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AN OUTCOME EVALUATION OF THE TEXAS YOUTH COMMISSION'S CHEMICAL DEPENDENCY TREATMENT PROGRAM*

Final Report

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AN OUTCOME EVALUATION OF THE TEXAS YOUTH COMMISSION'S CHEMICAL DEPENDENCY TREATMENT PROGRAM

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES (in order of appearance)

AN OUTCOME EVALUATION OF THE TEXAS YOUTH COMMISSION'S CHEMICAL DEPENDENCY TREATMENT PROGRAM

ABSTRACT

Outcome evaluations are critical to enhancing the efficiency and effectiveness of chemical dependency treatment programs. To date, however, assessments have tended to suffer from two primary limitations: a too narrow a view of effectiveness, and relative inattention to both risk and dynamic/criminogenic need factors, as well as program performance and treatment delivery during and after incarceration. The present study addresses these limitations by focusing on a broader range of outcomes (rearrest or placement on a higher custody level, by offense type) and a broad range of demographic and risk and dynamic/criminogenic need factors, treatment amenability, program progress and performance, and aftercare treatment. Data come from a study of youthful offenders with chemical dependency treatment needs who were incarcerated at the Texas Youth Commission (TYC). Two groups are compared: a treatment group that received substance abuse counseling and services through a Chemical Dependency Treatment Program (CDTP) and a control group with chemical dependency needs who did not receive treatment. The findings suggest that in aggregate treatment was ineffective but that treatment was somewhat more effective for youths located in certain sites. Program, policy, and research implications of the analyses are discussed.

AN OUTCOME EVALUATION OF THE TEXAS YOUTH COMMISSION'S CHEMICAL DEPENDENCY TREATMENT PROGRAM

INTRODUCTION

The cost and scarcity of chemical dependency treatment resources requires juvenile and criminal justice agencies to aggressively and comprehensively evaluate the efficiency and effectiveness of substance abuse treatment programs. Indeed, such evaluations are particularly important in light of the well-established links between substance use/abuse and criminal behavior. Taking these observations as a point of departure, the present study provides a systematic evaluation of the longer-term impacts of the substance use/abuse treatment program employed by the Texas Youth Commission (TYC), the state corrections agency responsible for serving violent and serious delinquent youth committed to the custody of the state. In so doing, this evaluation relies on a broader conceptualization of treatment impacts (rearrest or placement on a higher custody level, by offense type) and incorporates demographic, risk and dynamic/criminogenic need factors, treatment amenability, program progress and performance, and post-release aftercare as predictors of these outcomes.

TYC operates secure institutions, community-based residential half-way house programs, secure community-based residential and non-residential treatment services, and supervises parole releasees. Underlying all of these programs and services is the Resocialization Program, which is the primary programmatic strategy of correctional treatment at TYC. In addition to this focus, however, is a focus on the specialized psychological and emotional needs of youths. Chemical dependency in particular constitutes a core area of concern to TYC, which is reflected in the substantial investment it has made to treatment. Specifically, TYC administers a Chemical Dependency Treatment Program (CDTP), operative at five sites in 1998 and at three more sites in 1999, which focuses on high-need youths and emphasizes the role of drugs and alcohol in the lives of the youths and of others, including family members and society at large.

By systematically and statistically examining the relationship between a wide range of risk, need, and amenability factors, program performance and delivery, and post-release aftercare on the one hand, and several key outcomes on the other, this evaluation will provide several direct benefits. First, it will provide information on whether and to what extent the youths placed in treatment for chemical dependency services have reduced levels of drug relapse upon release. Second, it will assess, using event history models, the predictive utility of a wide range of demographic, risk and dynamic/criminogenic need factors, treatment amenability, program progress and performance, and post-release aftercare on various outcomes. Third, it will identify specific offender and treatment characteristics that are related to successful outcomes -- that is, it will identify offenders who are more and less likely to recidivate along various dimensions (rearrest or placement on a higher custody level, by offense type). These benefits combined provide a systematic, empirical, and statistical basis for enhancing the effective use of scarce treatment resources by enabling TYC to determine the extent to which the CDTP results in positive impacts on drug use/abuse, parole performance and revocations, rearrests, and recommitments for treatment group youths as a whole and for specific sub-groups of these youths.

The results of this research will provide officials at the Texas Youth Commission and their counterparts in other states, as well as policymakers, with statistically sophisticated and reliable information about the characteristics of those more likely to "succeed," as well as those more likely to "fail" and to "fail" more quickly. This information will assist treatment officials with leveraging expensive treatment resources by matching the most appropriate participants to treatment. It also will provide parole officials with important information regarding the characteristics of those more likely to "fail," and thus assist with in the allocation of supervision resources.

It should be emphasized that this outcome evaluation is a follow-up to a process evaluation conducted in 1999. Both the process and outcome evaluations have been funded by the National Institute of Justice (NIJ) and have involved ongoing collaborative efforts between the Center for Criminology and Criminal Justice Research (CCCJR) and TYC.

This report is organized as follows. First, a brief review of substance abuse treatment in the juvenile justice system is provided. Second, this review is followed by discussion of the importance of outcome evaluations in assessing programs. Third, the TYC treatment program is discussed in more detail. Fourth, the current study is described. Fifth, the central research questions addressed in this study are outlined. Sixth, the data and methods employed in this report are detailed. Seventh, key findings are presented and discussed. Finally, the central conclusions and recommendations from this study are presented.

CORRECTIONAL SUBSTANCE ABUSE TREATMENT

Substance abuse has emerged as one of the most prominent and critical issues the juvenile justice system has had to address in recent years (Crowe 1998). Researchers have, for example, demonstrated strong, if frequently complex, links between substance abuse and delinquency (Andrews et al. 1990; Tonry and Wilson 1990; Fabiano et al. 1991; Hawkins et al. 1992; Andrews and Bonta 1994; Bonta 1996; Clements 1996; Gendreau 1996; Harland 1996; Inciardi et al. 1997; Lauen 1997; Farabee et al. 1999; McBride et al. 1999). Research also indicates that substance abuse can impair youth development along many dimensions, including not only delinquent activity but also academic performance, physical and mental health, peer involvement, and family (dys)function (Crowe 1998:1-8).

Given recent increases in illicit drug use by juveniles (Snyder and Sickmund 1999:74-76), as well as the juvenile justice system's historical mandate to rehabilitate juveniles (Feld 1998, 1999), these wide-ranging impacts of drug/alcohol abuse reinforce the importance of taking a broad view of program effectiveness. Indeed, substance abuse programs arguably should be evaluated on the basis of their ability to impact outcomes in each of the aforementioned domains and not simply delinquency. This view in turn suggests the importance that should be given to identifying which youths successfully complete programs and why. The why question can be initially addressed in the following section that summarizes what research indicates is effective in correctional substance abuse treatment.

What Works in Correctional Substance Abuse Treatment

We now turn to a discussion of what works and what is promising in substance abuse treatment in correctional settings. While there are thousands of specific substance abuse assessment, intervention and treatment programs throughout the United States and the world, we focus on three types of treatment strategies -- in-prison therapeutic communities, drug diversion courts, and community courts. We have selected these three for this discussion because they are, based on the scientific research literature, the most effective or most promising strategies available.

In-Prison Therapeutic Community

A considerable amount of scientifically rigorous research has documented the positive, short term impact of the in-prison therapeutic community (ITC) model of substance abuse treatment, and the critical role of community-based aftercare, in significantly reducing post-release recidivism (e.g., Pelissier, et al, 1998; Inciardi, Martin, Butzin, Hooper and Harrison, 1997; Wexler, DeLeon, Kressel and Peters, 1999; Knight, Simpson, Chatham and Comacho, 1997; National Center on Addiction and Substance Abuse, 1998, Sherman, et al, 1997). While the effectiveness of the therapeutic community model and the importance of aftercare have been established with regard to short term outcomes, the sustainability of the effects have generally been a matter of speculation.

The longer term effects of ITC's and community-based aftercare have been recently addressed by the simultaneous publication of the results of thirty-six month follow-up studies of ITC treatment programs in Delaware, Texas and California. These studies provide the most up-to-date, scientifically rigorous understanding of the value and impact of the ITC model and the value and impact of post-prison aftercare. The results of this research are briefly summarized below.

The Delaware evaluation (Martin, Butzin, Saum and Inciardi, 1999) is based on a continuum of treatment model that includes participation in an in-prison therapeutic community treatment program (TC), followed by treatment provided during post-prison work release, followed by community-based aftercare treatment. The research results provide substantial support of the continuum of treatment model. Offenders most likely to remain arrest free and drug free through thirty-six months are those that participated in a TC prison program, a TC work release program, and community-based aftercare. Martin et al (1999: 316-317) summarize their findings:

> When the [treatment program] was established in the Delaware correctional system in 1988, the authors argued that unless a continuum of treatment from prison to work release to aftercare is established, the positive effects of the institutional phase of treatment could not be maximized. This prediction is amply demonstrated [in the research reported herein]... Prison treatment alone does not appear to have a lasting impact. Significant differences after 1 year [between in-prison TC group versus control group] however, are readily apparent as care extends into the community during the work release transition... Finally... the most potent effects of treatment become visible when followed by community aftercare.

The California research (Wexler, Melnick, Lowe and Peters, 1999) clearly supports the long term (three year) impact on recidivism of participation in ITC drug treatment in combination with community-based aftercare. In fact, the California results indicate that the sustainability of the ITC effect is dependent upon completion of the aftercare phase of treatment. Wexler et al (1999: 332) summarize the results of their evaluation.

> There is a strong association between completing both the in-prison and community aftercare treatment programs and the return to custody outcome at 3 years postparole. Approximately three-fourths of the control, program dropouts and prison treatment completers were returned to custody, whereas only 27% of the community program [aftercare] completers were returned. Comparison across the 12, 24 and 36 month follow-up periods demonstrates consistent positive outcomes associated with completion of the aftercare program... Whereas the 12 and 24 month outcomes showed a positive linear relationship between the length of treatment and reincarceration, the current 36 month findings show only a strong effect of aftercare. Thus, moderate improvements shown at 12 and 24 months by the inmates who completed the prison TC but not the aftercare phase disappeared at 36 months.

The Texas results (Knight, Simpson and Hiller, 1999) provide additional support for the effectiveness of in-prison TC treatment in conjunction with community-based aftercare. Offenders that completed aftercare had dramatically lower three-year reincarceration rates (25%) compared to the untreated control group (42%) and aftercare dropouts (64%). Moreover, the strongest treatment effects were among those with high severity drug problems who completed aftercare.

Wexler et al (1999:334) discuss the policy implications of the Texas, California and Delaware research, which are also supported by broader meta-analyses of drug treatment in a variety of prison settings (Pearson and Lipton, 1999). In short, the effectiveness of the TC/aftercare model provides a proactive, therapeutic opportunity that should be expanded and maximized

> Together, these evaluation studies document the long term effects of modified prison TC that is continuous with TC aftercare on criminal involvement. These collective findings obtained with different inmate populations, in different prison TC and aftercare programs, and in different geographic areas are strong messages for policy makers concerning the need for expansion of aftercare following prison treatment.

TYC'S CHEMICAL DEPENDENCY TREATMENT PROGRAM

The Texas Youth Commission is the corrections agency responsible for incarcerating and addressing the needs of serious and violent delinquent youths ("students") committed to the custody of the state of Texas. A primary component of TYC's correctional effort is offender rehabilitation. TYC's rehabilitation goal, as described in the TYC 1997-2001 Strategic Plan, is to reduce the delinquent and criminal behavior of youth committed to TYC. The Plan incorporates three strategies for accomplishing the rehabilitation goals of the agency: correctional treatment, specialized correctional treatment, and aftercare services. Moreover, it is the key strategy of correctional treatment and is based on TYC's four "cornerstones": correctional therapy, education, discipline training, and work. A central premise of this approach is that effective resocialization ultimately is linked to developing both a desire for change and an understanding of how to change.

Many youths at TYC require specialized treatment that addresses underlying psychological, emotional, personality, or chemical dependency needs (Criminal Justice Policy Council 1999). Although TYC's specialized treatment efforts focus on a variety of psychological and emotional needs, of primary concern is chemical dependency. An ever-growing research literature, which has established the link, albeit complex, between chemical dependency and offending (Tonry and Wilson 1990), confirms the need for such an emphasis. Moreover, research has consistently documented the fact that chemical dependency can constitute a substantial barrier to successful rehabilitation (Gendreau 1996; Lauen 1997). TYC thus has developed a Chemical Dependency Treatment Program (CDTP) grounded in a cognitive, social learning-based approach that incorporates the treatment modalities researchers have identified as effective for the treatment of substance abuse/chemical dependency (e.g., Andrews et al. 1990; Fabiano et al. 1991; Hawkins et al. 1992; Andrews and Bonta 1994; Bonta 1996; Gendreau 1996; Harland 1996; Inciardi 1997; Lauen 1997; Farabee et al. 1999). The TYC-CDTP, which is operated through five sites (Giddings State School, Evins Juvenile Facility, Jefferson County, Gainesville, and McFadden Ranch; several others were added in 1999), currently is funded in part through the U.S. Department of Justice Residential Substance Abuse Treatment (RSAT) program. The capacity of the TYC-CDTP as of May 2000 was 313.

The TYC-CDTP utilizes standard risk and needs assessments (Simourd and Andrews 1994; Gendreau 1996; Lauen 1997). A primary emphasis of the CDTP centers on the Resocialization Program, with a particular focus on the role and impact of alcohol and drugs in the lives of participants. Resocialization Program components include:
- the relationship between low self-esteem and criminal offending
- learning the special needs of other group members via Life Stories
- reviewing their offending behavior (Offense Cycle) with particular emphasis on CD issues
- victim empathy
- family and other significant group relations
- development of cognitive skills (e.g., problem solving)
- developing appropriate modes of expression
- introduction to the 12-Step concept with particular emphasis on steps 1, 2 and 3
- developing a Relapse Prevention Plan
- developing a Criminal Recidivism Plan.

6

Program characteristics include:
- caseworker-to-student ratio of 1:8 to 1:10
- individualized focus on each student's history and needs
- optimal exposure to treatment (eight months)
- a focus on the relationship between CD and criminal behavior
- group counseling and peer accountability
- educational curriculum that is experiential and geared to learning abilities of students
- emphasis on relapse prevention and community re-integration
- focus on development of cognitive skills

All youths who enter TYC are initially screened through the Marlin Orientation and Assessment Unit (OAU). The average length of stay during screening is 45 to 60 days. Based on the results of a battery of assessments and tests, a sub-population of youths is determined to have substance use/abuse needs. The chemical dependency (CD) screening is conducted by a licensed CD Counselor. A component of this screening is the application of the Substance Abuse Subtle Screening Inventory (SASSI).

A psychologist and/or a psychiatrist reviews the screening and incorporates the results into a psychological evaluation that in turn is used to determine entry into the chemical dependency treatment program. Additional criteria include the use of a risk index comprised of a juvenile's previous number of felony referrals and adjudications, and an amenability index comprised of the number of prior placements, evidence of need-related behavior, readiness to change, and general behavioral and cognitive functioning. High risk and high amenability youths are given priority for specialized treatment.

Actual placement decisions are made by the Central Placement Unit (CPU) and are based on several factors, including: the assessments and treatment recommendations made by OAU; available CD treatment bed space; the youth's appropriateness for a non-secure or secure facility; distance from a youth's hometown and the nearest treatment facility; and site director preferences, especially regarding placement of youths who reside near a facility. Additional factors include the remaining length of stay for each youth and phase of resocialization achieved.

