evidentiary support. While the authors recommend several specific programs, their more general conclusion is that, "…directors of rehabilitation programs should consider having cognitive-behavioral programming as a primary or secondary component of their treatment programming" (2002, p. 493).

In a later meta-analysis, Landenberger and Lipsey (2005) incorporated 58 independent studies into their research with similarly encouraging results regarding CBT and reduced recidivism. The authors found an average reduction of 25% in recidivism for the groups receiving CBT that they studied in comparison with control groups, with the largest reductions in recidivism exceeding 50% for some CBT programs. The authors were particularly interested in the variables that most influenced program effectiveness. In this regard three variables were found to account for much of the variation in program effectiveness: "(a) the risk level of the participating offenders [CBT performs better with high risk offenders], (b) how well the treatment was implemented, and (c) the presence or absence of a few treatment elements" (2005, p. 470). With respect to this last variable, programs that had an anger control element and those

which dealt with interpersonal problem-solving performed best. Conversely, programs that contained victim impact and behavior modification components performed less well. Importantly, once these three program characteristics are taken into account it does not appear that one needs a "brand name" cognitive behavioral treatment program to achieve success. As the authors conclude, "[i]t thus appears to be the general CBT approach, and not any specific version, that is responsible for overall positive effects on recidivism" (2005, p. 471).

Finally, Wilson et al. (2005) looked at 20 studies on CBTs administered in a group setting. With regard to these group based programs their conclusion is consistent with the above studies that, "…cognitive-behavioral treatment techniques are effective at reducing criminal behaviors among convicted offenders" (p. 198). While Wilson et al. again found support for the CBT approach, their study focused on programs designed for group implementation. The current evaluation is concerned with an environment that requires a CBT approach that can be implemented at the individual level.

Manualized Cognitive Behavioral Therapy

As part of the Research to Results (R2R) initiative, the USPPS-ND contracted with ACCI for a manualized cognitive behavioral therapy program (i.e., ACLSHSC). While many CBTs use groups in their treatment programs, the District of North Dakota chose a manual based program for several reasons. First, as previously noted, the District of North Dakota is very rural, so a treatment modality that can be accomplished by offenders on an individual basis is more efficient. Secondly, the narrative structure of the ACCI manual was expected to be particularly effective with the heavily Native American population served by the District of North Dakota.

Principle 3(e), the "responsivity principle," of EBP as articulated by the Crime and Justice Institute specifies the need to develop and implement programs that, among other things, are responsive to the cultural characteristics of target populations. In this regard, a number of authors have addressed the relationship between traditional Native American cultures and the potential for effective interventions (e.g.,, Archambeault, 2006; McDonald & Gonzalez, 2006). In addition to an ongoing debate about whether spirituality-based traditional healing practices should be offered, there is some concern about the effectiveness of group based treatment with Native American populations because such treatments often require a willingness to explore and reveal one's thoughts and feelings (Renfrey, 1992; Trimble, Manson, Dinges, & Medicine, 1984; Waldram & Wong, 1995). Related to this last point, there may also be a lack of rapport between counselors and other group members who are unfamiliar with, and potentially insensitive to, the cultural and reservation context that Native American offenders have experienced (Waldram & Wong, 1995); the use of a coach chosen from one's personal network of friends and relatives that is employed in the manualized program would circumvent this potential problem. Moreover, the manualized CBT may be particularly useful with Native Americans given that interventions based on storytelling are thought to align with their cultural traditions (Hodge, Pasqua, Marquez, & Geishirt-Cantrell, 2002; Renfrey, 1992). Nonetheless, relatively few scientifically rigorous studies have been conducted on evidence-based mental health practices with Native American populations (Gone & Alcantara, 2007).

To address both the problem of low offender density in the state of North Dakota and the large Native American population with which the North Dakota District works, the USPPS-ND sought a manualized, individual cognitive behavioral treatment course. The Adult Cognitive Life Skills Home Study Course (ACLSHSC) adopted by USPPS-ND is just such an individual,

manualized course. While additional research into ACLSHSC is needed, ACCI has reported on a collaborative project with the Box Elder County Justice Court (American Community Corrections Institute, n.d.). According to ACCI's own research conducted over a three and one half year period, referrals to the court for a variety of offenses dropped 57% following initiation of the manualized program. Moreover, program completion exceeded 90%.

Analytic Focus of Current Evaluation

The current evaluation focused on the following questions:

1) Is the CBT program used by the USPPS-ND related to cognitive and attitudinal change, specifically a reduction in criminal thinking? Criminal thinking was measured by the Texas Christian University Criminal Thinking Scales (TCU-CTS).
2) Is the CBT program related to performance while on probation? Performance was assessed by looking at revocations, non-compliance counts, new arrests, and positive drug tests.

Originally it was hoped that the CBT program could have been evaluated with respect to subsequent offending. This reduction might have taken two forms. First, the CBT participants might have fewer offenses after probation completion (i.e., lower offense frequency). Second, CBT participants might have subsequent offenses of a less severe nature than they would have otherwise been without treatment (i.e., lower offense severity). Unfortunately, follow up data on recidivism after completion of probation were not available.

Data and Methods

Sample

The data used in this evaluation were provided by the USPPS-ND and, with the exception of the Texas Christian University Criminal Thinking Scales described below, were originally collected for routine record keeping purposes only. Records were included for all individuals who were on probation on January 1, 2006 or later. The last day for which data were available was August 27, 2010. An individual who was placed on probation prior to January 1, 2006 but was still under supervision on that date would be included in the database; any data pertaining to their supervision prior to 2006 would be included in the data set. Conversely, an individual whose supervision fell on both sides of August 27, 2010 would only have data available for the time period up until August 27, 2010. When individuals were listed several times in the database, the USPPS-ND chose the longest supervision term. The data were cleaned to remove any remaining duplicate entries and/or any other data entry errors. This procedure produced a sample of 346 offenders. However, due to missing values for specific variables, the number of cases included in any particular analysis may total less than 346. Of the 346 offenders in the data base, 101 began the MCBT treatment and 89 successfully completed with 12 individuals dropping out. There were 245 offenders who received no treatment.