Youths who receive CD treatment generally average approximately 5.2 months in TYC before admission to the CDTP, and average 3.8 months in TYC after release from the CDTP (Criminal Justice Policy Council 1999:16). Upon admission to the CDTP, a diagnostic summary is used to develop an individual treatment plan. The focus of the individual treatment plan is the student's specialized needs, including consideration of family, social, medical, psychological, legal, educational/school, vocational, sexual, spiritual, and cultural factors. A program orientation is conducted that details expectations and standards for treatment progress. The treatment plan is initiated and revised throughout treatment. Students adhere to a mandated sixteen-hour per day schedule that includes five hours of CD education per week, five hours of group therapy per week, and one hour of individual counseling per week.

Completion of treatment is based upon successfully accomplishing all treatment objectives. Failure to complete CD treatment is most commonly a result of significant emotional and/or behavioral problems. Upon completion, an exit interview is conducted and the student is required to demonstrate the knowledge and skills necessary to remain substance-free. Nearly all CD students receive aftercare services, which may include a halfway house, independent living, and contract aftercare services. The current outcome evaluation of the TYC-CDTP focuses on youths who received treatment at any of TYC's five treatment sites during 1998-99 (Giddings State School, Evins Juvenile Facility, Jefferson, Gainesville, and McFadden Ranch) and then were released onto parole or into a non-secure residential setting.

THE CURRENT STUDY

As is the case with most if not all criminal justice and juvenile justice rehabilitative/treatment programs, treatment resources are scarce. TYC estimates (based on assessment data from the TYC intake and assessment unit in Marlin, Texas) that the current chemical dependency treatment resources can serve approximately 40% of those committed youth in need of chemical dependency treatment. In 1998, of the 1,469 released youths who exhibited a need for chemical dependency treatment, only 564 (38%) received treatment (Criminal Justice Policy Council 1999:12). The proposed expansion of TYC chemical dependency resources (the RSAT-CDTP expansion) has enabled TYC to provide services to approximately 50% of those <u>currently</u> in need of substance abuse and chemical dependency treatment.

The scarcity and cost of substance abuse/chemical dependency treatment resources requires criminal justice agencies to address aggressively the question of program effectiveness. Whether money is spent on in-prison therapeutic programs, diversion programs (e.g., drug courts), or treatment while under community supervision, the overriding questions are: What works (which programs or program components)? Under what conditions does it work? For whom does it work? And how can we construct or configure the most efficient and cost-effective treatment programs? It is these questions that this research will begin to address with regard to current and enhanced substance abuse/chemical dependency treatment at TYC.

The primary focus of the current research is in assessing the relationship between treatment and impacts on rearrest and placement on a higher custody level, by offense type. The design incorporates a variety of assessment measures (demographic factors, criminal history, risk and dynamic/criminogenic need factors, substance abuse/chemical dependency assessments, psychological functioning, amenability to change/treatment, etc.). A subset of these measures are traditional static indicators of risk, used for risk assessment and classification (variations based on the Salient Factor Score and the Wisconsin risk and needs assessments). Others identify dynamic/criminogenic specialized needs (Hester and Miller 1995; Lauen 1997). Still others are used to assess treatment amenability, motivation, and readiness. Finally, we also examine treatment program progress and performance (obtained from the earlier process evaluation) and aftercare service provision as factors potentially bearing on the indicated longer-term outcomes. These different sets of indicators are utilized to identify characteristics of juveniles who benefit the most from treatment.

9

RESEARCH QUESTIONS

The broad-based research goal of this study is to provide a systematic and empirical outcome evaluation of the impact of the TYC Chemical Dependency Treatment Program, including determination of the extent to which certain risk, need, amenability, program performance and delivery, and aftercare factors affect treatment impact. This goal and the attendant research design (discussed below) afford a unique opportunity to systematically and statistically address the following questions.

- First, compared with those who have high chemical dependency needs but do not receive treatment, do youths in chemical dependency treatment fare better with respect to outcomes of rearrest and placement on a higher custody level, by offense type?

- Second, what factors -- including demographic, risk and dynamic/criminogenic need factors, treatment amenability, and program and parole progress and performance -- are associated with variation among treatment group recipients in these outcomes?

- Third, which sub-groups/populations of treatment youths are most and least likely to benefit from treatment?

10

DATA

TYC collects a range of information on the risk, needs, and treatment amenability of its youths. These different sources of information are referred to collectively by TYC as the Resocialization Decision Matrix and will be used in the subsequent analyses of rearrest and placement on higher custody level. Data for the analyses focus on juveniles who entered the CDTP from January through October 1998, and who then were paroled or placed in a half-way house and then paroled or discharged. The treatment group consists of 406 youths and the control group consists of 220 youths. Control group youths were eligible for treatment in the CDTP during the study period but did not receive it due to limited CDTP bed space. In turn, because of the consequent lack of variation in the need for chemical dependency treatment, the treatment need variable is not included in the predictive analyses. It bears emphasizing that assessment variables (e.g., SASSI) were provided to us by TYC with classifications already made (i.e., not the raw scores); thus, these classification categories, rather than more detailed item or scale-specific scores, are used in the analyses.

DEPENDENT VARIABLES

There are two ultimate dependent variables that will be used in the following analyses to assess the impact of TYC's Chemical Dependency Treatment Program.

Rearrest: Rearrest, by type of offense (all, drug, violent, property), after release from TYC.

Higher custody level: Placement on a higher custody level, by type of offense (all, drug, violent, property), after release from TYC. Higher custody level here indicates recommitment to TYC or, for parolees, revocation.

Because coding of the TYC data to create the dependent variables involved considerably complex linkages from separate record-level databases into one individual-level database, which then was merged with the TYC-RSAT process evaluation data, the specific steps taken to create the outcome measures are described briefly below.

First, using the five data sets provided by TYC, we created renamed release, arrest, aftercare, hearing, and detention files, respectively. For all the steps described below, McFadden youths were treated separately because there were so few cases from this site and special steps were needed to create individual-level data for them; thus, the steps below only apply to non-McFadden youths.

Second, we then used the release data file to create an individual-level data file consisting of type of release and release start/end dates. The release types included: parole; non-secure placement; discharge; transfer to adult system; and still in TYC confinement. The release date was determined by identifying the beginning date of the first non-secure location (including parole) occurring after the first continuous state of secure confinement overlapping or occurring after the beginning of the study window (6/1/98). The end date of the release type/location was identified differently for various release types. For example, for parolees, the end date was

11

identified using the last record of a parole location that was continuous with the first record of a parole that represented a release from secure confinement (a date involving the year 2099 was taken to indicate that the youth was still on parole). This kind of logic was applied to non-secure placements as well. Outright releases/discharges had no end date, and end dates are not relevant for youths sent to the adult system youths or who are still in confinement. For youths discharged from TYC, we used the hearing data to determine whether they were sent to the adult system or were released outright.

Third, we used the release data file along with the arrest and detention data to identify arrests. Since most youths in the data were on parole or non-secure confinement, the information was deemed to be adequate for the purposes at hand (i.e., identifying arrests while youths are on parole or in non-secure confinement). From the hearing data, we identified the first hearing occurring between a youth's release and end dates. From the arrest data, we identified all arrests occurring between a youth's release and end dates. We then compared the dates of the first hearing and first arrest, and then took the first one as the date of the first arrest. If no arrest was evident from the arrest data, we took the first hearing (if any) as the date of arrest. (We also examined the detention data, but in no instance did they provide additional or earlier arrests.) The date of the first non-arrest drug possession was also used to identify an "event" (i.e., a new variable that could be used as a first arrest/non-arrest outcome); relatively few cases were modified or added by using the drug possession information.

Fourth, for identifying higher custody levels (i.e., revocation or recommitment; n = 124), we linked each hearing with a previously occurring arrest. This was done by obtaining the time lag from the date of the arrest to the date of the hearing. If that lag was less than or equal to 31 days, we took the arrest date as the date of revocation or recommitment; if it was greater than 31 days, we assumed that the arrest did not precipitate the revocation or recommitment and so took the hearing date as the date of revocation or recommitment. The 31 days time frame was viewed as a reasonable lag, and if it was inaccurate in certain cases, the inaccuracy was apt to be randomly distributed, thus vitiating concerns about bias. Moreover, the relevance of using the arrest date was simply to obtain a somewhat more accurate measure of the timing of a higher custody status; use of the hearing date simply means that we obtained a slightly later timing of the event than if we had used a related arrest or detention record.

The purpose of creating a higher custody level outcome rather than two more detailed ones (e.g., revocation, recommitment) was to be able to generalize about an outcome across parolees and non-secure placed youths. If only parole revocation was used, this outcome of course would only apply to parolees. Furthermore, too few recommitments (n = 15 in the entire treatment and control group populations) were available to conduct separate analyses, much less to conduct separate analyses for parolees compared to youths placed in non-secure facilities.

Finally, we created an aftercare measure using the information about aftercare treatment for parolees, and ensuring that the timing of aftercare treatment corresponded to release onto parole.

DEMOGRAPHICS

Race:	Black, Hispanic, and non-Hispanic white.
Age:	Age of TYC youth upon incarceration, ranging from 10 to 21.
Parent's marital status:	Never married, married, divorced/separated, and other.
Gender:	Only 5 females entered CD treatment during the time period of this study. Due to this small number, females are omitted from this analysis. It is important to point out however, that this small number of females entering treatment is a source of concern and warrants investigation.

RISK FACTORS

Classifying offense:	TYC employs the following scheme for classifying youths: violent A or B (serious and violent offenders); controlled substance dealer; chronic serious offender; firearms offender; general offender; and sentenced offender (i.e., youths committed to TYC under determinate sentencing, which can involve any of a wide range of serious and violent offenses, including criminal solicitation and habitual felony conduct). These classifications result in specific minimum lengths-of-stays at TYC, with the general offender category being the shortest (9 months).
Offender class:	TYC also employs a similar but simplified classification scheme: non-violent offender; violent offender; and chronic serious offender.
Risk level:	TYC uses risk level in part to determine priority for CD treatment. It is based on a composite risk score, which is equal to a youth's number of previous referrals (maximum of four) and previous adjudications. Scores of 0-2 = low, 3-4 = medium, and 5+ = high.
No. felony referrals:	Number of previous felony referrals.
No. felony adjudications:	Number of previous felony adjudications.
No. prev. TYC commit.:	Number of previous TYC commitments.
No. parole revocations:	Number of previous parole revocations.

13

DYNAMIC/CRIMINOGENIC NEEDS

SASSI:

The Substance Abuse Subtle Screening Inventory (SASSI) is TYC's primary substance abuse screening instrument, and is used in assisting clinicians to determine whether CD treatment is needed. It is brief, objective, can be scored by non-professionals, can accurately classify substance abusers who are resistant to detection (regardless of sex, socioeconomic status, or drug of choice), and has been validated. TYC uses SASSI to classify youths into three categories: non-abuse; dependency; abuse.

DSM-IV CD tx need:

TYC uses the Diagnostic Statistical Manual IV to obtain clinical assessments, which then are rank ordered in terms of severity: history of chemical use (low); diagnosis of chemical abuse (medium); diagnosis of chemical dependency disorder (high).

TREATMENT AMENABILITY

TYC tx amenability score:

TYC categorization of treatment amenability into (1) low, (2) medium, and (3) high amenability, is based on combined scores from six areas (prior placements, frequency of delinquent behavior related to specialized need, duration of delinquent behavior pattern related to specialized need, motivation, intellectual and cognitive functioning, and general functioning). For each area, the scoring possibilities range from 0, which corresponds to evidence of a potential lack of amenability, to 2, which corresponds to evidence of a potential amenability to treatment. While the amenability index is not a standardized assessment instrument, it is based on counselor/therapist experience in treating youthful offenders.

SOCRATES:

Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES, version 8) is a readiness/motivation instrument specific to alcohol and drug abuse; it yields scale scores that correspond to the conceptual stages of change developed and described by Prochaska and DiClemente (1982). Psychometric analyses have established the internal consistency and test-/re-test reliability of the instrument (Miller 1994). Version 8 employs a 19-item scale based on factor analyses with previous versions of SOCRATES; it relies on those items from the original 39 items that most strongly marked each factor. There are three factorially-derived scales for both alcohol and drug abuse: Recognition, Ambivalence, and Taking Steps. Pre- and post-tests allow change scores to be created for later analyses (i.e., alcohol Recognition, Ambivalence, and alcohol Steps change scores; drug Recognition, drug Ambivalence, and drug Steps change scores).

14

Guidelines for interpretation of SOCRATES-8 scores come from Miller (1995). Scores provide information about whether a client's scores are "low, average, or high relative to people already seeking treatment for alcohol problems." For Recognition, a score of 7-26 is very low, 27-30 is low, 31-33 is medium, and 34-35 is high. For Ambivalence, a score of 4-8 is very low, 9-13 is low, 14-15 is medium, 16-17 is high, and 18-20 is very high. For Taking Steps, a score of 8-25 is very low, 26-30 is low, 31-33 is medium, 34-36 is high, and 37-40 is very high. It is important to note that SOCRATES was developed for an adult population, thus there may be important validation issues concerning its use with a juvenile population.

TREATMENT PROGRAM PROGRESS

From the process evaluation of the TYC-CDTP, which was the first phase of the current outcome study, several measures of program performance were generated for inclusion in the longer-term outcome analyses.

Program completion:	Dichotomous outcome for whether the youth completed the program or not (1 = yes, 0 = no).
Program expulsion:	Dichotomous outcome for whether the youth was or was not expelled from the program (1 = yes, 0 = no).
Days to completion:	Number of days from time of program entry to time of successful completion.
Days to expulsion:	Number of days from time of program entry to time of expulsion.
No. behavior infractions:	Number of behavior infractions between time of program entry and time of completion or expulsion.

TREATMENT PROGRAM PERFORMANCE

An exit assessment was created to provide a multi-dimensional report card of youth performance in the treatment program (see Appendix A). The primary goal was to measure variation among participants that completed treatment (i.e., some completers likely performed better in treatment than others). Without such a measure, all completers would be considered as equivalent. The assessments were completed by program staff and provide a unique opportunity to obtain a more textured understanding of short-term impacts as well as how some of these impacts may affect longer-term impacts on recidivism. Principal components analysis (PCA) yielded one component -- termed here a "performance index" -- for which each of the exit assessment items loaded highly. (Manual creation of a similar index from the composite items yielded a similarly validated index, based on examination of tests of internal reliability, such as Cronbach's alpha.)

15

Overall participation:	Overall level of youth's participation (1 = very passive, 5 = very active).
Understand curriculum:	Youth's understanding of the CDTP curriculum materials (1 = very poor, 5 = very good).
Understand addiction:	Youth understood how his behavior, thinking errors, and choices are related to addiction (1 = not at all, 4 = completely).
Seek help:	Youth attempted to actively seek help while in TYC (1 = not at all, 4 = strongly).
Acknowledge addiction:	Youth accepted that substance abuse interfered with his life (1 = not at all, 4 = strongly).
Acknowledge impact:	Youth acknowledged that his substance abuse affects others (1 = not at all, 4 = completely).
Performance grade:	overall performance ("grade") in CDTP (1 = A, 5 = F).
Commit to be drug-free:	Youth committed to be drug-free for one year (1 = not at all likely, 4 = very likely).
Family involvement:	Youth's family's involvement (1 = not at all, 4 = strong).
Special circumstances:	Special circumstances affecting youth's CDTP performance (1 = yes, 0 = no), with specific circumstances listed by staff.
Performance index:	A composite scale created using principal components analysis and based on the nine closed-ended exit assessment questions (i.e., excluding the "special circumstances" question). The PCA yielded one factor (eigenvalue 6.54). The resulting PCA scores are standardized with a mean of 0.

FIVE CDTP SITES

There were five sites at which youths in the treatment group were provided services. These included Giddings State School, Evins Juvenile Facility, Jefferson County, Gainesville, and McFadden Ranch. The process evaluation that preceded the present research identified several important differences across the treatment sights. These differences are both compositional (i.e., the characteristics of the youth by site), as well as organizational/managerial. These differences are summarized below.

- Giddings. Giddings receives primarily violent and determinately sentenced youths (75% of youths at the Giddings site treatment group were violent offenders, and over 50% were determinately sentenced youths). Youths with determinate sentences typically stay at TYC for longer periods of time, including minimum lengths-of-stay, than non-sentenced youths; this is because most determinate sentences involve serious felony offending. In addition, if they do not behave they can be transferred to the adult prison system. Giddings consequently has a source of leverage in working with these youths that other sites do not have in working with non-determinately sentenced youths. Also, Giddings has the Capital Offender and Sex Offender programs, and has been established for over ten years. One result is that the "culture" at Giddings is more clearly and consistently toward providing comprehensive treatment. As but one example, adjunct support from psychologists is highest at the Giddings site. Also, JCO and caseworker turnover (24% and 29%, respectively) is considerably lower at Giddings than at most other sites.

- Evins. Evins is a relatively new facility, has experienced several staff shortages, has expanded rapidly in the last two years, and, perhaps as a consequence, has tended to emphasize administrative over treatment concerns. Indeed, a generalized expectation or "norm" appears to have developed at Evins that treatment is secondary to administrative needs. Various sources indicated that administrative concerns typically "trump" treatment concerns.

  Perhaps the most important feature to note about Evins is that it is comprised almost entirely of Hispanic (76%) and black (16%) youth, reflecting, as noted above, the site director's emphasis on serving youths from the Rio Grande Valley. Given that these youths generally come from distinct cultural backgrounds compared with those of youths in other parts of Texas, and that there may be corresponding language differences as well as differences in types of drug use/abuse problems, the focus on limiting the focus of the Evins facility primarily to this population may be appropriate.

- Jefferson. Despite the fact that Jefferson has suffered from considerable caseworker turnover (close to 40% of JCOs and 30% of caseworkers during fiscal year 1999), it has enjoyed ongoing and consistent administrative support. The appearance is of a facility with a consistent, structured, and supportive treatment emphasis, which would help account for the marked level of success (e.g., 92% completion rate, relatively rapid mean time to completion, and very low infraction rates). Jefferson tends to serve youths who come from east Texas, which may result in placement there of more youths from rural areas than for several of the other sites.

- Gainesville. Gainesville's operations have involved an ongoing tension between administrative and correctional concerns as against support for treatment. This tension is evident in the need to balance population control and length of treatment, and in the day-to-day staff views, with varying degrees of support given for corrections versus treatment modalities. In this regard, it is relevant that, compared to most other sites, Gainesville had considerably more JCO turnover (38%) in fiscal year 1999. Nonetheless, youths at Gainesville completed treatment much more quickly than at other sites (which may reflect structured efficiencies in quickly processing youth through treatment.

17

- McFadden. McFadden is a non-secure residential facility that only receives high needs youths classified as non-violent, "general offenders" (TYC's most general and lowest risk classification group). General offenders must serve at least nine months, and most serve somewhat longer than that. For this reason, the McFadden site extends the treatment programming rather than the six-month time period used by the other sites. The McFadden site is completely devoted to CD treatment and, consequently, has the best-trained staff in this area. It is notable, however, that, unlike other sites that tend to have youths from specific regions of Texas, McFadden has a regionally diverse population..

First, the composition of youth at the different programs clearly differs, with some sites serving lower-risk, more treatment amenable offenders (e.g., McFadden, a non-secure residential facility), others serving higher-risk or more violent offenders (e.g., Giddings), and still others serving specific regional populations (e.g., Evins primarily serves Hispanic youth from the Rio Grande Valley, Jefferson primarily serves youths from east Texas, and Gainesville primarily serves youths from the Dallas/Fort Worth. The variation in needs and risks, and cultural/linguistic differences across the sites may indicate the need to tailor treatment and treatment delivery. The extent to which treatment and treatment delivery currently are tailored to take into account these differences in the composition of the treatment populations across sites is unknown. TYC maintains that CD treatment is the same or similar at each site, perhaps best described as a "one size fits all" approach. On the other hand, there does appear to be an attempt, sometimes formally and sometimes informally, to match the needs and diversity of youth to particular programs at particular sites. Perhaps the most accurate description of the TYC CD treatment program is that while the global treatment approach is similar across sites, the process evaluation indicated that there are local, site specific differences in the treatment environment and in how treatment is provided (e.g., the fact that exposure to treatment varies considerably across sites (as measured by mean days to completion) and within sites (as measured by standard deviations), indicates that while CD treatment may be standardized, there is significant variation across and within sites).

Apart from compositional differences, a key factor in explaining site differences in process outcomes (and recidivism outcomes) are programming and organizational differences at each site. For example, interviews with staff and administrators at TYC consistently highlighted the idea that the same program may be implemented differently across sites because of such factors as the different "cultures" at each site, differences in the leadership provided by superintendents or program directors, individual caseworker styles, and consideration of the composition of the youths at each facility. Giddings, which is comprised primarily of violent youths with lengthy sentences, appears to have a "culture" that embraces a program-wide commitment to treatment. The fact that at some sites there is tension between managing population capacity and providing treatment may impact process outcomes. Conversely, sites that are more clearly treatment oriented may also impact process outcomes (e.g., the mean time to completion for youths at Giddings was 231 days, which was longer than for all the other sites, excluding McFadden).

Several of the sites (Evins, Jefferson, Gainesville) have experienced staff shortages on an ongoing basis over the last year or two. The effects of these shortages, especially if sustained over long periods of time, can be significant. A well-structured, supportive, treatment-focused program usually can handle sporadic staff shortages, but over the long-term, programming quality generally will suffer.

Indeed, given that the treatment program is reportedly implemented in a significantly different manner at several of the sites, such differences alone could have a far more dramatic impact on youth treatment progress and longer term outcomes (e.g., recidivism) than any individual-level or compositional factor (e.g., risk or need, or race/ethnicity). It is precisely these issues that this outcome evaluation addresses indirectly by examining recidivism outcomes among individual youth, controlling for various background factors and then focusing directly on the contribution, if any, of site differences to recidivism.

PAROLEE AFTERCARE AND WORKSHEET MEASURES

TYC provided data on whether youths on parole received chemical dependency aftercare treatment services (1 = yes, 0 = no). In addition, parolee worksheets were distributed for treatment and control group youths who were placed on parole (see Appendix B). These worksheets were completed by parole/field officers at the end of each youths' term of parole or just prior to the end of the study period. Unfortunately, few items on this worksheet were consistently completed for all youths, especially those items requiring reference to youth case files (see Table 1). Only the item referring to parole officers' subjective impressions of youth parole performance was consistently reported. Where possible, though, several other measures were included in the analyses.

No. of aftercare sessions: Number of aftercare CD treatment sessions parolees received.

No. drug tests: Number of drug tests parolees received.

Parole compliance: Overall compliance with parole requirements (1 = not at all, 4 = very well).

SPECIFIC DATA ISSUES

In the course of conducting the process evaluation that preceded the present outcome study, TYC staff constraints, along with a substantial increase in TYC commitments, led to a reassessment of the scope of the project to relieve the burden on TYC while still achieving the broader research goals. This reassessment led to elimination of several measures as well as to an agreement to collect, for both the treatment and control groups, TYC Resocialization Index data, including risk, needs, and amenability, and SOCRATES pre- and post-tests. Unfortunately, TYC was unable to provide systematic pre- or post-testing for treatment and control group youths, thus limiting our ability to rigorously evaluate the effect of treatment amenability on program progress or the effect of the CDTP on treatment impact (as measured by changes in SOCRATES Recognition, Ambivalence, and Taking Steps scale scores).

19

To obtain measures of drug use/abuse relapse, aftercare participation, and parole performance, a parolee data worksheet was created (see Appendix B). Because of significant increases in commitments and the resulting and understandable staffing challenges at TYC, too few parolee worksheets were completed to sustain multivariate analyses using all of the worksheet measures. In addition, and for a number of reasons unrelated to the present study, TYC ceased conducting consistent drug testing of parolees. Consequently, outcome analyses were restricted to a focus on arrest and higher custody placement rather than to other measures (e.g., drug test failures and time to drug test failures) and to already collected predictors (e.g., demographics, risk/need levels). Fortunately, TYC was able to provide information on who received chemical dependency treatment while on parole, and thus this information was used in the outcome analyses. In addition, enough parolee worksheets were collected that included information on parolee compliance that this measure also could be used in the analyses.

20

METHODS

OVERVIEW OF SPECIFIC ANALYSES AND METHODS

In the analyses that follow, we begin by providing descriptive statistics for the treatment group and the two control groups (Table 1). We then present survival analyses in figures 1 and 2 and tables 2 and 3, comparing the time to recidivism for the treatment and control groups. Survival analysis, and event history analysis generally, is appropriate and necessary for providing a more accurate assessment of the probability of recidivism -- that is, duration to some event, such as various measures of recidivism -- in situations where the outcome is dichotomous and where subjects have been observed for different lengths of time (Yamaguchi 1991; Blossfeld and Rohwer 1995). Interpretation of survival curves is relatively straight-forward. Specifically, survival curves, as used here, provide estimates of the probability of not recidivating up until a particular point in time, given that the youths can still recidivate at that point in time (i.e., given that they have not already recidivated or dropped out due to a limited period of observation). Alternatively, survival curves estimate the proportion of subjects not having recidivated up to a particular point in time, given that the have been at continuous risk of recidivating to that time.

Next, we provide univariate and multivariate Cox proportional regression (event history or hazards) models in tables 3 through 5. These models are presented: (a) to examine whether, net of various controls, any treatment effect surfaced for rearrest or placement on a higher custody level (i.e., parole revocation or recommitment, by offense type); and (b) to explore whether treatment differentially impacted certain sub-populations within the treatment group. In particular, given the importance of site location as identified in the previous process evaluation, we systematically assessed whether there were differential treatment effects by site. Because different variables were available for different groups, there was a need to conduct separate group-specific analyses. The different groups included: treatment and control groups combined; treatment and control group parolees (parolee-specific information included); treatment group youths (treatment program information included); and treatment group parolees (treatment program information and parolee-specific information included). The dependent and independent variables used for each of these groups are outlined below.

- Treatment and Control Group Youths. The dependent variables are arrest and placement on a higher custody level (i.e., parole revocation or recommitment) by offense type. Predictors include treatment, parole versus non-secure placement, demographic, risk, and amenability factors, TYC behavior, site location, and post-release chemical dependency treatment.

- Treatment and Control Group Parolees. The dependent variables are arrest and placement on a higher custody level (i.e., parole revocation or recommitment) by offense type. Predictors include treatment, demographic, risk, and amenability factors, TYC behavior, site location, post-release chemical dependency treatment, number of drug treatment sessions, drug testing, and parole officer perceptions of parolee compliance.

21

- • Treatment Group Youths. The dependent variables are arrest and placement on a higher custody level (i.e., parole revocation or recommitment) by offense type. Predictors include treatment, parole versus non-secure placement, demographic, risk, and amenability factors, TYC behavior, treatment progress, site location, and post-release chemical dependency treatment.

- • Treatment Group Parolees. The dependent variables are arrest and placement on a higher custody level (i.e., parole revocation or recommitment) by offense type. Predictors include demographic, risk, and amenability factors, TYC behavior, treatment progress, site location, post-release chemical dependency treatment, number of drug treatment sessions, drug testing, and parole officer perceptions of parolee compliance.

The final set of analyses involved coding and examination of the verbatim response items provided by the TYC field officers on the parolee worksheets to identify the key factors they' identified as critical to youths' success or failure while on parole. The categories that resulted from these analyses are presented in Table 6.

DISCUSSION OF COX REGRESSION ANALYSES

Before proceeding, several comments about the Cox regression analyses warrant mention given their centrality to this study. First, Cox regression is a type of event history analysis. Yamaguchi (1992:9) has summarized this type of approach: "Event history analysis models hazard rates. The hazard rate (or hazard function), h(t), expresses the instantaneous risk of having the event at time t, given that the event did not occur before time t" (emphases in original). Estimation based on specific parametric assumptions about the distribution of durations (e.g., exponential, lognormal, LaGuerre distributions) is appropriate when these assumptions have been carefully established in prior research. However, in exploratory research, where such assumptions may be problematic, an appropriate alternative is "to specify only a functional form for the influence of covariates [and] leave the shape of the transition rate as unspecified as possible" (Blossfeld and Rohwer 1995:212). Cox regression is one such approach. This type of modeling approach, what also is referred to as a semi-parametric, proportional hazards, or Cox model, can be expressed as $r(t) = h(t)\exp(A(t)\alpha)$. In a Cox model, the "transition rate, $r(t)$, is the product of an unspecified baseline rate, $h(t)$, and a second term specifying the possible influences of a covariate vector $A(t)$ on the transition rate" (Blossfeld and Rohwer 1995:212). With Cox models, predictors are interpreted as resulting in proportional shifts up or down in the transition rate, but the underlying shape of this rate cannot be changed. Although some disadvantages attend to use of Cox models, in general these are not serious (Yamaguchi 1992:102-103), especially when there is no clear information about the shape of time dependence, there is a weak theoretical basis for specifying a particular parametric model, and interest centers primarily around the magnitude and direction of effect of key predictors (Blossfeld and Rohwer 1995:213).

Second, interpretation of Cox models is relatively straightforward. The hazard rate in the present study is the probability of recidivism given that youths have not recidivated up to a given point in time. In hazard rate analyses, the estimated hazard rate coefficient is interpreted as the predicted change in the log hazard for a unit increase in the predictor. When the estimated hazard rate coefficient is exponentiated, the result is a value that indicates that the percentage

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change in risk with each unit change in the predictor. Exponentiated values less than 1 indicate a decreased risk of the outcome for unit increases in the predictor, whereas exponentiated values greater than 1 indicate an increased risk of the outcome for unit increases in the predictor. For example, an exponentiated Cox hazard rate coefficient of .70 indicates that for a unit increase in the predictor there is a 30% decrease in the risk of recidivism; by contrast, an exponentiated coefficient of 1.30 indicates that for a unit increase in the predictor there is a 30% increase in the risk of recidivism. When the predictor is a dichotomous variable, the exponentiated value frequently is referred to as a "relative risk" because it is equal to the ratio of the risk with the predictor at 0 compared to the risk with the predictor at 1 (SPSS 1999:286). To estimated combined (additive) effects of predictors, one first adds and then exponentiates the relevant multivariate Cox hazard rate coefficients.

Third, the univariate results are presented to highlight the exploratory nature of this research and to demonstrate that the effects of the different predictors are robust across models. For both the univariate and multivariate analyses, a number of variables listed in Table 1 are omitted from the final set of regression models because they provided largely redundant information (e.g., number of previous felony referrals and number of previous felony adjudications).