Summary data for basic sample demographics are presented in Table 1. In general the sample was young, male and predominantly Native American. In addition, subjects presented risk scores that were largely moderate or high. With regard to sex, the sample was overwhelmingly male in composition with only 32 females in the total. Racially, more than half of the sample was Native American, with whites constituting the second largest racial/ethnic group. All other racial/ethnic categories totaled less than 3% of the sample. Scores on the Risk

Prediction Index (RPI) ranged from 1 to 9, with a mean of 5.82. The majority of offenders were of moderate risk but more than a third of the sample had RPI scores of 7 or higher. Very few offenders had scores of 2 or less. While no data were available regarding the age of 17 offenders at the start of supervision, the sample skewed young, with more than half of the offenders under the age of 30 and 19 offenders under the age of 18.

Chi-square and t-tests were performed to see if there were any initial differences between the treatment, no treatment and dropout groups. Significant results from these tests, as noted at the bottom of Table 1, are as follows:

- Treatment versus No Treatment. Compared to the group of offenders that did not receive any treatment, the treatment group had significantly lower RPI scores at the start of supervision and proportionately more female offenders. There were no significant group differences by age or race.

- Treatment versus Dropout. Compared to the group of offenders who completed treatment, those who dropped out of treatment were younger and more likely to be Native American. For the remaining analyses, however, data from the dropout group were excluded so that only those who completed treatment would be compared to those who received no treatment.

Table 1: Demographic Characteristics

	Whole Sample	Treatment	No Treatment	Dropout
MCBT Treatment (%)	346	89 (25.7%)	245 (70.8%)	12 (3.5%)
Age at Supervision [a]				
Number of cases	329	86	232	11
Range	15-60	15-60	15-54	16-35
Mean	31.41	33.35	30.93	26.55
Median	29	30	29	26
Risk Prediction Index (RPI) [b]				
Number of cases	345	89	244	12
Range	1-9	1-9	3-9	2-9
Mean	5.82	5.191	6.045	5.833
Median	6	5	6	6
% Low (0-2)	3.5%	12.4%	--	08.3%
% Medium (3-6)	59.7%	58.4%	60.7%	50.0%
% High (7-9)	36.8%	29.2%	39.3%	41.7%
Sex [c]				
Number of cases	345	89	244	12
Number (%) female	32 (9.3%)	13 (14.6%)	18 (7.4%)	1 (8.3%)
Number (%) male	313 (90.7%)	76 (85.4%)	226 (92.6%)	11 (91.7%)
Race [d]				
Number of cases	344	89	243	12
Number (%) White	122 (35.5%)	32 (36.0%)	90 (37.0%)	--
Number (%) Black	7 (2.0%)	1 (1.1%)	5 (2.1%)	1 (8.3%)
Number (%) Asian	1 (0.3%)	--	1 (0.4%)	--
Number (%) Native Amer.	214 (62.2%)	56 (62.9%)	147 (60.5%)	11 (91.7%)

[a] Significant mean difference between treatment group and drop out group, $t(18.6) = -2.880$, $p = .010$ for unequal variances.

[b] Significant mean difference between treatment group and no treatment group, $t(123.9) = 3.328$, $p = .001$ for unequal variances.

[c] Significant difference between treatment group and no treatment group, Pearson $\chi^2(1, n=333) = 4.037$, $p = .045$.

[d] Significant difference between treatment group and dropout group, Pearson $\chi^2(2, n=100) = 8.460$, $p = .015$.

Variables

Ten different outcome variables were used in this evaluation – four behavioral outcome measures and six scales that measure criminal thinking. Four control variables were also included in select analyses – age, RPI, sex, race/ethnicity.

Behavioral Outcome Measures. ***Sum of revocations***, the first behavioral outcome measure is an aggregate of the number of revocations an offender received while under supervision. The second behavioral outcome measure is ***sum of non-compliance counts*** which is an aggregate of the number of times an offender failed to be in compliance while under supervision. In effect, these represent technical violations. ***Sum of new arrests*** is the third behavioral outcome measure and is the total number of times an offender was arrested while under supervision. Finally, ***sum of positive drug tests*** measures the total number of positive drug tests an offender had while under supervision.

Descriptive statistics for these behavioral outcome measures are provided in Table 2. Each of these describes behavior over the entire span of supervision until the point of data collection.

Attitudinal Outcome Measures. The Texas Christian University Criminal Thinking Scales (TCU-CTS) focus on six cognitive domains perceived to have special relevance for correctional populations: ***Entitlement*** (7 items; e.g.,, "You feel you are above the law"), ***Justification*** (6 items; e.g.,, "You find yourself blaming the victims of some of your crimes"), ***Power Orientation*** (7 items; e.g.,, "You like to be in control"), ***Cold Heartedness*** (5 items; e.g.,, "Seeing someone cry makes you sad" – reverse coded), ***Criminal Rationalization*** (6 items; e.g.,,

"Anything can be fixed in court if you have the right connections"), and ***Personal Irresponsibility*** (6 items; "Laws are just a way to keep poor people down"). Responses are based on a scale from 1=Strongly Disagree to 5 = Strongly Agree. Scale scores are constructed by summing responses (after reverse coding as necessary), taking an average, and then multiplying the score by 10 for a possible final range of 10 to 50. The TCU-CTS has been shown to have adequate psychometrics and reliability (Knight, Garner, Simpson, Morey, & Flynn, 2006). A copy of the TCU-CTS and its scoring guide can be found in Appendix A.

In the current evaluation, 67 offenders who completed treatment provided data on both the pre-test and post-test administration of the TCU-CTS. Twenty-two offenders who completed treatment were missing post-test data.

Control Variables. The first control variable used in these analyses is the offender's age at the start of their period of supervision. The second control variable is the offender's score on the Risk Prediction Index (RPI). The third control variable is the offender's sex. Finally, the offender's race is used as a control variable. In addition, because the sample was mostly white and Native American, race was dichotomized into non-Native and Native American groups in order to analyze the sample for subgroup differences; in short, this breakdown allowed us to examine whether the MCBT program was differentially effective for the two groups of offenders. This analysis is particularly important in light of EBP's concern for "responsivity."