Fourth, because this research was aimed at exploratory analysis, and because the distribution of missing values for certain variables created instability in parameter estimation for the multivariate models, both univariate and multivariate models are presented. The multivariate models introduce controls for variables in Table 1, especially those for which there were significant differences between the treatment and control groups. Only those controls are included that (a) evidenced relatively low levels of association with one another, and (b) could be estimated with some degree of confidence (e.g., due to minimal missing values) across the different outcome analyses and different sample groups. For example, the risk assessment measure was strongly associated with offense history (e.g., prior number of felony referrals), and thus measures of the latter were dropped. Also, treatment need factors (e.g., SASSI and clinical assessments) were not included because close to all youths in the treatment and high CD need control groups were classified as in significant need of chemical dependency treatment. In addition, variables from the parolee worksheets were not included in multivariate analyses because too few worksheets were completed (see Table 1).

Fifth, youths who were still in TYC at the end of the study period or were sent to the Texas Department of Criminal Justice (TDCJ) to complete their term of incarceration were omitted because recidivism was not a possibility for them. Youths released outright (i.e., not paroled or placed in a non-secure facility) represented fewer than 1% of the treatment and control group youths; because they represented a distinct and small group and outcome data were unavailable for them, they also were omitted from the analyses.

Sixth, for the higher custody analyses, too few placements could be classified as "violent" or "property," thus eliminating the possibility of reliably estimating separate analyses for these two types of offenses. Consequently, only analyses for all higher custody level placements, as well as higher custody level placements due to drug offenses, are presented.

Seventh, the pre-intervention SOCRATES scores were used only in analyses of the treatment and control groups since too few post-intervention scores were provided. Given the high intra-correlation among the alcohol and drug SOCRATES pre-test scores, respectively, alcohol and drug indices were created (Cronbach's alpha = .821 and .822, respectively) using principal components analysis. The resulting scores have a mean of 0, with the variance equal to the squared multiple correlation between the estimated and true factor scores.

Eighth, responses to the last two questions of the parolee worksheet -- which focused on each youth's participation in productive activities and their overall parole compliance, respectively -- were highly correlated (.871). The strong correlation suggests that parole officers responded to these questions as if they measured similar or identical factors. Consequently, only the overall compliance measure was used in the analyses.

Finally, within variables and across models, total "n"s may vary due to differences in censoring before the earliest event within a group (e.g., treatment vs. control group). For example, in treatment vs. group comparisons, some cases may have been observed for only 30 days. It is possible, and indeed occurs frequently in the analyses, that the first arrest of one type (e.g., property) occurs within that time frame while the first arrest of another type (e.g., violent) occurs afterwards. In such instances, the former arrest analyses have a larger sample size because the latter experienced at least one case of censoring that the former did not.

FINDINGS AND DISCUSSION

TREATMENT GROUP CHARACTERISTICS

Table 1 provides a descriptive profile of the treatment group sample, including demographics, risk and need factors, treatment amenability, distribution across sites, program progress, staff evaluations of program performance, release status, recidivism outcomes, aftercare CD treatment, and parole performance. The profile is summarized below.

Demographics

- 50% were Hispanic, 29% were black, and 21% white.

- The mean age was 17.5.

- 44% of the youths' parents were divorced or separated, 30% were never married, 16% were married, and for 7% the marital status was unknown.

Risk Factors

- 16% were classified by TYC as having low risk, compared with 45% and 39% classified as medium and high risk, respectively.

- Youths in the treatment group sample averaged 8.7 prior felony referrals, 2.5 prior felony adjudications, 1.1 prior TYC commitments, and .08 prior parole revocations.

- 51% of youths were classified by TYC as general offenders, 19% as violent A or B offenders, 14% as determinate sentence offenders, 8% as firearm offenders, 4% as chronic serious offenders, and 3% as controlled substance dealers.

- Using a different TYC classifying scheme, 63% were non-violent offenders, 33% were violent offenders, and 4% were chronic serious offenders.

Need Factors

- Based on the Substance Abuse Subtle Screening Inventory (SASSI), 88% of the treatment youths were classified as chemically dependent, 7% as abusers, and 5% as non-abusers.

- Based on TYC clinical assessments, 94% of the treatment youths were diagnosed as having a chemical dependency problem, 5% were diagnosed as having a chemical abuse problem , and 1% were diagnosed as having a history of chemical use.

- Analysis of the pre-tests (i.e., pre-treatment administration) of the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES, version 8) revealed the following (see the discussion under "Data" regarding the guidelines for interpreting SOCRATES-8 scores):

-- the mean alcohol and drug Recognition scores were 21 and 26, respectively, indicating very low recognition among youths of having a substance abuse problem,

-- the mean alcohol and drug Ambivalence scores were 11 and 14, respectively, indicating low levels of ambivalence among youths toward receiving treatment,

-- the mean alcohol and drug Steps scores were 27 and 30, respectively, indicating low levels among youths of taking steps toward addressing their substance problems.

Amenability Factors

- 49% of youths were classified as having a medium TYC treatment amenability index score, 49% as having a high amenability score, and 1% as having a low amenability score.

Placement Site/Location

- 36% of treatment youths were placed at Gainesville, 29% at Jefferson, 17% at Giddings, 14% at Evins, and 5% at McFadden.

Treatment Progress

- 75% of youths completed treatment, 15% were expelled from treatment, and 9% had to leave treatment for non-behaviorally-related (i.e., administrative) reasons.

- Among those who completed treatment, the mean time to completion was 186 days; among those who were expelled, the mean time to expulsion was 130 days.

- Treatment youths averaged 4.5 behavioral infractions while in TYC's CDTP.

- The results from the exit assessment yielded a composite performance index, which, using principal components analysis, was standardized to have a mean of 0 for the entire sample of youths; this standardization was done to facilitate the subsequent analyses. Inspection of the contributing question items show, however, that the majority of youths were given relatively favorable scores. Mean scores are presented below.

  -- Overall participation: 3.3 (1 = very passive, 5 = very active).
  -- Understanding the curriculum: 3.3 (1 = very poor, 5 = very good).
  -- Understanding addiction: 2.9 (1 = very poor, 5 = very good).
  -- Seeking help: 2.8 (1 = not at all, 4 = strongly).
  -- Acknowledging addiction: 2.9 (1 = not at all, 4 = strongly).
  -- Acknowledging impacts of addiction: 2.8 (1 = not at all, 4 = completely).
  -- Performance grade: 3.3 (1 = A, 5 = F).
  -- Commitment to be drug-free: 2.3 (1 = not at all likely, 4 = very likely).
  -- Family involvement: 2.3 (1 = not at all, 4 = strong).

Release Status

- At the time the outcome analyses were conducted, 12% of the treatment group youths were still in TYC, 5% had been transferred to the adult prison system, 1% had been released outright (with no parole conditions), 70% were released onto parole, and 11% were released to non-secure placements.

Recidivism Outcomes

- Without adjusting for different durations of release time (provided in the survival and event history analyses), 51% of the treatment group was rearrested after release from TYC. The rearrest percentages for specific offenses were 10% for drug-related offenses; 5% for violent offenses; 13% for property offenses; and 23% for other, non-drug/violent/property offenses.

- The percentages of youths who were placed on a higher custody level (i.e., recommitment or parole revocation, with the possibility of more stringent conditions of parole or possible recommitment) were smaller: 20% for any offense; 2% for a drug-related offense; 1% for a violent offense; 4% for a property offense; and 14% for a non-drug/violent/property offense.

Post-Release CD Aftercare

- Among treatment youths released from TYC, 59% received some type of CD aftercare, with the vast majority (97%) of these youths receiving aftercare for more than one week and with the average duration of aftercare lasting 146 days.

Parole Worksheet Measures

- Based on a low response rate of parole worksheets (25%, or 71 of 285 paroled youths), it appears that 76% of paroled treatment group youths received CD aftercare, with youths who received CD aftercare attending close to 17 aftercare sessions.

- Using the same small sample of worksheets, it is estimated that paroled youths received 1.3 drug tests while on parole and that 36% of youths self-reported as having used drugs while on parole.

- Field officers rated parolees as generally below average in their participation in productive activities and in compliance with conditions of parole.

Summary

In short, the typical TYC CDTP participant was a Hispanic youth, age 17.5, with parents who were either divorced/separated or never married. Two-thirds were classified as non-violent offenders and one-third were classified as violent offenders. Not surprisingly, most youths were classified as being either of medium (45%) or high (39%) risk, reflected in part by the fact that

the average number of prior felony referrals among youths (8) was considerable. With respect to chemical dependency needs, youths overwhelming were classified as having a drug dependency problem, with an equal proportion having either medium or high amenability to treatment. Most youths evidenced little recognition of having a problem but were relatively unambivalent about receiving treatment, even though few had as yet taken steps to address their problem. Youths were unevenly distributed across treatment sites, with a low of 5% (McFadden) and a high of 36% (Gainesville). The vast majority (75%) completed the treatment program and did so in approximately 180 days. Staff evaluations were generally positive, with the exception of level of family involvement and commitment to remaining drug free, which received relatively lower scores. The vast majority of youths were released onto parole (70%) or non-secure placement (11%). Over half of released youths were rearrested, most for property, drug, or other non-violent offenses. One-fifth were placed on some form of higher custody level (recommitment or more stringent parole conditions), most for either a property offense or some non-drug and non-violent offense. Just over half (59%) of all released youths (i.e., both non-secure confinement releasees and parolees) received some type of CD aftercare. Reports from parole officers -- to be interpreted cautiously because of low response rates (25%) -- suggest that more parolees (76%) received CD aftercare, that youths received 1.3 drug tests while on parole, and that 36% of paroled youths self-reported as using drugs while on parole.

COMPARISON OF TREATMENT VS. CONTROL GROUP YOUTHS

The most appropriate control group for this outcome study consists of committed youth in need of CD treatment who did not receive it because of lack of CDTP capacity. Since pure random assignment was not used to select treatment participants and control participants, the control and treatment groups may differ in terms of background, risk, needs, etc. Thus, it was important to statistically profile the treatment and control groups to assure comparability.

Inspection of Table 1 shows that the release status of the treatment and control groups are roughly comparable, with over 70% of each group paroled. The recidivism rates for both rearrest and placement on a higher custody level were roughly comparable, though these rates are not readily comparable because they are not adjusted for differential exposure to risk (i.e., time after release); this issue is addressed in the subsequent analyses. Aftercare treatment and parole monitoring and compliance were also roughly comparable for the two groups, as were demographic, risk, and other characteristics.

EFFECTS OF TREATMENT ON REARREST AND HIGHER CUSTODY PLACEMENT

Survival Analyses

Survival analyses provide more accurate estimates of the probability of survival (i.e., not recidivating) when the subjects in a study, as is the case here, have been observed for different lengths of time. Thus, the estimate using survival analyses is more accurate than what is provided in Table 1, which presents recidivism rates for the treatment and control groups but does not account for differential durations of exposure to risk.

The results of the survival analyses can be summarized briefly. Review of both figures 1 and 2 (graphical presentation of rearrest and higher custody level rates, respectively), as well as the corresponding tables 2 and 3 (tabular presentation of rearrest and higher custody level rates, respectively) reveals that there is little observable difference in the rates of recidivism for the treatment and control group youths. For example, in Figure 1, the rearrest rate for the treatment and control groups appear to be almost identical; statistically, using the Wilcoxon (Gehan) comparison statistic, there in fact is no evidence of any difference. The same is true of Figure 2, which presents the treatment and control group rates of higher custody level placement.

Despite the fact that the survival analyses show no statistically significant differences in recidivism rates for the treatment and control groups, there is some evidence in the figures that treatment group recidivism rates actually are somewhat higher than the control group's from 9 months onward. Tables 1 and 2 present the month-by-month estimated cumulative proportions of youths who have not recidivated and that are used to create figures 1 and 2. In both tables, it is apparent that the proportion of both groups not recidivating are similar up and through the eighth month but that at the ninth month they begin to diverge slightly; after the ninth month, fewer treatment group youths "survive" without being rearrested. Thus, there is some suggestive evidence that the treatment and control groups have similar recidivism rates for the first eight months but that thereafter the treatment group actually is slightly more likely to recidivate. Reanalysis using offense-specific comparisons yielded similar results.

Cox Regression Analyses

The survival analyses identified no treatment effect on rearrest or placement on higher custody levels, in aggregate or for specific offenses. To examine whether there indeed was no difference in recidivism between the treatment and control groups, multivariate Cox regression analyses were undertaken to identify whether any type of suppressor effect was present that might obscure an impact of treatment. Tables 4a, 4b, 5a, and 5b present the multivariate Cox regression analyses, as well as the univariate analyses as a point of reference. Table 4a presents the rearrest analyses for the full treatment and control groups, with separate analyses for all offenses and for specific offenses (drug, violent, property). Table 5a presents the same analyses, but with higher custody level placement as the dependent variable and for all offenses and drug offenses (too few violent and property higher custody level placements were available for separate analyses). Table 4b presents the same analyses as in 4a, but this time using not the total treatment and control group populations but rather only those youths who were paroled. Similarly, Table 5b presents the same analyses as presented in 5a, but only for parolees. The advantage of sub-setting out the paroled population is that then the parole-specific data that were collected can be included in the multivariate analyses.

The univariate and multivariate Cox regression analyses in tables 4a, 4b, 5a, and 5b confirm what the survival analyses indicated: that is, there is no identifiable effect of TYC's Chemical Dependency Treatment Program on reducing recidivism. To determine whether there were any potentially differential effects of treatment for specific sub-populations (except site location, which is addressed separately below), interactions between the treatment group variable and the other predictors were examined. These analyses, too, can be summarized briefly: overall, there

29

was little evidence of any statistically or substantively significant differences in the efficacy of treatment among various sub-populations.

The findings from these analyses thus indicate no overall or group-specific treatment effects, whether for the total treatment and control group populations (tables 4a and 5a) or for parolees only (tables 4b and 5b). These findings do not mean that certain factors are not associated with recidivism. Clearly, certain demographic and risk factors were linked to recidivism rates. Table 4a shows, for example, that black youths, youths whose parents were never married, older youths, and high risk youths all were more likely to be rearrested. By contrast, Table 5a shows both that high risk youths were considerably more likely to have been placed on a higher custody level for commission of a drug-related offense, and that this relationship was more pronounced for drug-related rather than all types of offenses. In addition, Table 5b shows that paroled youths receiving chemical dependency aftercare treatment were 65% less likely to commit drug-related offenses. Although such findings are of interest, and reflect what has been found in research in this area, they do not constitute the focal concern of this study except insofar as interactions are present. As noted, however, few significant treatment group interactions were identified. There is, for example, no evidence that CD aftercare treatment differentially benefits treatment versus control group youths, suggesting that there not only is no initial impact of TYC's CDTP but that "booster shots" do not create a subsequent treatment impact. The one relatively consistent exception was that treatment appeared to be differentially effective across sites. Given the centrality of this issue, it is addressed in more depth in the subsequent section.

Before proceeding to discussion of the treatment group and site interactions, the results of analyses of the treatment group population bear discussing. These analyses are presented in tables 4c, 4d, 5c, and 5d to examine whether a factor specific to the treatment group -- treatment progress -- was linked to recidivism. The results from these analyses indicate that improved performance in treatment was linked to a modest decrease (7%) in the probability of rearrest but not for specific offenses, including drug-related offending, as indicated in Table 4c. This effect was more pronounced for the higher custody level placement measure of recidivism. Table 5c shows, for example, that a one-unit improvement in performance while in treatment was associated with a 13% decline in the probability of placement on a higher custody level.