Table 2: Behavioral Outcome Measures

	Whole Sample	Treatment	No Treatment	Dropout
Sum of revocations				
Number of cases	345	89	244	12
Range	0-12	0-8	0-12	0-2
Mean	.54	.47	.56	.75
Median	.00	.00	.00	1.00
% none	69.9%	76.4%	68.9%	41.7%
Sum of non-compliance counts				
Number of cases	266	78	177	11
Range	0-35	0-35	1-27	1-18
Mean	6.30	7.10	5.79	8.82
Median	5	6	4	6
% none	1.1%	3.8%	--	--
Sum of new arrests				
Number of cases	345	89	244	12
Range	0-6	0-4	0-3	0-6
Mean	.32	.40	.27	.75
Median	.00	.00	.00	.00
% none	75.4%	67.4%	78.7%	66.7%
Sum of positive drug tests				
Number of cases	345	89	244	12
Range	0-5	0-3	0-5	0-3
Mean	.40	.52	.34	.67
Median	.00	.00	.00	.00
% none	70.4%	62.9%	73.8%	58.3%

Analytic Methods

For the behavioral outcome measures, both bivariate and multivariate analyses were conducted. First, independent samples t-tests were used to look for significant differences between the treatment group and no treatment group on number of revocations, non-compliance counts, new arrests, and positive drug tests. Then, control variables were included along with the treatment variable in multivariate linear regression models to determine whether treatment

significantly predicted each behavioral outcome above and beyond the influences of age, RPI score, sex, and race/ethnicity.

For the attitudinal outcome measures, paired samples t-tests were used to look for significant differences within the treatment group on the pre-test and post-test administration of the TCU-CTS.

Analyses for both the behavioral and attitudinal outcome measures were run for the whole data set of probationers, as well as separately for non-Native American and Native American probationers. Examining the effectiveness of treatment by race/ethnicity allowed us to determine whether there were important differences in how well the MCBT program worked within each of the two most prevalent cultural traditions found in the USPPS-ND's district. Finally, preliminary results indicated the need to subdivide analytic groups by RPI.

Results/Findings

Behavioral Outcome Measures

As shown in Table 3, the four behavioral outcome measures were all significantly correlated with one another with correlation coefficients ranging from .116 (for revocations and new arrests) to .312 (for positive drug tests and new arrests).

Table 3: Correlations between Behavioral Outcome Measures

	1	2	3	4
1 - Revocations	1			
2 - Non-compliance counts	.209 **	1		
3 - New arrests	.116 *	.223 **	1	
4 - Positive drug tests	.173 **	.204 **	.312 **	1

** $p < .01$ * $p < .05$

Mean differences between the treatment and no treatment groups were examined for each of the behavior outcome measures. T-tests showed that the two groups were not significantly different on their total sum of revocations, non-compliance counts, new arrests, or positive drug tests. This initial analysis indicated that the MCBT treatment had no effect on offender behavior. However, additional analyses revealed otherwise hidden effects of the program.

In particular, the length of the supervision period for which there was available data on each probationer was incorporated to more accurately interpret the behavioral outcome measures. For example, we would expect more revocations, non-compliance counts, new arrests, and positive drug tests over longer periods of supervision. Comparisons on length of supervision revealed a significant mean difference such that data for the treatment group covered a longer period of time than data for the no treatment group (with 909 versus 590 days, respectively; $t[332] = -8.005$, $p < .001$).

Given that there was a significant difference between the treatment group and no treatment group on length of supervision, outcome measures were standardized such that each sum (e.g.,, of revocations, non-compliance counts, new arrests, and positive drug tests) was divided by the number of days data were recorded for each probationer and then converted into years (that is, per 365 days). T-test results for the standardized outcome measures can be found in Table 4. There were significant differences for the standardized measures of revocations and non-compliance counts. Compared to those who did not receive treatment, probationers who completed the MCBT program had significantly fewer revocations per year of supervision (.32 versus .79) and fewer non-compliance counts per year of supervision (3.15 versus 4.72).

Table 4: Behavioral Outcome Measures for Treatment Group and No Treatment Group, Standardizing for Length of Supervision

Behavioral Outcome Measure	Treatment Mean	(SD)	No Treatment Mean	(SD)	t	*p*
Revocations (per year) [a]	.32	(0.95)	.79	(2.19)	2.697	.007 **
Non-compliance counts (per year) [a]	3.15	(3.26)	4.72	(4.94)	3.008	.003 **
New arrests (per year)	.20	(0.36)	.19	(0.50)	-.094	.925
Positive drug tests (per year) [a]	.23	(0.36)	.29	(0.67)	1.136	.257

** $p < .01$ * $p < .05$

[a] Required t-tests for unequal variances

Next, the effect of completing treatment on each standardized behavioral outcome measure was examined using linear regression to control for age at supervision, RPI score, sex (male), and race (Native American). This is particularly important given that the treatment and no treatment groups were not matched by design and significant differences were found on RPI scores and sex, as was reported in Table 1 – such that the treatment group had significantly lower RPI scores at the start of supervision and proportionately more female offenders. There were no significant group differences by age or race but these were also included in the model as it is likely that they may also predict behavioral outcomes (e.g.,, younger offenders may perform more poorly during supervision); those influences would need to be parceled out to determine the independent relationships between treatment and outcomes. Regression results are reported in Table 5 and summarized here:

- The overall model predicting revocations per year of supervision was significant, $F(5, 312) = 3.192$, $p = .008$. Controlling for the effects of all of the other variables in the model, higher RPI scores were significantly associated with more

revocations. However, completing the MCBT program did not significantly predict revocations per year of supervision.

- The overall model predicting non-compliance counts per years of supervision was significant, $F(5, 237) = 4.749$, $p < .001$. Controlling for the effects of all other variables in the model, being Native American was significantly associated with a higher number of non-compliance counts per year of supervision whereas completing the MCBT program was significantly associated with fewer non-compliance reports per year of supervision.

- The overall model predicting new arrests was not significant, $F(5, 312) = .770$, $p = .572$. Completing the MCBT program did not significantly predict new arrests per year of supervision, nor did any of the control variables.