INTERACTIONAL ANALYSES OF TREATMENT GROUP BY SITE

Examination of differential treatment efficacy across the different sites, controlling for youths' risk levels, revealed several significant interactions. The relative treatment effects of one site versus others were obtained by first adding the relevant Cox model coefficients -- what are presented below as log hazard rate (log H.R.) coefficients -- for treatment group, site, and the interaction of the two, and then exponentiating the sum to obtain the hazard ratios. These ratios are denoted here as relative risks because of the comparison of select groups with omitted groups. Numbers greater than 1 indicate a greater relative risk (compared to control group youths at other sites) and numbers lower than 1 indicating a lower relative risk. For control group youths at other sites, who represent the omitted comparison group, the hazard ratio will always be 1, indicating that control group youths at other sites are being compared to themselves. Although the estimated hazard ratios for specific groups are with respect to control group youths at other

30

sites, their values can be compared with one another to provide an assessment of relative impact. It bears emphasizing that all sites were implementing the same treatment program.

Treatment and Control Groups Combined

When arrests were modeled for the treatment and control groups combined, there was some evidence of differential treatment effects across sites for drug and property arrests. For drug arrests, an interaction emerged between treatment and the Jefferson site (unexponentiated coefficients presented below):

$$\log H.R. = .256TX + 1.206JEFF** + .527HIGHRISK* - 1.152(TX \times JEFF)*$$

Computation of the exponentiated hazard rates for the different groups generated the following predicted hazard ratios: 1.36 (treatment group at Jefferson), 1.29 (treatment group at other sites), 3.34 (control group at Jefferson), 1.00 (control group at other sites). Thus, controlling for youths' risk level, treatment at Jefferson decreased the risk of recidivism compared to youths in the control group at Jefferson (1.36 vs. 3.34). By contrast, treatment actually increased the relative risk of recidivism compared to that for control group youths at other sites (1.36 [Jefferson] 1.29 [other treatment sites] vs. 1.00). In short. treatment at Jefferson was especially effective in reducing drug rearrest rates compared to control group youths at Jefferson, while treatment group drug rearrest rates were actually higher when compared with control group youths at non-Jefferson sites.

For property arrests, an interaction emerged between treatment and the Evins site (unexponentiated coefficients presented below):

$$\log H.R. = .532TX + .288EVINS + .406HIGHRISK* - 2.403(TX \times EVINS)*$$

Computation of the exponentiated hazard rates for the different groups generated the following predicted hazard ratios: .21 (treatment group at Evins), 1.70 (treatment group at other sites), 1.33 (control group at Evins), 1.00 (control group at other sites). These values indicate that, controlling for youths' risk level, treatment at Evins decreased the risk of recidivism compared to youths in the control group at Evins (.21 vs. 1.33), whereas treatment at other sites increased the relative risk of recidivism compared to that for control group youths at other sites (1.70 vs. 1.00). Thus, treatment at Evins was associated with a marked reduction in rates of rearrest for property-related offenses while treatment at other sites actually increased property rearrest rates.

Further interactional analyses for the treatment and control group total sampled population revealed no statistically significant interactions for the higher custody level outcomes.

Treatment and Control Group Parolees Combined

When arrests were modeled for the treatment and control group parolees, there again was evidence of treatment site differences in recidivism for drug arrests and property arrests. For

drug arrests, an interaction effect emerged at the Jefferson site (unexponentiated coefficients presented below):

$$\log H.R. = .191TX + 1.246JEFF** + .597HIGHRISK** - 1.034(TX \times JEFF)\dagger$$

The exponentiated hazard rates were as follows: 1.50 (treatment at Jefferson), 1.21 (treatment at other sites), 3.48 (control group youths at Jefferson), 1.00 (control group youths at other sites). These values indicate that treatment at Jefferson decreased the relative risk of recidivism compared to that for control group youths at Jefferson (1.50 vs. 3.48); treatment at other sites was associated with an increase in the relative risk of recidivism compared to that for control group youths at other sites (1.21 vs. 1.00). These findings parallel those above for the total sampled population: that is, treatment at Jefferson was especially effective in reducing drug rearrest among parolees as compared to control group youths at Jefferson, while treatment actually slightly increased drug rearrest rates as compared to control group youths at non-Jefferson sites.

For property arrests, an interaction emerged when examining the Evins treatment site (unexponentiated coefficients presented below):

$$\log H.R. = .525TX + .333EVINS + .413HIGHRISK* - 2.461(TX \times EVINS)*$$

The exponentiated hazard rates were as follows: .20 (treatment at Evins), 1.69 (treatment at other sites), 1.40 (control group youths at Evins), 1.00 (control group youths at other sites). These values indicate that treatment at Evins decreased the relative risk of recidivism compared to that for control group youths at Evins (.20 vs. 1.40), whereas treatment at other sites increased the relative risk of recidivism compared to that for control group youths at other sites (1.69 vs. 1.00). These results also parallel those for the total sample of treatment and control group youths: that is, treatment at Evins was associated with a marked reduction in the probability of rearrest for property-related offenses while treatment at other sites actually increased the probability of rearrest for such offenses.

Further interactional analyses revealed no statistically significant interactions for the higher custody level outcomes.

Treatment Group Youths

When arrests were modeled for the treatment group youths only, there was additional evidence of treatment site differences in recidivism for all arrest types combined and for property arrests. For all arrest types combined, recidivism rates were significantly lower at Giddings and Evins and higher at Gainesville. Specifically, during the post-release period of observation, youths in treatment at Giddings were 69% less likely than youths in treatment at other sites to be rearrested; youths in treatment at Evins were 38% less likely than youths in treatment at other sites to be rearrested; and youths in treatment at Gainesville were 36% more likely than youths in treatment at other sites to be rearrested. Re-analysis of the univariate results, controlling for the risk level of the youths at each site, revealed substantively and statistically similar results. (The univariate and multivariate exponentiated coefficients were .31 vs. .32, .62 vs. .58, and 1.36

vs. 1.39, for Giddings, Evins, and Gainesville, respectively.) In short, treatment at Giddings, and to a lesser extent Evins, was associated with a relatively pronounced reduction in levels of general offending as compared with rates of offending among youths treated at other sites.

Although no differences emerged in analyses of drug or violent arrests, there were differences for property arrests. Youths in treatment at Evins were 87% less likely than youths in treatment at other sites to be rearrested for property offenses, whereas youths in treatment at Gainesville were 85% more likely than youths in treatment at other sites to be rearrested for such offenses. Re-analysis of the univariate results, controlling for the risk level of the youths at each site, revealed almost substantively and statistically similar results. (The univariate and multivariate exponentiated coefficients were .13 vs. .12 and 1.85 vs. 2.15 for Evins and Gainesville, respectively.) In short, treatment at Evins was associated with a marked reduction in the likelihood of rearrest for property offending as compared with rates of property offending for youths treated at other sites, while youths treated at Gainesville were considerably more likely than youths treated at other sites to be arrested for property offending.

Once, again, for the higher custody level analyses, the analyses revealed no statistically significant differences across treatment sites.

Treatment Group Parolees

When arrests were modeled for the treatment group parolees only, there again was some evidence of treatment site differences in recidivism for all arrest types combined and for property offending. For all arrest types combined, recidivism rates were significantly lower at Giddings and Evins. Specifically, during the post-release period of observation, youths in treatment at Giddings were 73% less likely than youths in treatment at other sites to be rearrested, and youths in treatment at Evins were 38% less likely than youths in treatment at other sites to be rearrested. Re-analysis of the univariate results, controlling for the risk level of the youths, revealed substantively and statistically similar results. (The univariate and multivariate exponentiated coefficients were .27 vs. .28 and .62 vs. .58 for Giddings and Evins, respectively.) These results parallel those for the total treatment group population: treatment at Giddings, and to a lesser extent Evins, was associated with a relatively pronounced reduction in levels of general offending as compared with rates of offending among youths treated at other sites.

As with the total treatment group analyses, no differences emerged in analyses of drug or violent arrests, but differences for property arrests did emerge. Youths in treatment at Evins were 88% less likely than youths in treatment at other sites to be rearrested for property offenses, and youths in treatment at Gainesville were 81% more likely than youths in treatment at other sites to be arrested for such offenses. Re-analysis of the univariate results, controlling for the risk level of the youths at each site, revealed substantively and statistically similar results. (The univariate and multivariate exponentiated coefficients were .12 vs. .12 and 1.81 vs. 1.94 for Evins and Gainesville, respectively.) The results again parallel those for the total treatment group population: treatment at Evins was associated with a marked reduction in the likelihood of rearrest for property offending as compared with rates of property offending for youths treated at other sites, while youths treated at Gainesville were considerably more likely than youths treated at other sites to be arrested for property offending.

Additional analyses revealed no statistically significant site differences in the higher custody level outcomes.

Summary of Treatment and Site Interactional Analyses

As noted at the outset, examination of differential treatment efficacy across the different sites, controlling for youths' risk levels, revealed several important findings for rearrest rates but not for higher custody level placement rates.

For the treatment and control group total sampled population as well as for parolees only, treatment at Jefferson was especially effective in reducing rates of drug rearrest when compared with Jefferson site control group drug rearrest rates, while treatment actually slightly increased drug rates relative to non-Jefferson site control group youths. In addition, treatment at Evins was associated with a marked reduction in rates of rearrest for property-related offenses, while treatment at other sites actually increased property rearrest rates.

For the treatment group total sample, as well as for parolees only, treatment at Giddings, and to a lesser extent Evins, was associated with a relatively pronounced reduction in levels of general offending as compared with rates of offending among youths treated at other sites, while youths treated at Gainesville were considerably more likely than youths treated at other sites to be arrested for property offending.

These site-specific patterns are sometimes consistent with what we know from the process evaluation results regarding compositional, administrative/managerial, and cultural differences across sites. Jefferson is a site with relatively fewer urban youth and one that appears to have a consistent, supportive treatment program. While Giddings has higher risk youth, it also has a well established treatment culture. The "effect" of Evans is an anomaly, especially when considering the management challenges and the focus on administrative needs.

REASONS FOR SUCCESS/FAILURE ON PAROLE

On the assumption that parole officers might be uniquely situated to provide insight into the reasons that some youths succeed or fail on parole, the paper-and-pencil survey administered to TYC parole officers asked them to identify potential explanations for why each youth under their supervision succeeded or failed (see Appendix B). The results, presented in Table 6, reflect in large part what research has identified regarding the correlates of recidivism. The success of their youths was viewed by parole officers as being linked to such factors as active participation in and provision of treatment and programming, having a supportive and watchful (supervisory) family, begin gainfully employed and/or attending school, and performing community service. Factors identified by parole officers as contributing to parolee failure included: non-compliance with the conditions of parole (e.g., attending classes or counseling), not having family present and/or having parents who are in prison, being involved with substance use/abuse, and not being adequately monitored by parole officers.

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CONCLUSIONS AND RECOMMENDATIONS

Observing that effective chemical dependency programming is critical to reducing delinquency (Tonry and Wilson 1990; Gendreau 1996; Crowe 1998), this research set out to provide a systematic and statistical outcome evaluation of the TYC-CDTP. Analyses focused on whether and to what extent demographic, risk and dynamic/criminogenic need factors, treatment amenability, and program progress and performance were related to various outcomes, including rearrest and placement on higher custody levels (e.g., revocation, recommitment) for drug-related and other offenses. This focus on diverse outcomes and a broad range of factors was motivated by the idea that appropriate assessments of drug treatment should consider specific types of impacts (e.g., drug offending as against general criminal offending) as well as identification of those sub-groups and populations most likely to benefit from treatment.

The specific research questions guiding this study were: (1) Compared with those who have high chemical dependency needs but who do not receive treatment, do youths in chemical dependency treatment fare better with respect to various outcomes (rearrest and placement on a higher custody level, by offense type)? (2) What factors -- including demographic, risk and dynamic/criminogenic need factors, treatment amenability, and program and parole progress and performance -- are associated with variation among treatment group recipients in these outcomes? (3) Which sub-groups/populations of treatment youths are most and least likely, respectively, to benefit from treatment? Answers to these questions, as well as discussion of this study's more salient findings and implications, are provided below.

First, we found that youths in chemical dependency treatment at TYC in fact did not perform better upon release, as measured by drug, violent, and property rearrest rates as well as placement on higher custody levels (i.e., parole revocation, detention, recommitment). This was true whether we examined released and paroled youths or paroled youths only, and whether we employed univariate (survival) or multivariate (Cox proportional hazard rate) analyses.

Second, although there was some variation in the factors predicting recidivism, there were few statistically significant interactions between the treatment/control group variable and other variables, indicating that in general the same factors predicting recidivism among the treatment group also were similarly predictive of recidivism among the control group. However, among the treatment group youths, those who performed better in treatment were somewhat less likely to be rearrested or placed on a higher custody level than were those youths who performed less well in treatment. This finding is important (and echoed by the views of the parole officers) in that it reinforces the notion that treatment is less likely to yield a significant impact on recidivism if youths do not show evidence of buying into or doing well in treatment.

Third, the most important exception to the above findings was the presence of statistically and substantively significant interactive effects between treatment and (treatment) site. That is, treatment was found to differ in its impact on recidivism, depending on where treatment was provided. Specifically, youths treated at Jefferson were much less likely than their control group counterparts at Jefferson to be rearrested for drug offenses, yet treatment group youths actually were somewhat more likely than control group youths at non-Jefferson sites to be rearrested for drug offenses. In addition, youths treated at Evins were considerably less likely than all other

35

youths to be rearrested for property offending, while youths treated at other sites actually had higher rates of property offending than did the control group youths. It is difficult to account for these patterns. Focusing here on drug offending, one explanation may be that within the Jefferson unit, primary attention is given to youths in treatment whereas control group youths there may be given considerably less priority, thus accounting for the large discrepancy in drug rearrest rates. By contrast, the differences in programming for all treatment group youths and the control group youths at non-Jefferson sites may not be as pronounced, thus giving rise to the relatively similar drug rearrest rates.

Fourth, among the treatment group, youths treated at Giddings, and to a lesser extent Evins, had markedly lower levels of general offending as compared with rates of offending among youths treated at other sites, while youths treated at Gainesville were considerably more likely than youths treated at other sites to be arrested for property offending. Focusing here on drug offending, the pronounced impact of treatment at Giddings, as compared to the other sites, may be explicable by reference to findings from our earlier process evaluation. Specifically, Giddings was found to have a much more consistent and established therapeutic milieu, greater access to adjunct support from psychologists, and lower correctional officer and caseworker turnover. It thus is unsurprising that youths treated at Giddings fared considerably better than youths at newer and generally less consistently therapeutic facilities. The finding nonetheless is important as it echoes other research in establishing that interventions that are not effectively implemented are less likely to have a significant impact. Indeed, they may even have a criminogenic impact.

These findings are especially important for policymakers at TYC and similar agencies to consider. At a time when support for rehabilitative programming has enjoyed a resurgence, it is critical that treatment programs not be haphazardly adopted. The risk of such approaches is financial, involving inefficient and ineffective allocation of scarce resources. But it also is detrimental in that ineffective program implementation is likely to result in nominal or negative results and in turn to discontinued support for rehabilitative programming. We now have, for example, evidence that treatment can impact drug use and offending and that program implementation is critical to the success of treatment. The present research reinforces these findings and highlights the critical role of carefully examining treatment implementation across multiple sites in state youth correctional agencies.