- The overall model predicting positive drug tests was significant, $F(5, 312) = 2.514$, $p = .030$. Controlling for the effects of all of the other variables in the model, higher RPI scores were significantly associated with a higher number of positive drug tests. Completing the MCBT program did not significantly predict the number of positive drug tests per year of supervision.

Table 5: Predicting Behavioral Outcomes (Per Year of Supervision) from Treatment Group and Control Variables

Predictor	B	(SE)	β	t	*p*
Revocations (per year)					
Treatment	-.340	(.252)	-.077	-1.353	.177
Age	-.009	(.011)	-.050	-.858	.391
RPI	.164	(.062)	.155	2.648	.009 **
Male	.080	(.383)	.012	.208	.836
Native American	.263	(.230)	.065	1.143	.254
Non-Compliance Counts (per year)					
Treatment	-1.774	(.611)	-.184	-2.902	.004 **
Age	-.036	(.029)	-.080	-1.248	.213
RPI	.170	(.158)	.069	1.076	.283
Male	-1.797	(1.019)	-.111	-1.764	.079
Native American	1.410	(.593)	.151	2.378	.018 *
New Arrests (per year)					
Treatment	.004	(.059)	.004	.076	.940
Age	.001	(.003)	.028	.476	.634
RPI	.023	(.014)	.093	1.558	.120
Male	-.060	(.090)	-.039	-.674	.501
Native American	.057	(.054)	.062	1.060	.290
Positive Drug Tests (per year)					
Treatment	-.008	(.076)	-.006	-.112	.911
Age	-.002	(.003)	-.035	-.599	.550
RPI	.045	(.019)	.142	2.411	.016 *
Male	.066	(.116)	.033	.570	.569
Native American	.111	(.069)	.092	1.605	.109

** $p < .01$ * $p < .05$

Given the importance of the responsivity principle to the current program, analyses were also run separately for non-Native Americans and Native Americans. A comparison of means between the treatment group and no treatment group on each standardized behavioral outcome measure, split by race/ethnicity, can be found in Table 6.

There were no significant differences between those completing the MCBT program and those who received no treatment on any of the standardized behavioral outcome measures among non-Native Americans. Among Native Americans, however, those who completed the MCBT program had significantly fewer revocations (.27 versus .96), significantly fewer non-compliance counts (2.77 versus 5.54), and significantly fewer positive drug tests (.20 versus .37) per year of supervision.

Table 6: Behavioral Outcome Measures for Treatment Group and No Treatment Group by Race/Ethnicity and Standardizing for Length of Supervision

Behavioral Outcome Measure	Treatment Mean	(SD)	No Treatment Mean	(SD)	t	*p*
Non-Native Americans						
Revocations (per year)	.42	(0.83)	.48	(2.08)	.154	.878
Non-compliance counts (per year)	3.87	(4.47)	3.25	(4.32)	-.619	.538
New arrests (per year) [a]	.26	(0.39)	.13	(0.33)	-1.813	.076
Positive drug tests (per year)	.26	(0.40)	.15	(0.36)	-1.469	.144
Native Americans						
Revocations (per year) [a]	.27	(1.01)	.96	(2.22)	3.056	.003 **
Non-compliance counts (per year) [a]	2.77	(2.35)	5.54	(5.11)	4.763	.000 **
New arrests (per year)	.16	(0.33)	.22	(0.55)	.782	.435
Positive drug tests (per year) [a]	.20	(0.34)	.37	(0.78)	2.070	.040 *

** $p < .01$ * $p < .05$

[a] Required t-tests for unequal variances

Regression results by race/ethnicity for the standardized behavioral outcome measures are reported in Table 7 for non-Native Americans and Table 8 for Native Americans. The findings are summarized here:

- The overall model predicting revocations per year of supervision was not significant for either non-Native Americans ($F[4, 120] = 1.639$, $p = .169$) or Native Americans ($F[4, 188] = 2.235$, $p = .067$) . Although the overall model was not significant, one independent variable still significantly predicted revocations per year of supervision among non-Native Americans such that, controlling for all other variables in the model, higher RPI scores were associated with more revocations. This is the same pattern of significance found for the combined group regression reported earlier. Conversely, there were no significant predictors for Native Americans. Again, completing the MCBT program did not significantly predict revocations per year of supervision for either race/ethnicity.

- The overall model predicting non-compliance counts per years of supervision was significant for both non-Native Americans ($F[4, 82] = 2.895$, $p = .027$) and Native Americans ($F[4, 151] = 3.963$, $p = .004$). There was one significant predictor in each model, controlling for all other variables. This was RPI for non-Native Americans, such that higher RPI scores were associated with a higher number of non-compliance counts per year of supervision (paralleling what was found for revocations). Among Native Americans, however, treatment was associated with a lower number of non-compliance counts per year of supervision. Although

completing the MCBT program was a significant predictor of less non-compliance in the combined group regression reported earlier, it seems to exert its primary influence on the Native American probationers in this sample.

- The overall model predicting new arrests was not significant for either non-Native Americans (F[4, 120] = .721, *p* =.579) or Native Americans (F[4, 188] = .767, *p* =.548). Completing the MCBT program did not significantly predict new arrests per year of supervision, nor did any of the control variables, for either race/ethnicity.

- The overall model predicting positive drug tests was significant for non-Native Americans (F[4, 120] = 3.661, *p* =.008) but not Native Americans (F[4, 188] = 1.204, *p* =.310). Among Native Americans, there were no significant predictors. Among non-Native Americans, both RPI scores and treatment significantly predicted positive drug tests per year of supervision such that higher RPI scores and completing the MCBT program were associated with a higher number of positive drug tests.

Table 7: Predicting Behavioral Outcomes (Per Year of Supervision) from Treatment Group and Control Variables among Non-Native Americans

Predictor	B	(SE)	β	t	*p*
Revocations (per year)					
Treatment	.101	(.390)	.024	.259	.796
Age	-.016	(.018)	-.079	-.856	.394
RPI	.200	(.094)	.201	2.112	.037 *
Male	.023	(.554)	.004	.041	.967
Non-Compliance Counts (per year)					
Treatment	.367	(.884)	.044	.416	.679
Age	-.075	(.046)	-.170	-1.634	.106
RPI	.586	(.227)	.272	2.583	.012 *
Male	-1.868	(1.468)	-.132	-1.272	.207
New Arrests (per year)					
Treatment	.115	(.073)	.147	1.574	.118
Age	.001	(.003)	.026	.279	.781
RPI	.015	(.018)	.081	.833	.406
Male	-.047	(.104)	-.042	-.451	.653
Positive Drug Tests (per year)					
Treatment	.156	(.077)	.181	2.027	.045 *
Age	-.004	(.004)	-.104	-1.155	.250
RPI	.046	(.019)	.229	2.477	.015 *
Male	.191	(.109)	.155	1.754	.082

** $p < .01$ * $p < .05$

Table 8: Predicting Behavioral Outcomes (Per Year of Supervision) from Treatment Group and Control Variables among Native Americans

Predictor	B	(SE)	β	t	*p*	
Revocations (per year)						
Treatment	-.607	(.331)	-.135	-1.836	.068	
Age	-.005	(.014)	-.024	-.339	.735	
RPI	.141	(.083)	.128	1.692	.092	
Male	.127	(.538)	.018	.236	.814	
Non-Compliance Counts (per year)						
Treatment	-2.958	(.800)	-.293	-3.697	.000	**
Age	-.015	(.037)	-.032	-.402	.688	
RPI	-.051	(.209)	-.020	-.246	.806	
Male	-1.501	(1.345)	-.089	-1.116	.266	
New Arrests (per year)						
Treatment	-.066	(.085)	-.058	-.781	.436	
Age	.001	(.003)	.028	.379	.705	
RPI	.030	(.021)	.109	1.425	.156	
Male	-.095	(.138)	-.053	-.688	.492	
Positive Drug Tests (per year)						
Treatment	-.117	(.114)	-.076	-1.022	.308	
Age	-.001	(.005)	-.016	-.219	.827	
RPI	.048	(.029)	.128	1.681	.094	
Male	-.047	(.185)	-.019	-.255	.799	

** $p < .01$ * $p < .05$

Because some of the regression models yielded RPI scores as significant predictors of behavioral outcomes (particularly among non-Native Americans), and because of the literature's suggestion that treatment may be most efficacious with high-risk offenders **(**Landenberger & Lipsey, 2005), t-tests for the standardized outcome measures split by both race/ethnicity (Non-Native American and Native American) as well as by RPI scores (medium and high) were conducted. Results can be found in Table 9. All offenders with low RPI scores received treatment which precluded comparisons within that RPI category. It is worth noting that splitting

the sample into so many subgroups results in a dangerously small number of individuals in some analyses.

Contrary to expectations, non-Native Americans with medium RPI scores who completed the MCBT program had a higher number of positive drug tests per year of supervision compared to those who did not receive treatment (.30 versus .07). However, there were no significant differences between the treatment and no treatment groups for Native Americans with high RPI scores.

On the other hand, Native Americans with medium RPI scores who received treatment had significantly fewer non-compliance counts per year of supervision compared to those who did not receive treatment (2.83 versus 5.49). This effect was even greater for Native Americans with high RPI scores with those who completed the MCBT program performing significantly better on three of the four behavioral outcome measures – with significantly fewer revocations (.21 versus 1.24), fewer non-compliance counts (2.89 versus 5.61), and fewer positive drug tests (.15 versus .58) per year of supervision.

Table 9: Behavioral Outcome Measures for Treatment Group and No Treatment Group by Race/Ethnicity and RPI Group, Standardizing for Length of Supervision

Behavioral Outcome Measure	Treatment Mean	(SD; n)	No Treatment Mean	(SD; n)	t	*p*
Non-Native Americans						
RPI: Medium (3-6)						
Revocations (per year)	.41	(0.83; 19)	.21	(0.92; 60)	-.835	.407
Non-compliance counts (per year)	4.23	(5.31; 16)	2.65	(3.84; 36)	-1.213	.231
New arrests (per year) [a]	.31	(0.42; 19)	.11	(0.32; 60)	-1.910	.068
Positive drug tests (per year) [a]	.30	(0.37; 19)	.07	(0.21; 60)	-2.592	.017 *
RPI: High (7-9)						
Revocations (per year)	.41	(0.79; 9)	.92	(3.17; 36)	.478	.635
Non-compliance counts (per year)	3.50	(3.37; 9)	4.05	(4.84; 27)	.319	.752
New arrests (per year)	.19	(0.28; 9)	.15	(0.35; 36)	-.266	.792
Positive drug tests (per year)	.19	(0.41; 9)	.29	(0.51; 36)	.519	.607
Native Americans						
RPI: Medium (3-6)						
Revocations (per year)	.35	(1.29; 33)	.76	(2.34; 87)	.966	.336
Non-compliance counts (per year) [a]	2.83	(2.48; 31)	5.49	(5.35; 64)	3.311	.001 **
New arrests (per year)	.14	(0.25; 33)	.15	(0.36; 87)	.041	.968
Positive drug tests (per year)	.27	(0.39; 33)	.22	(0.56; 87)	-.436	.663
RPI: High (7-9)						
Revocations (per year) [a]	.21	(0.39; 17)	1.25	(2.01; 60)	3.793	.000 **
Non-compliance counts (per year) [a]	2.89	(2.13; 16)	5.61	(4.82; 49)	3.129	.003 **
New arrests (per year)	.18	(0.43; 17)	.33	(0.74; 60)	.788	.433
Positive drug tests (per year) [a]	.15	(0.24; 17)	.58	(0.98; 60)	3.029	.003 **

** $p < .01$ * $p < .05$

[a] Required t-tests for unequal variances

Attitudinal Outcome Measures

Repeated measures t-tests were used to look for mean differences in pre-test and post-test scores. Results for all 67 treatment group offenders with pre- and post-test data are reported in Table 10. Significant reductions in criminal thinking were found for three of the six TCU-CTS subscales: Entitlement, Justification, and Personal Irresponsibility. Although changes on the other three scales (Power Orientation, Cold Heartedness, and Criminal Rationalization) did not reach statistical significance, they followed the same general trend – with average post-test scores lower than average pre-test scores.