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TABLES AND FIGURES

Table 1. Descriptive Statistics[a]: Treatment Group vs. Control Group

	Treatment Group (N=406)		Control Group (N=220)	
	Mean	(S.D., N)	Mean	(S.D., N)
Demographics				
Race				
Black	.29	(.45, 404)	.35 †	(.48, 219)
Hispanic	.50	(.50, 404)	.48	(.50, 219)
White	.21	(.41, 404)	.16	(.37, 219)
Par. Marital Status				
Never Married	.30	(.46, 405)	.29	(.45, 198)
Divorced/Separated	.44	(.50, 405)	.43	(.50, 198)
Other/Unknown	.10	(.30, 405)	.12	(.32, 198)
Married	.16	(.37, 405)	.16	(.36, 198)
Age at Incarceration	17.51	(1.06, 404)	17.40	(1.10, 219)
Risk Factors				
Classifying Offense				
Violent A or B	.19	(.39, 406)	.15	(.36, 220)
Cont. Sub. Dealer	.03	(.18, 406)	.05	(.21, 220)
Chronic-Serious	.04	(.19, 406)	.00 **	(.00, 220)
Firearm Offender	.08	(.28, 406)	.04 *	(.20, 220)
Gen. Offender	.51	(.50, 406)	.68 ***	(.47, 220)
Det. Sent. Offender	.14	(.35, 406)	.04 ***	(.20, 220)
Offender Class				
Chronic-Serious	.04	(.19, 406)	.04	(.20, 220)
Non-Violent	.63	(.48, 406)	.77 ***	(.42, 220)
Violent	.33	(.47, 406)	.19 ***	(.39, 220)
Risk Level				
Low	.16	(.37, 399)	.00 ***	(.00, 208)
Medium	.45	(.50, 399)	.54 *	(.50, 208)
High	.39	(.49, 399)	.46 †	(.50, 208)
No. Felony Referrals	8.72	(5.57, 406)	9.30	(5.54, 219)
No. Felony Adjudications	2.50	(1.13, 401)	2.60	(1.09, 216)
No. Previous TYC Comm.	1.06	(.24, 398)	1.07	(.30, 216)
No. Parole Revocations	.08	(.36, 398)	.10	(.33, 216)
Need Factors				
SASSI				
Dependency	.88	(.33, 386)	.90	(.31, 212)
Abuse	.07	(.26, 386)	.04 †	(.19, 212)
Non-Abuse	.05	(.22, 386)	.07	(.25, 212)
DSM CD-tx need				
Dependency	.94	(.24, 399)	1.00	(.00, 220)
Abuse	.05	(.22, 399)	.00	(.00, 220)
Hx of Chemical Use	.01	(.09, 399)	.00	(.00, 220)

Table 1. Descriptive Statistics: Treatment Group vs. Control Group (cont.)

	Treatment Group (N=406)		Control Group (N=220)	
	Mean	(S.D., N)	Mean	(S.D., N)
Amenability Factors				
SOCRATES				
A -- Recog. (pre)	20.62	(8.77, 288)	19.43	(9.06, 100)
A -- Ambiv. (pre)	11.22	(4.87, 288)	11.10	(5.02, 100)
A -- Steps (pre)	26.54	(9.78, 288)	25.04	(10.35, 100)
D -- Recog. (pre)	26.03	(8.46, 290)	24.97	(8.87, 100)
D -- Ambiv. (pre)	13.59	(4.76, 290)	13.25	(4.48, 100)
D -- Steps (pre)	30.12	(8.54, 290)	29.49	(9.21, 99)
TYC Amenability Index				
Low	.01	(.12, 291)	.00	(.00, 180)
Medium	.49	(.50, 291)	.52	(.00, 180)
High	.49	(.50, 291)	.48	(.50, 180)
CD Treatment/TYC Progress				
No. Behavior Infractions	4.46	(6.59, 406)	7.68 ***	(10.49, 220)
Program Outcome				
Completion	.75	(.43, 406)		
Expulsion	.15	(.36, 406)		
Other	.09	(.29, 406)		
Days to Completion	185.55	(62.88, 304)		
Days to Expulsion	129.69	(95.03, 64)		
Staff Evaluations of Prog. Perf.				
Overall Participation	3.30	(1.26, 328)		
Understand Curriculum	3.30	(1.18, 328)		
Understand Addiction	2.89	(.95, 328)		
Seek Help	2.80	(.99, 328)		
Acknowledge Addiction	2.87	(.99, 328)		
Acknowledge Impact	2.83	(.99, 328)		
Performance Grade	3.26	(1.27, 327)		
Commit to be Drug Free	2.32	(1.00, 325)		
Family Involvement	2.26	(1.12, 313)		
Performance Index	.00	(2.61, 310)		
Treatment Sites				
Giddings	.17	(.37, 406)		
Evins	.14	(.34, 406)		
Jefferson	.29	(.45, 406)		
Gainesville	.36	(.48, 406)		
McFadden	.05	(.21, 406)		
Release Status				
Still in TYC	.12	(.32, 406)	.07 *	(.26, 220)
Transferred to Adult System	.05	(.22, 406)	.03	(.18, 220)
Released Outright	.01	(.11, 406)	.01	(.10, 220)
Paroled	.70	(.46, 406)	.75	(.43, 220)
Non-Secure Release	.11	(.32, 406)	.13	(.34, 220)

Table 1. Descriptive Statistics: Treatment Group vs. Control Group (cont.)

	Treatment Group (N=406)		Control Group (N=220)	
	Mean	(S.D., N)	Mean	(S.D., N)
Recidivism Outcomes[b]				
Arrest (any offense)	.51	(.50, 337)	.45	(.50, 197)
Arrest (drug)	.10	(.30, 337)	.11	(.32, 197)
Arrest (violent)	.05	(.23, 337)	.07	(.25, 197)
Arrest (property)	.13	(.33, 337)	.10	(.30, 197)
Arrest (other)	.23	(.42, 337)	.18	(.38, 197)
Higher Custody (any offense)[c]	.20	(.40, 337)	.15	(.36, 197)
Higher Custody (drug)	.02	(.12, 337)	.03	(.17, 197)
Higher Custody (violent)	.01	(.11, 337)	.02	(.12, 197)
Higher Custody (property)	.04	(.19, 337)	.03	(.17, 197)
Higher Custody (other)	.14	(.34, 337)	.08	(.27, 197)
Post-Release CD Aftercare				
Aftercare (% receiving)	.59	(.49, 337)	.49 *	(.50, 197)
Aftercare (days to)	31.29	(60.43, 199)	25.22	(55.27, 97)
Aftercare (w/in 1 week)	.54	(.50, 199)	.65 †	(.48, 97)
Aftercare (days continuous)	146.22	(124.00, 199)	164.23	(118.84, 97)
Aftercare (more than 1 week)	.97	(.16, 199)	.99	(.10, 97)
Parole Worksheet Measures				
P.O.-reported CD Aftercare	.76	(.43, 70)	.75	(.44, 40)
No. Sessions CD Aftercare	16.67	(14.81, 48)	10.21 *	(6.77, 24)
Follow-Up Services[d]				
AA or 12-Step Meetings	2.13	(1.02, 16)	2.18	(1.08, 11)
Free Aftercare	2.80	(1.24, 20)	2.20	(1.14, 10)
Support for Other Needs	2.00	(.82, 13)	2.13	(1.13, 8)
No. Drug Tests	1.31	(2.35, 74)	.84	(1.19, 43)
Youth Admitted Drug Use	.36	(.48, 67)	.33	(.47, 40)
Sanctions Used (if UA = +)				
None	.06	(.23, 36)	.00	(.00, 16)
Motion to Revoke	.14	(.35, 36)	.13	(.34, 16)
More Intensive Supervision	.56	(.50, 36)	.56	(.51, 16)
More Frequent Urine UAs	.31	(.47, 35)	.44	(.51, 16)
Out-patient Counseling	.47	(.51, 36)	.28	(.46, 18)
Move to Restrictive Prog.	.11	(.32, 36)	.18	(.39, 17)
Part. in Prod. Activities[e]	2.83	(1.03, 71)	2.93	(1.06, 41)
Overall Parole Compliance[f]	2.72	(1.03, 71)	2.86	(1.05, 42)

a. Statistical differences (2-tailed) between treatment and control groups: † < .10, * < .05, ** < .01, *** < .001.
b. For the outcomes, no statistical test of differences is presented because the treatment and control group youths experienced different levels of post-release opportunity (in days) to recidivate.
c. Higher custody is coded "1" if a youth received a parole revocation or was recommitted.
d. Scale: 1=attended rarely, 2=attended occasionally, 3=attended frequently, 4=attended regularly.
e. Scale: 1=not at all, 2=sporadically, 3=moderately, 4=full participation.
f. Scale: 1=not at all, 2=minimally, 3=moderately, 4=very well.

Figure 1. Arrest Survival Analysis: Treatment Group vs. Control Group
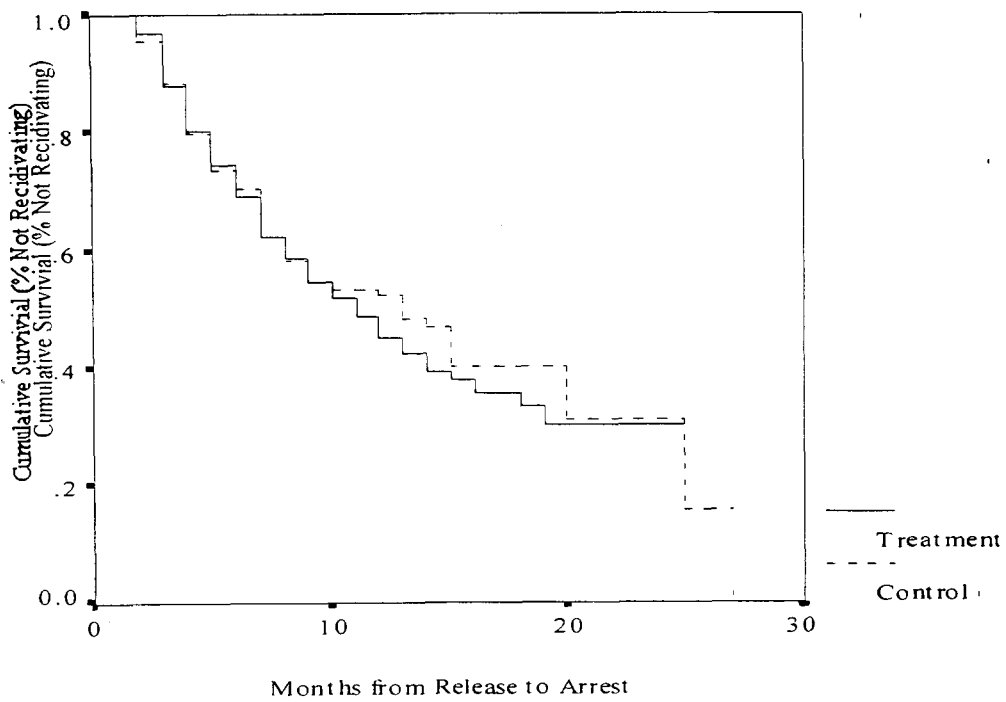
NOTE: Comparison of survival experience using the Wilcoxon (Gehan) statistic: overall comparison statistic = .133 (d.f.=1, p=.7151, treatment group n = 332, control group n = 195).

Table 2. Arrest Survival Analysis Cumulative Proportions: Treatment Group vs. Control Group

	Estimated Cumulative Proportion Surviving (Not Recidivating)	
Month	Treatment Group (N=332)	Control Group (N=195)
1	.9667	.9536
2	.8771	.8838
3	.8010	.7980
4	.7413	.7322
5	.6859	.7014
6	.6224	.6200
7	.5860	.5809
8	.5443	.5459 (breakpoint)
9	.5162	.5306
10	.4843	.5306
11	.4517	.5202
12	.4207	.4817
13	.3910	.4659
14	.3807	.4009
15	.3535	.4009
16	.3535	.4009
17	.3314	.4009
18	.2998	.4009
19	.2998	.3118
20	.2998	.3118
21	.2998	.3118
22	.2998	.3118
23	.2998	.3118
24	.2998	.1559
25		.1559
26		.1559

Figure 2. Higher Custody Survival Analysis: Treatment Group vs. Control Group
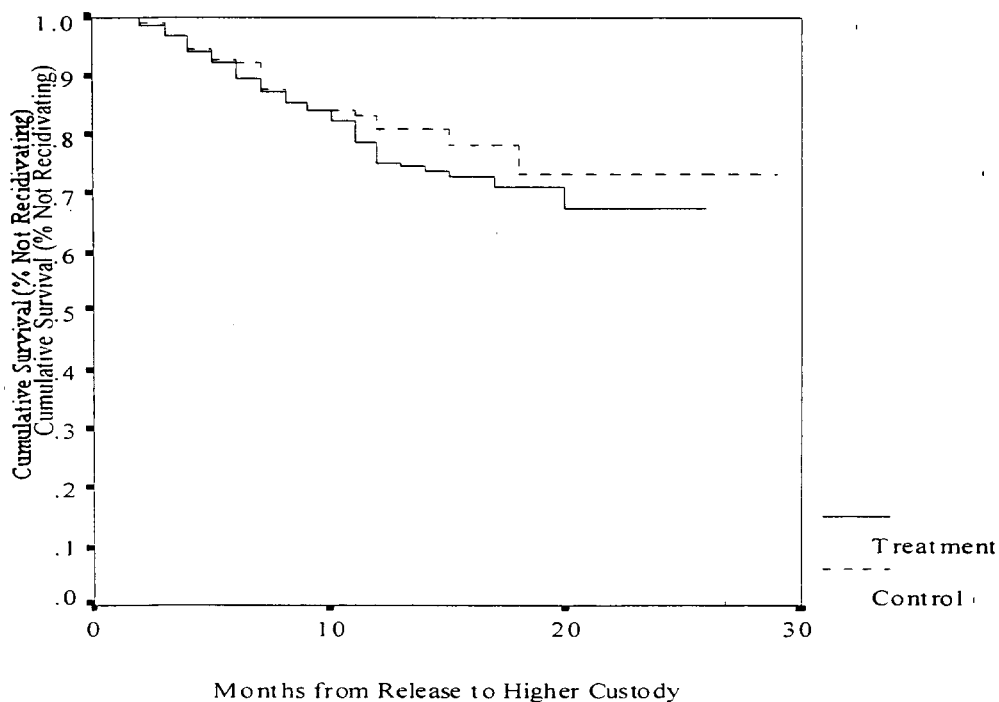
NOTE: Comparison of survival experience using the Wilcoxon (Gehan) statistic: overall comparison statistic = .622 (d.f.=1, p=.4304, treatment group n = 332, control group n = 195).