Table 10: Attitudinal Outcome Measures for 67 Treatment Group Offenders with Pre- and Post-Test Data

TCU-CTS Subscale	Pre-Test Mean (SD)	Post-Test Mean (SD)	t	*p*
Entitlement	17.61 (4.62)	15.48 (4.36)	2.681	.009 **
Justification	18.48 (5.43)	15.92 (5.07)	2.782	.007 **
Power Orientation	22.39 (6.94)	20.47 (5.89)	1.581	.119
Cold Heartedness	22.66 (5.17)	21.20 (5.40)	1.599	.114
Criminal Rationalization	23.73 (5.85)	21.97 (6.25)	1.760	.083
Personal Irresponsibility	19.35 (5.06)	17.09 (5.28)	2.545	.013 *

** $p < .01$ * $p < .05$

Analyses were run separately for non-Native American and Native American probationers to see if the effects of treatment varied by race/ethnicity. Those repeated measures t-test results are presented in Table 11 but should be interpreted with caution given the smaller number of individuals in each subgroup (i.e., with 27 non-Native Americans and 40 Native Americans with data from both tests). Data patterns are slightly different than when the whole

sample is analyzed together, with less pronounced reductions in criminal thinking reported by Native American probationers. More specifically:

- For non-Native Americans, changes on all six subscales were in the expected direction – decreasing from pre-test to post-test. There were significant mean differences on the Justification and Personal Irresponsibility scales, as before. The reduction in expressions of Entitlement was no longer significant (although there was a trend in that direction, p <.10). On the other hand, the mean difference for Cold Heartedness became significant.

- No significant changes were found for Native Americans on the TCU-CTS although scores on all six subscales tended to decrease as expected from pre-test to post-test (and there were trends towards significance for both Entitlement and Criminal Rationalization, $p < .10$).

Table 11: Attitudinal Outcome Measures for 27 Non-Native American and 40 Native American Treatment Group Offenders with Pre- and Post-Test Data

TCU-CTS Subscale	Pre-Test Mean (SD)	Post-Test Mean (SD)	t	*p*
	Non-Native Americans (n= 27)			
Entitlement	17.62 (4.41)	15.13 (3.87)	1.916	.066
Justification	18.83 (5.49)	14.69 (4.14)	2.822	.009 **
Power Orientation	21.96 (6.82)	19.63 (4.88)	1.305	.203
Cold Heartedness	23.70 (5.37)	19.43 (4.19)	3.628	.001 **
Criminal Rationalization	23.46 (5.85)	22.65 (5.77)	.501	.621
Personal Irresponsibility	19.07 (4.99)	16.23 (3.72)	2.457	.021 *
	Native Americans (n=40)			
Entitlement	17.61 (4.81)	15.71 (4.70)	1.863	.070
Justification	18.25 (5.44)	16.75 (5.51)	1.283	.207
Power Orientation	22.68 (7.09)	21.04 (6.48)	.993	.327
Cold Heartedness	21.95 (4.97)	22.40 (5.82)	-.369	.714
Criminal Rationalization	23.91 (5.92)	21.50 (6.58)	1.871	.069
Personal Irresponsibility	19.54 (5.16)	17.67 (6.10)	1.468	.150

** $p < .01$ * $p < .05$

Discussion

The analyses conducted herein provide some reason to believe that the manualized cognitive behavioral therapy program used by the North Dakota District may hold promise for reducing criminal thought patterns among offenders as well as improving their consequent behavior.

First, some cognitive and attitudinal change was identified as measured by the Texas Christian University Criminal Thinking Scales. Specifically, those who completed treatment demonstrated significant reductions in criminal thinking on three of the six scales used to assess attitudinal change (i.e., Entitlement, Justification, and Personal Irresponsibility). Moreover,

scores on the other three TCU-CTS scales also declined and, although not statistically significant, were all in a direction that speaks favorably to the efficacy of the MCBT program. To the extent that the theory underlying cognitive behavioral therapies is correct, these types of changes should lead to reduced criminal behavior.

However, when analyses were run separately for Native American and non-Native American offenders, statistically significant attitudinal change was only found among the latter group. But, with the exception of the Cold Heartedness scale, scores nonetheless declined for Native American offenders as well as their non-Native American counterparts. While this subgroup difference might warrant future attention, there are reasons to be cautious with regard to the interpretation of this finding. Specifically, the small number of offenders in each subgroup (i.e., 27 non-Native Americans and 40 Native Americans) makes generalizing from this sample risky.

A larger issue with regard to the measurement of change in criminal thinking within this sample is the lack of a comparison group. The TCU-CTS was only administered to offenders who participated in the MCBT program; participants completed the instrument before and after treatment. Unfortunately, any reduction in criminal thinking observed using this particular research design can not be confidently attributed to a "real" change brought about by the MCBT intervention. For example, it may reflect nothing more than the offenders' familiarity with the instrument itself (a set of phenomena that are variously known as priming or learning effects). Among other possible influences on the offenders' post-test scores, the most likely include the general influence that the "regular" probation supervision experience had on offenders' thinking as well as the simple passage of time with any attendant attitudinal change that comes with time (i.e., maturation).

Without going into a lengthy discussion of research design, future program assessment would benefit from the inclusion of a comparison group which is very carefully matched with the treatment group on all key variables. Moreover, the pre-test should be eliminated with this type of research design in order to eliminate any possible priming or learning effects. This approach would work best if the sample size is reasonably small. However, if a large enough sample can be secured, a more ideal solution would involve the use of what is known as a Solomon Four-Group design.

The results from our behavioral analyses also provide some grounds for optimism regarding the effectiveness of the manualized cognitive behavioral program. Once we accounted for length of supervision, there were significant differences between the offenders who received treatment and those who did not for two of the four behavioral outcome measures; specifically, t-tests showed that there were fewer revocations and non-compliance incidents among the offenders who completed the manualized cognitive behavioral treatment program. However, treatment was only found to predict lower non-compliance counts when we controlled for other variables that might affect outcomes. This suggests that the fewer revocations found among the treatment group were probably due to characteristics of the treatment group rather than the treatment itself. In particular, the treatment group had systematically lower RPI scores than the no treatment group. (This again highlights the need for matched treatment and comparison groups.) The conclusion that revocations among offenders are more likely a function of their risk levels is encouraged by the significant relationship that was also found between RPI and positive drug tests. In general what we might be seeing here is that more troublesome individuals are more likely to get into trouble.

When we look for sub-sample differences by ethnicity we find that the treatment program

appears to have greater effectiveness among Native Americans. For example, Native Americans who underwent treatment generally performed better on various behavioral outcome measures. Even when important controls were included, Native Americans who completed treatment were still found to be more compliant than Native Americans who did not receive treatment. Conversely, treatment was found to be unrelated to any positive behavioral outcomes among non-Native Americans. In fact, non-Native Americans who completed treatment actually had a significantly higher number of positive drug tests. We will return to this issue shortly.

As discussed earlier in this report, very little research exists regarding cognitive behavioral therapies and Native American populations. However, some literature suggests the possible value of interventions that incorporate a narrative structure **(**Hodge et al., 2002; Renfrey, 1992), and which avoid a group setting **(**Renfrey, 1992; Trimble et al., 1984; Waldram & Wong, 1995). In conjunction with the need articulated through the "responsivity" principle of EBP, and the large number of Native American offenders on the North Dakota District's caseload, the importance of identifying treatment approaches that mesh with this population is vital. In this respect the current MCBT program and its evaluation are welcome developments. While one would like the MCBT program to work well for offenders of all ethnic and cultural backgrounds, that its most noticeable effect is with Native American offenders nonetheless gives one hope regarding future interventions with this specific population.

A number of the aforementioned findings prompted further investigation. Simplifying somewhat, we conducted a variety of analyses in search of any interaction effects that might be present. The most provocative findings prompting this search were the following: 1) the repeated influence of RPI on a number of outcomes; 2) the importance of ethnicity to behavioral outcomes and the apparently complex relationship between ethnicity and risk; and 3) the

counterintuitive finding that treatment was related to more positive drug tests among non-Native Americans. In sum, we suspected that a relationship between RPI and treatment existed that might differ by ethnicity (e.g., perhaps high risk individuals responded well to treatment if they were of one ethnicity but not if they were of another ethnicity).

With regard to RPI, the literature has consistently shown that cognitive behavioral therapies seem to do better with high risk offenders **(**Landenberger & Lipsey, 2005). The same was found in the current evaluation (see Table 9). The results were most pronounced among Native Americans with high risk scores – those who received treatment not only had significantly fewer non-compliance incidents but also fewer revocations and positive drug tests.

While we could not examine low risk offenders, the picture for medium risk offenders was in stark contrast with that of high risk offenders. Only non-compliance was significantly reduced among medium risk offenders and even here this result was only obtained for Native Americans. In fact, non-Native Americans who possessed medium risk scores and who completed treatment had more than four times as many positive drug tests as their non-treated peers. This same group performed poorly on all behavioral outcome measures, even if not at statistically significant levels.

These anomalous findings for non-Native American offenders of medium risk might be explained in a number of ways. However, two of the most likely are these. First, it is possible that some offenders within this category were behaving badly while under supervision and probation officers armed with the new MCBT tools at their disposal placed them in the program in an effort to modify their behavior. In this case, their high incidence of positive drug tests and related problem behaviors would have been accumulated prior to the program intervention. This issue will be addressed in the suggestions below. A second explanation involves a relatively

simple statistical artifact and concerns the small number of offenders that we are working with here.

Elaborating more generally on this last point, one must be highly cautious in drawing any excessively strong conclusions from the current evaluation. As mentioned, when a sample of this size is partitioned so many times (e.g., medium risk non-Native Americans who received treatment), the numbers that one is working with, and attempting to draw inferences from, become dangerously small. That is, they are extremely sensitive to the influence each case in the subsample – this is extremely problematic if any outliers are present. For example, the medium risk non-Native Americans who appeared to perform more poorly under treatment numbered less than 20 people, meaning only a handful of these offenders behaving badly could produce statistical significance.

In addition to this sample size caveat, there are a number of other reasons to be cautious in one's interpretation of the current results regarding behavioral outcomes. These caveats cut in two directions. First, one should not make too much of the positive results. Second, one should not too readily accept indications of program ineffectiveness. That is, the program may have been more successful than this evaluation indicates. Unfortunately the current evaluation suffered from a number of methodological shortcomings with respect to behavioral outcomes. Most important among these are the following:

1) As with the analysis of MCBT's effect on criminal thinking, any assessment of the program's effectiveness with regard to behavioral change would benefit from a matched sample design. As previously mentioned, the current evaluation suffers from systematic differences between the treatment and no treatment groups, making it difficult to ferret out the effects of the MCBT program.

2) There may have been a confounding factor at work in this case. Specifically, simultaneous with the MCBT program, the North Dakota District was instituting, and had undergone training in, Motivational Interviewing. As a result, different supervision practices may have influenced offender behavior as well as probation officer reporting and/or recording practices. Changes in offender behavior and/or changes in officer behavior may have affected the outcome measures that were used in this evaluation.

3) There were problems with the outcome measures themselves. In particular, behavioral outcome data were aggregated over the entire length of supervision – they were not broken down into pre- and post-intervention. So, for example, it is possible that many of the positive drug tests for non-Native American, medium risk offenders that we discussed above were accumulated prior to the MCBT intervention and few occurred after. If that was the case then it is likely that treatment was effective. Unfortunately, we would not know it because this outcome measure, like all behavioral outcome measures used in this evaluation, is an aggregate covering the entire length of supervision. To really get at the effect of the MCBT intervention, the measures used need to isolate outcomes that occur before and after the treatment program. This temporally discontinuous design would allow one to evaluate the influence that the program has on offenders.

4) The probationers in this study only had data collected on them during the period of supervision. Perhaps those who underwent MCBT performed better over the long haul. That is, it might be that offenders who underwent MCBT had lower recidivism rates, or offended in less serious ways than they had historically, after they were released from supervision. These issues are independent of the outcomes used to measure offender behavior in this evaluation.

Unfortunately, while we had hoped to examine this possibility, the available data did not allow for it.

Summary and Recommendations

This evaluation of the MCBT program initiated by the North Dakota District of USPPS provides reasons for optimism, paradoxes to unravel, and directions for future growth in the effort to link probation practices and measurable outcomes.