Table 3. Higher Custody Survival Analysis Cumulative Proportions: Treatment Group vs. Control Group

| Month | Estimated Cumulative Proportion Surviving (Not Recidivating) | |
	Treatment Group (N=336)	Control Group (N=197)
1	.9879	.9897
2	.9662	.9682
3	.9407	.9451
4	.9204	.9267
5	.8952	.9203
6	.8729	.8801
7	.8571	.8519
8	.8404	.8442 (breakpoint)
9	.8226	.8442
10	.7878	.8342
11	.7525	.8095
12	.7459	.8095
13	.7381	.8095
14	.7280	.7846
15	.7280	.7846
16	.7115	.7846
17	.7115	.7323
18	.7115	.7323
19	.6730	.7323
20	.6730	.7323
21	.6730	.7323
22	.6730	.7323
23	.6730	.7323
24	.6730	.7323

Table 4a. Treatment and Control Group Youths: Cox Regression -- Arrest

	Univariate Cox regression: Arrest (ALL)	Multivariate Cox regression: Arrest (ALL)	Univariate Cox regression: Arrest (DRUG)	Multivariate Cox regression: Arrest (DRUG)
	E(b)[a] (N)	E(b) (N=490)	E(b) (N)	E(b) (N=489)
Treatment (vs. control)	1.08 (525)	1.16	.86 (523)	.90
Parole (vs. non-secure)	1.62 (525) †	1.51	1.58 (523)	1.47
Demographics				
Race				
Black (vs. other)	1.23 (522) †		1.79 (520) *	
Hispanic (vs. other)	.90 (522)		.56 (520) *	
White (vs. other)	.89 (522)	.85	1.15 (520)	1.02
Par. Marital Status				
Never Mar. (vs. other)	1.25 (505) †		1.17 (504)	
Div./Sep. (vs. other)	.95 (505)		.68 (504)	
Other/Unk. (vs. other)	.86 (505)		.84 (504)	
Married (vs. other)	.87 (505)	.89	1.56 (504)	1.43
Age at Incarceration	.89 (522) *	.88 †	1.17 (520)	1.13
Risk Factors				
Non-violent (vs. other)	1.07 (525)	1.09	1.68 (523)	1.74
High Risk (vs. other)	1.28 (511) *	1.38 **	1.68 (509) †	1.79 *
Amenability Factors				
SOCRATES Alcohol Ind.	.96 (330)		.98 (308)	
SOCRATES Drug Ind.	.95 (333)		.91 (311)	
TYC High Amen. (vs. other)	.94 (410)		1.12 (409)	
TYC Behavior Infractions	1.00 (525)	1.00	.98 (523)	.98
Treatment Sites				
Giddings (vs. other)	.42 (525) †		.50 (523)	
Evins (vs. other)	.67 (525) *		1.21 (523)	
Jefferson (vs. other)	1.25 (525) †		1.60 (523) †	
Gainesville (vs. other)	1.37 (525) **	1.39 *	.68 (523)	.81
McFadden (vs. other)	.59 (525)		.91 (523)	
Post-Release				
CD Aftercare	1.08 (525)	.94	1.00 (523)	1.07

a. E(b), the exponentiated value of a Cox regression coefficient, denotes the hazard ratio of recidivism for a unit change in a predictor (i.e., it denotes the percentage change in risk of recidivism for a unit change in a predictor). † < .10, * < .05, ** < .01, *** < .001

Table 4a. Treatment and Control Group Youths: Cox Regression -- Arrest (cont.)

	Univariate Cox regression: Arrest (VIOLENT)	Multivariate Cox regression: Arrest (VIOLENT)	Univariate Cox regression: Arrest (PROPERTY)	Multivariate Cox regression: Arrest (PROPERTY)
	E(b)[a]	E(b) (N=472)	E(b)	E(b) (N=490)
Treatment (vs. control)	.77 (525)	.82	1.27 (525)	1.13
Parole (vs. non-secure)	1.54 (525)	1.69	b	b
Demographics				
Race				
Black (vs. other)	.96 (522)		.64 (522)	
Hispanic (vs. other)	1.43 (522)		1.21 (522)	
White (vs. other)	.57 (522)	.42	1.24 (522)	1.25
Par. Marital Status				
Never Mar. (vs. other)	.88 (486)		.67 (505)	
Div./Sep. (vs. other)	1.52 (486)		1.24 (505)	
Other/Unk. (vs. other)	.63 (486)		1.14 (505)	
Married (vs. other)	.73 (486)	.67	1.04 (505)	1.29
Age at Incarceration	.98 (522)	.92	.74 (522) **	.74 *
Risk Factors				
Non-violent (vs. other)	.95 (525)	.88	.95 (525)	1.16
High Risk (vs. other)	1.41 (511)	1.41	1.38 (511)	1.50
Amenability Factors				
SOCRATES Alcohol Ind.	.74 (315)		.97 (329)	
SOCRATES Drug Ind.	.71 (318)		.98 (332)	
TYC High Amen. (vs. other)	.56 (394)		1.83 (410) *	
TYC Behavior Infractions	.96 (525)	.96	1.00 (525)	.96
Treatment Sites				
Giddings (vs. other)	.05 (525)		.44 (525)	
Evins (vs. other)	.78 (525)		.51 (525) †	
Jefferson (vs. other)	1.53 (525)		1.23 (525)	
Gainesville (vs. other)	.95 (525)	.91	1.59 (525) †	1.81 *
McFadden (vs. other)	.82 (525)		.41 (525)	
Post-Release				
CD Aftercare	.80 (525)	.86	1.29 (525)	1.09

a. E(b), the exponentiated value of a Cox regression coefficient, denotes the hazard ratio of recidivism for a unit change in a predictor (i.e., it denotes the percentage change in risk of recidivism for a unit change in a predictor).
b. Too few cases, with censoring, to estimate reliably the specified parameter.
† < .10, * < .05, ** < .01, *** < .001

Table 4b. Treatment and Control Group Parolees: Cox Regression -- Arrest

	Univariate Cox regression: Arrest (ALL)	Multivariate Cox regression: Arrest (ALL)	Univariate Cox regression: Arrest (DRUG)	Multivariate Cox regression: Arrest (DRUG)
	E(b)[a]	E(b) (N=419)	E(b)	E(b) (N=418)
Treatment (vs. control)	1.05 (451)	1.14	.83 (449)	.95
Demographics				
Race				
Black (vs. other)	1.33 (448) *		1.72 (446) *	
Hispanic (vs. other)	.91 (448)		.59 (446) *	
White (vs. other)	.80 (448)	.76	1.06 (446)	.95
Par. Marital Status				
Never Mar. (vs. other)	1.28 (433) †		1.19 (432)	
Div./Sep. (vs. other)	.92 (433)		.62 (432)	
Other/Unk. (vs. other)	.91 (433)		.94 (432)	
Married (vs. other)	.86 (433)	.89	1.60 (432)	1.46
Age at Incarceration	.89 (448) †	.88 †	1.16 (446)	1.10
Risk Factors				
Non-violent (vs. other)	1.01 (451)	1.02	1.61 (449)	1.66
High Risk (vs. other)	1.30 (438) *	1.40 **	1.75 (436) *	1.88 *
Amenability Factors				
SOCRATES Alcohol Ind.	.96 (288)		1.00 (271)	
SOCRATES Drug Ind.	.94 (291)		.88 (274)	
TYC High Amen. (vs. other)	.96 (352)		1.11 (351)	
TYC Behavior Infractions	1.01 (451)	1.01	.98 (449)	.99
Treatment Sites				
Giddings (vs. other)	.41 (451)		.63 (449)	
Evins (vs. other)	.71 (451) *		1.32 (449)	
Jefferson (vs. other)	1.23 (451)		1.74 (449) *	
Gainesville (vs. other)	1.28 (451) *	1.34 *	.54 (449) †	.65
McFadden (vs. other)	.66 (451)		1.19 (449)	
Post-Release				
CD Aftercare	.99 (451)	.94	.92 (449)	1.10
No. Aftercare Sessions	1.00 (61)		1.02 (57)	
No. Drug Tests	1.02 (102)		1.18 (93) †	
Parole Compliance	.77 (98) *		.88 (89)	

a. E(b), the exponentiated value of a Cox regression coefficient, denotes the hazard ratio of recidivism for a unit change in a predictor (i.e., it denotes the percentage change in risk of recidivism for a unit change in a predictor).
† < .10, * < .05, ** < .01, *** < .001

Table 4b. Treatment and Control Group Parolees: Cox Regression -- Arrest (cont.)

	Univariate Cox regression: Arrest (VIOLENT)	Multivariate Cox regression: Arrest (VIOLENT)	Univariate Cox regression: Arrest (PROPERTY)	Multivariate Cox regression: Arrest (PROPERTY)
	E(b)[a]	E(b) (N=404)	E(b)	E(b) (N=419)
Treatment (vs. control)	.68 (451)	.70	1.26 (451)	1.19
Demographics				
Race				
Black (vs. other)	1.13 (448)		.69 (448)	
Hispanic (vs. other)	1.42 (448)		1.18 (448)	
White (vs. other)	.42 (448)	.29 †	1.18 (448)	1.16
Par. Marital Status				
Never Mar. (vs. other)	.98 (417)		.69 (433)	
Div./Sep. (vs. other)	1.56 (417)		1.24 (433)	
Other/Unk. (vs. other)	.33 (417)		1.16 (433)	
Married (vs. other)	.76 (417)	.69	.99 (433)	1.21
Age at Incarceration	1.03 (448)	.97	.75 (448) **	.74 *
Risk Factors				
Non-violent (vs. other)	.89 (451)	.82	.97 (451)	1.20
High Risk (vs. other)	1.40 (438)	1.41	1.39 (438)	1.52
Amenability Factors				
SOCRATES Alcohol Ind.	.75 (276)		.99 (288)	
SOCRATES Drug Ind.	.71 (279)		.98 (291)	
TYC High Amen. (vs. other)	.58 (339)		1.79 (352) *	
TYC Behavior Infractions	.97 (451)	.96	1.00 (451)	1.00
Treatment Sites				
Giddings (vs. other)	.05 (451)		.55 (451)	
Evins (vs. other)	.86 (451)		.52 (451) †	
Jefferson (vs. other)	1.25 (451)		1.23 (451)	
Gainesville (vs. other)	.94 (451)	1.01	1.45 (451)	1.64 †
McFadden (vs. other)	.05 (451)		.51 (451)	
Post-Release				
CD Aftercare	.71 (451)	.86	.99 (451)	.86
No. Aftercare Sessions	.95 (31)		.99 (56)	
No. Drug Tests	.96 (92)		1.03 (100)	
Parole Compliance	2.29 (65)		.65 (96) †	

a. E(b), the exponentiated value of a Cox regression coefficient, denotes the hazard ratio of recidivism for a unit change in a predictor (i.e., it denotes the percentage change in risk of recidivism for a unit change in a predictor).
† < .10, * < .05, ** < .01, *** < .001

Table 4c. Treatment Group Youths: Cox Regression -- Arrest

	Univariate Cox regression: Arrest (ALL)	Multivariate Cox regression: Arrest (ALL)	Univariate Cox regression: Arrest (DRUG)	Multivariate Cox regression: Arrest (DRUG)
	E(b)[a]	E(b) (N=321)	E(b)	E(b) (N=319)
Parole (vs. non-secure)	1.32 (330)	1.19	1.26 (328)	1.51
Demographics				
Race				
Black (vs. other)	1.23 (328)		2.15 (326) *	
Hispanic (vs. other)	.97 (328)		.57 (326)	
White (vs. other)	.82 (328)	.83	.85 (326)	.61
Par. Marital Status				
Never Mar. (vs. other)	1.24 (329)		1.33 (327)	
Div./Sep. (vs. other)	.94 (329)		.53 (327) †	
Other/Unk. (vs. other)	.94 (329)		1.02 (327)	
Married (vs. other)	.85 (329)	.89	1.61 (327)	1.29
Age at Incarceration	.84 (328) **	.87 †	1.52 (326) *	1.53 *
Risk Factors				
Non-violent (vs. other)	.81 (330)	.90	1.19 (328)	1.48
High Risk (vs. other)	1.36 (324) *	1.35 †	1.73 (322)	1.73
Amenability Factors				
SOCRATES Alcohol Ind.	.97 (238)		1.10 (223)	
SOCRATES Drug Ind.	1.01 (241)		.84 (226)	
TYC High Amen. (vs. other)	.97 (247)		1.55 (230)	
TYC Behavior Infractions	1.02 (330) *	1.02	1.00 (328)	1.03
Treatment Progress				
Treatment Completion	1.09 (330)		2.99 (328)	
Treatment Performance	.93 (252) *		.92 (250)	
Treatment Sites				
Giddings (vs. other)	.31 (330) *		.53 (328)	
Evins (vs. other)	.62 (330) *		1.63 (328)	
Jefferson (vs. other)	1.20 (330)		1.06 (328)	
Gainesville (vs. other)	1.36 (330) *	1.34 †	.76 (328)	.86
McFadden (vs. other)	.58 (330)		1.00 (328)	
Post-Release				
CD Aftercare	1.00 (330)	.93	.77 (328)	.75

a. E(b), the exponentiated value of a Cox regression coefficient, denotes the hazard ratio of recidivism for a unit change in a predictor (i.e., it denotes the percentage change in risk of recidivism for a unit change in a predictor).
† < .10, * < .05, ** < .01, *** < .001

Table 4c. Treatment Group Youths: Cox Regression -- Arrest (cont.)

	Univariate Cox regression: Arrest (VIOLENT)	Multivariate Cox regression: Arrest (VIOLENT)	Univariate Cox regression: Arrest (PROPERTY)	Multivariate Cox regression: Arrest (PROPERTY)
	E(b)[a]	E(b) (N=311)	E(b)	E(b) (N=318)
Parole (vs. non-secure)	.79 (320)	.73	[b]	[b]
Demographics				
Race				
Black (vs. other)	1.44 (318)		.57 (325)	
Hispanic (vs. other)	1.52 (318)		1.21 (325)	
White (vs. other)	.19 (318) †	.21	1.25 (325)	1.56
Par. Marital Status				
Never Mar. (vs. other)	1.34 (319)		.70 (326)	
Div./Sep. (vs. other)	1.00 (319)		1.43 (326)	
Other/Unk. (vs. other)	.61 (319)		.80 (326)	
Married (vs. other)	.82 (319)	.81	.95 (326)	1.25
Age at Incarceration	.77 (318)	.79	.67 (325) **	.64 **
Risk Factors				
Non-violent (vs. other)	.79 (320)	.83	.78 (327)	.90
High Risk (vs. other)	1.63 (314)	1.62	1.48 (321)	1.45
Amenability Factors				
SOCRATES Alcohol Ind.	.92 (229)		1.03 (236)	
SOCRATES Drug Ind.	1.10 (232)		1.10 (239)	
TYC High Amen. (vs. other)	.58 (238)		1.66 (245)	
TYC Behavior Infractions	.98 (320)	.97	1.00 (327)	.98
Treatment Progress				
Treatment Completion	1.52 (320)		2.50 (327)	
Treatment Performance	.85 (231)		.94 (246)	
Treatment Sites				
Giddings (vs. other)	.05 (320)		.05 (327)	
Evins (vs. other)	1.05 (320)		.13 (327) *	
Jefferson (vs. other)	1.73 (320)		1.40 (327)	
Gainesville (vs. other)	.92 (320)	.85	1.85 (327) *	1.99 *
McFadden (vs. other)	.05 (320)		.37 (327)	
Post-Release				
CD Aftercare	1.13 (320)	1.29	.77 (328)	1.12

a. E(b), the exponentiated value of a Cox regression coefficient, denotes the hazard ratio of recidivism for a unit change in a predictor (i.e., it denotes the percentage change in risk of recidivism for a unit change in a predictor).
b. Too few cases, with censoring, to estimate reliably the specified parameter.
† < .10, * < .05, ** < .01, *** < .001