First, there are several findings that provide reason for optimism. Statistically significant, and in some cases substantively significant, effects were found to be associated with the MCBT program in both the cognitive and behavioral realms. Cognitively, statistically significant improvements were made in criminal thinking on half of the Texas Christian University Criminal Thinking Scales. Behaviorally, statistically significant improvements were made by the treatment group on half of the outcome measures employed. Moreover, these behavioral effects were particularly pronounced for high risk Native American offenders.

This last result, however, introduces a paradox. Cognitive behavioral theory suggests that thoughts and behaviors change together. For reasons that are unclear, while behavioral change was particularly marked for Native Americans who received treatment, the same cannot be said with regard to cognitive effects as measured by the TCU-CTS. Cognitive effects were exclusively found among non-Native Americans who showed no statistically significant improvement in behavior. In short, Native Americans changed their behavior while non-Native Americans changed their minds.

These paradoxical findings, and the need to be cautious in our interpretation of them, bring us to our recommendations for future program implementation and evaluation. Above all

else, a comprehensive plan that integrates program implementation and evaluation is needed. While a great deal of thought, consideration and effort has gone into the current program, its implementation and evaluation could be improved in the following ways:

1) Absent a sufficiently large sample to allow for random assignment of offenders into treatment and control groups, the creation of a matched comparison group model would be a marked improvement over the convenience sample used in the current evaluation.

2) A larger sample would be desirable, particularly when analyses call for the creation of multiple subgroups. Of course, given the size of the North Dakota District's caseload producing a larger sample would entail that the program's implementation and evaluation occur over a longer period of time.

3) Creation of a database specifically for evaluation purposes, as opposed to data that are used for routine record keeping purposes, would be very helpful. The establishment of a dedicated database would ensure that there was a central repository possessing all of the variables needed for evaluation purposes and that the data would be complete and accurate.

4) As we discussed in the conclusions, outcome measures that isolate pre- and post-intervention behaviors are needed. The aggregated outcome data used in the current analysis prevent a true assessment of the program's effect on offender behavior.

5) Finally, follow-up data from the offenders after termination of their supervision would be tremendously valuable. Ultimately, it is hoped that programs like MCBT not only improve the behavior and criminal thinking of offenders while under supervision, but also over their life course. Only a data set covering their post supervision period would allow one to assess the program's longer term effects. This data collection task might involve a simple criminal records check on offenders in the evaluation data base.

Reference List

Alexander, M., & VanBenschoten, S. (2008). The evolution of supervision in the federal probation system. *Federal Probation, 72*(2), 15-21.

American Community Corrections Institute. (n.d.). Evidence based research for substance abuse offenders using the American Community Corrections Institute's Adult Cognitive Lifeskills Substance Abuse Home Study (ACLSA/HS) workbook. Retrieved from http://www.accilifeskills.com/evidence-based/evidence-based-research-acci.pdf

Archambeault, W. G. (2006). Imprisonment and American Indian medicine ways: A comparative analysis of conflicting cultural beliefs, values, and practices. In J. I. Ross and L. Gould (Eds.), *Native Americans and the criminal justice system* (pp. 143-160). Boulder, CO: Paradigm Publishers.

Crime and Justice Institute. (2004). Implementing evidence-based practice in community corrections: The principles of effective interventions. Washington, D.C.: National Institute of Corrections.

Gone, J. P., & Alcantara, C. (2007). Identifying effective mental health interventions for American Indians and Alaska Natives: A review of the literature. *Cultural Diversity and Ethnic Minority Psychology, 13*(4), 356-363.

Hansen, C. (2008). Cognitive-behavioral interventions: Where they come from and what they do. *Federal Probation, 72*(2), 43-49.

Hodge, F. S., Pasqua, A., Marquez, C. A., & Geishirt-Cantrell, B. (2002). Utilizing traditional storytelling to promote wellness in American Indian communities. *Journal of Transnational Nursing,13*(1), 6-11.

Hughes, J. M. (2008). Results-based management in federal probation and pretrial services. *Federal Probation, 72*(2), 4-14.

Knight, K., Garner, B. R., Simpson, D. D., Morey, J. T., & Flynn, P. M. (2006). An assessment for criminal thinking. *Crime and Delinquency, 52*(1), 159-177.

Landenberger, N. A., & Lipsey, M. W. (2005). The positive effects of cognitive-behavioral programs for offenders: A meta-analysis of factors associated with effective treatment. *Journal of Experimental Criminology, 1*(4), 451-476.

McDonald, J. D, & Gonzalez, J. (2006). Cognitive-behavioral therapy with American Indians. In P. A. Hays and G. Y. Iwamasa (Eds.), *Culturally responsive cognitive-behavioral therapy* (pp. 23-45). Washington, DC: American Psychological Association.

Miyashiro, C. M. (2008). Research 2 results (R2R) – The pretrial services experience. *Federal Probation, 72*(2), 80-86.

Pearson, F. S., Lipton, D. S., Cleland, C. M., & Yee, D. S. (2002). The effects of behavioral/cognitive-behavioral programs on recidivism. *Crime & Delinquency, 48*(3), 476-496.

Renfrey, G. S. (1992). Cognitive-behavioral therapy and the Native American client. *Behavior Therapy, 23*(3), 321-340.

Trimble, J. E., Manson, S. M., Dinges, N. G., & Medicine, B. (1984). American Indian concepts of mental health: Reflections and directions. In P. B. Pedersen, N. Sartorius, & A. J. Marsella (Eds.), *Mental health services: The cross-cultural context* (pp. 199-220). Beverly Hills, CA: Sage Publications.

Waldram, J. B., & Wong, S. (1995). Group therapy of Aboriginal offenders in a Canadian forensic psychiatric facility. *American Indian and Alaska Native Mental Health Research: The Journal of the National Center, 6*(2), 34-56.

Wilson, D. B., Bouffard, L. A., & MacKenzie, D. L. (2005). A quantitative review of structured, group-oriented, cognitive-behavioral programs for offenders. *Criminal Justice and Behavior, 32*(2), 172-204.

Appendix

Texas Christian University

Criminal Thinking Scales