Table 4d. Treatment Group Parolees: Cox Regression -- Arrest

	Univariate Cox regression: Arrest (ALL)	Multivariate Cox regression: Arrest (ALL)	Univariate Cox regression: Arrest (DRUG)	Multivariate Cox regression: Arrest (DRUG)
	E(b)[a]	E(b) (N=277)	E(b)	E(b) (N=275)
Demographics				
Race				
Black (vs. other)	1.38 (283) †		2.00 (281) *	
Hispanic (vs. other)	.96 (283)		.61 (281)	
White (vs. other)	.72 (283)	.73	.88 (281)	.63
Par. Marital Status				
Never Mar. (vs. other)	1.32 (284) †		1.33 (282)	
Div./Sep. (vs. other)	.90 (284)		.49 (282) †	
Other/Unk. (vs. other)	.93 (284)		1.08 (282)	
Married (vs. other)	.85 (284)	.87	1.69 (282)	1.35
Age at Incarceration	.84 (283) *	.87 †	1.50 (281) *	1.49 †
Risk Factors				
Non-violent (vs. other)	.78 (285)	.86	1.16 (283)	1.39
High Risk (vs. other)	1.38 (280) *	1.38 *	1.95 (278) †	1.86 †
Amenability Factors				
SOCRATES Alcohol Ind.	.95 (207)		1.08 (195)	
SOCRATES Drug Ind.	.99 (210)		.83 (198)	
TYC High Amen. (vs. other)	.96 (215)		1.38 (202)	
TYC Behavior Infractions	1.02 (285) *	1.02	1.01 (283)	1.03
Treatment Progress				
Treatment Completion	1.01 (285)		2.68 (283)	
Treatment Performance	.91 (213) *		.89 (211)	
Treatment Sites				
Giddings (vs. other)	.27 (285) †		.69 (283)	
Evins (vs. other)	.62 (285) †		1.73 (283)	
Jefferson (vs. other)	1.22 (285)		1.19 (283)	
Gainesville (vs. other)	1.27 (285)	1.26	.58 (283)	.67
McFadden (vs. other)	.64 (285)		1.31 (283)	
Post-Release				
CD Aftercare	.94 (285)	.94	.71 (283)	.79
No. Aftercare Sessions	.98 (43)		1.00 (39)	
No. Drug Tests	.99 (69)		1.13 (63)	
Parole Compliance	.81 (66)		.96 (60)	

a. E(b), the exponentiated value of a Cox regression coefficient, denotes the hazard ratio of recidivism for a unit change in a predictor (i.e., it denotes the percentage change in risk of recidivism for a unit change in a predictor). † < .10, * < .05, ** < .01, *** < .001

Table 4d. Treatment Group Parolees: Cox Regression -- Arrest (cont.)

	Univariate Cox regression: Arrest (VIOLENT)	Multivariate Cox regression: Arrest (VIOLENT)	Univariate Cox regression: Arrest (PROPERTY)	Multivariate Cox regression: Arrest (PROPERTY)
	E(b)[a]	E(b) (N=269)	E(b)	E(b) (N=274)
Demographics				
Race				
Black (vs. other)	1.83 (275)		.62 (280)	
Hispanic (vs. other)	1.59 (275)		1.19 (280)	
White (vs. other)	.03 (275)	b	1.20 (280)	1.45
Par. Marital Status				
Never Mar. (vs. other)	1.67 (276)		.73 (281)	
Div./Sep. (vs. other)	.98 (276)		1.42 (281)	
Other/Unk. (vs. other)	.04 (276)		.79 (281)	
Married (vs. other)	.91 (276)	.95	.92 (281)	1.19
Age at Incarceration	.80 (275)	.77	.67 (280) **	.64 **
Risk Factors				
Non-violent (vs. other)	.71 (277)	.74	.83 (282)	.94
High Risk (vs. other)	1.59 (272)	1.54	1.46 (277)	1.47
Amenability Factors				
SOCRATES Alcohol Ind.	.92 (200)		1.03 (205)	
SOCRATES Drug Ind.	1.09 (203)		1.09 (208)	
TYC High Amen. (vs. other)	.61 (208)		1.59 (213)	
TYC Behavior Infractions	.98 (277)	.97	1.00 (282)	.98
Treatment Progress				
Treatment Completion	1.27 (277)		2.38 (282)	
Treatment Performance	.88 (199)		.93 (209)	
Treatment Sites				
Giddings (vs. other)	.05 (277)		.05 (282)	
Evins (vs. other)	1.20 (277)		.12 (282) *	
Jefferson (vs. other)	1.32 (277)		1.43 (282)	
Gainesville (vs. other)	1.01 (277)	.93	1.68 (282) †	1.81 †
McFadden (vs. other)	.05 (277)		.46 (282)	
Post-Release				
CD Aftercare	1.28 (277)	1.39	.98 (282)	.91
No. Aftercare Sessions	.91 (21)		.97 (38)	
No. Drug Tests	.91 (62)		.99 (67)	
Parole Compliance	2.30 (42)		.62 (64) †	

a. E(b), the exponentiated value of a Cox regression coefficient, denotes the hazard ratio of recidivism for a unit change in a predictor (i.e., it denotes the percentage change in risk of recidivism for a unit change in a predictor).
b. Too few cases, with censoring, to estimate reliably the specified parameter.
† < .10, * < .05, ** < .01, *** < .001

Table 5a. Treatment and Control Group Youths: Cox Regression -- Higher Custody

	Univariate Cox regression: Higher Custody (ALL)	Multivariate Cox regression: Higher Custody (ALL)	Univariate Cox regression: Higher Custody (DRUG)	Multivariate Cox regression: Higher Custody (DRUG)
	$E(b)^a$	$E(b)$ (N=490)	$E(b)$	$E(b)$ (N=489)
Treatment (vs. control)	1.23 (525)	1.35	.46 (524)	.74
Parole (vs. non-secure)	1.05 (525)	.93	.83 (524)	1.36
Demographics				
Race				
Black (vs. other)	1.46 (522) †		1.01 (521)	
Hispanic (vs. other)	.75 (522)		1.03 (521)	
White (vs. other)	.95 (522)	1.10	.94 (521)	1.16
Par. Marital Status				
Never Mar. (vs. other)	1.48 (505) †		.58 (504)	
Div./Sep. (vs. other)	1.12 (505)		2.25 (504)	
Other/Unk. (vs. other)	1.04 (505)		.04 (504)	
Married (vs. other)	.34 (505) **	.39 **	.99 (504)	1.21
Age at Incarceration	.69 (522) ***	.67 ***	.92 (521)	.88
Risk Factors				
Non-violent (vs. other)	.95 (525)	.82	2.66 (524)	2.54
High Risk (vs. other)	1.10 (511)	1.15	3.36 (510) †	4.83 *
Amenability Factors				
SOCRATES Alcohol Ind.	.95 (330)		1.03 (319)	
SOCRATES Drug Ind.	1.06 (333)		.96 (322)	
TYC High Amen. (vs. other)	.86 (409)		.14 (396) †	
TYC Behavior Infractions	1.00 (525)	.99	.96 (524)	.95
Treatment Sites				
Giddings (vs. other)	.69 (525)		.05 (524)	
Evins (vs. other)	.71 (525)		2.40 (524)	
Jefferson (vs. other)	1.03 (525)		1.59 (524)	
Gainesville (vs. other)	1.36 (525)	1.29	.46 (524)	.71
McFadden (vs. other)	1.26 (525)		.05 (524)	
Post-Release				
CD Aftercare	1.18 (525)	1.20	.37 (524)	.39

a. E(b), the exponentiated value of a Cox regression coefficient, denotes the hazard ratio of recidivism for a unit change in a predictor (i.e., it denotes the percentage change in risk of recidivism for a unit change in a predictor). † < .10, * < .05, ** < .01, *** < .001

Table 5b. Treatment and Control Group Parolees: Cox Regression -- Higher Custody

	Univariate Cox regression: Higher Custody (ALL)	Multivariate Cox regression: Higher Custody (ALL)	Univariate Cox regression: Higher Custody (DRUG)	Multivariate Cox regression: Higher Custody (DRUG)
	E(b)[a]	E(b) (N=419)	E(b)	E(b) (N=418)
Treatment (vs. control)	1.27 (451)	1.40	.54 (450)	1.07
Demographics				
Race				
Black (vs. other)	1.54 (448) *		1.26 (447)	
Hispanic (vs. other)	.78 (448)		1.26 (447)	
White (vs. other)	.81 (448)	.94	.45 (447)	.53
Par. Marital Status				
Never Mar. (vs. other)	1.67 (433) *		.66 (432)	
Div./Sep. (vs. other)	.97 (433)		1.93 (432)	
Other/Unk. (vs. other)	1.15 (433)		.04 (432)	
Married (vs. other)	.35 (433) **	.40 *	1.07 (432)	1.19
Age at Incarceration	.65 (448) ***	.64 ***	.90 (447)	.86
Risk Factors				
Non-violent (vs. other)	.88 (451)	.77	2.48 (450)	2.49
High Risk (vs. other)	1.10 (438)	1.14	2.87 (437)	4.29 †
Amenability Factors				
SOCRATES Alcohol Ind.	.94 (288)		1.23 (281)	
SOCRATES Drug Ind.	1.01 (291)		.81 (284)	
TYC High Amen. (vs. other)	.86 (351)		.16 (345) †	
TYC Behavior Infractions	1.00 (451)	.99	.97 (450)	.96
Treatment Sites				
Giddings (vs. other)	.44 (451)		.05 (450)	
Evins (vs. other)	.78 (451)		2.88 (450) †	
Jefferson (vs. other)	1.02 (451)		1.83 (450)	
Gainesville (vs. other)	1.38 (451)	1.25	.49 (450)	.70
McFadden (vs. other)	1.22 (451)		.05 (450)	
Post-Release				
CD Aftercare	1.19 (451)	1.18	.35 (450) †	.38
No. Aftercare Sessions	1.00 (60)		.85 (55)	
No. Drug Tests	.98 (102)		1.24 (91)	
Parole Compliance	.71 (98)		.48 (88)	

a. E(b), the exponentiated value of a Cox regression coefficient, denotes the hazard ratio of recidivism for a unit change in a predictor (i.e., it denotes the percentage change in risk of recidivism for a unit change in a predictor).
† < .10, * < .05, ** < .01, *** < .001

Table 5c. Treatment Group Youths: Cox Regression -- Higher Custody

	Univariate Cox regression: Higher Custody (ALL)	Multivariate Cox regression: Higher Custody (ALL)	Univariate Cox regression: Higher Custody (DRUG)	Multivariate Cox regression: Higher Custody (DRUG)
	E(b)[a]	E(b) (N=321)	E(b)	E(b) (N=321)
Parole (vs. non-secure)	1.16 (330)	.98	b	b
Demographics				
Race				
Black (vs. other)	1.50 (328)		.69 (328)	
Hispanic (vs. other)	.82 (328)		1.45 (328)	
White (vs. other)	.80 (328)	.90	.85 (328)	.80
Par. Marital Status				
Never Mar. (vs. other)	1.51 (329) †		.62 (329)	
Div./Sep. (vs. other)	1.18 (329)		5.16 (329)	
Other/Unk. (vs. other)	1.31 (329)		.04 (329)	
Married (vs. other)	.23 (329) **	.26 **	.04 (329)	.00
Age at Incarceration	.64 (328) ***	.67 ***	.72 (328)	.70
Risk Factors				
Non-violent (vs. other)	.84 (330)	.76	1.25 (330)	1.38
High Risk (vs. other)	1.12 (324)	1.08	2.30 (324)	2.67
Amenability Factors				
SOCRATES Alcohol Ind.	.98 (238)		1.13 (231)	
SOCRATES Drug Ind.	1.11 (241)		1.01 (234)	
TYC High Amen. (vs. other)	.79 (247)		.46 (239)	
TYC Behavior Infractions	1.02 (330)	.99	1.00 (330)	1.01
Treatment Progress				
Treatment Completion	.75 (330)		b	
Treatment Performance	.87 (252) *		1.09 (252)	
Treatment Sites				
Giddings (vs. other)	.67 (330)		.05 (330)	
Evins (vs. other)	.65 (330)		b	
Jefferson (vs. other)	.95 (330)		.53 (330)	
Gainesville (vs. other)	1.29 (330)	1.17	.34 (330)	.35
McFadden (vs. other)	1.18 (330)		.05 (330)	
Post-Release				
CD Aftercare	1.15 (330)	1.19	.14 (330) †	.17

a. E(b), the exponentiated value of a Cox regression coefficient, denotes the hazard ratio of recidivism for a unit change in a predictor (i.e., it denotes the percentage change in risk of recidivism for a unit change in a predictor).
b. Too few cases, with censoring, to estimate reliably the specified parameter.
† < .10, * < .05, ** < .01, *** < .001

Table 5d. Treatment Group Parolees: Cox Regression -- Higher Custody

	Univariate Cox regression: Higher Custody (ALL)	Multivariate Cox regression: Higher Custody (ALL)	Univariate Cox regression: Higher Custody (DRUG)	Multivariate Cox regression: Higher Custody (DRUG)
	E(b)[a]	E(b) (N=277)	E(b)	E(b) (N=278)
Demographics				
Race				
Black (vs. other)	1.65 (283) *		.74 (283)	
Hispanic (vs. other)	.85 (283)		1.44 (283)	
White (vs. other)	.68 (283)	.76	.81 (283)	.85
Par. Marital Status				
Never Mar. (vs. other)	1.71 (284) *		.63 (284)	
Div./Sep. (vs. other)	1.03 (284)		b	
Other/Unk. (vs. other)	1.37 (284)		.04 (284)	
Married (vs. other)	.24 (284) **	.26 **	.04 (284)	b
Age at Incarceration	.63 (283) ***	.67 ***	.72 (283)	.58
Risk Factors				
Non-violent (vs. other)	.81 (285)	.74	1.33 (285)	1.49
High Risk (vs. other)	1.16 (280)	1.15	2.28 (280)	2.64
Amenability Factors				
SOCRATES Alcohol Ind.	.95 (207)		1.13 (203)	
SOCRATES Drug Ind.	1.07 (210)		1.01 (206)	
TYC High Amen. (vs. other)	.72 (215)		.45 (211)	
TYC Behavior Infractions	1.02 (285)	.99	1.00 (285)	.99
Treatment Progress				
Treatment Completion	.67 (285)		b	
Treatment Performance	.85 (213) **		1.08 (213)	
Treatment Sites				
Giddings (vs. other)	.43 (285)		.05 (285)	
Evins (vs. other)	.68 (285)		b	
Jefferson (vs. other)	.97 (285)		.53 (285)	
Gainesville (vs. other)	1.29 (285)	1.14	.31 (285)	.30
McFadden (vs. other)	1.13 (285)		.05 (285)	
Post-Release				
CD Aftercare	1.14 (285)	1.18	.11 (285) *	.12 †
No. Aftercare Sessions	.99 (42)		.84 (38)	
No. Drug Tests	.96 (69)		1.18 (61)	
Parole Compliance	.66 (66) †		.47 (59)	

a. E(b), the exponentiated value of a Cox regression coefficient, denotes the hazard ratio of recidivism for a unit change in a predictor (i.e., it denotes the percentage change in risk of recidivism for a unit change in a predictor).
b. Too few cases, with censoring, to estimate reliably the specified parameter.
† < .10, * < .05, ** < .01, *** < .001

Table 6. Parole Officer Explanations for Youths' Success/Failure on Parole

Reasons Given for Success on Parole

- Active participation of youth in treatment and programming
- Having parents/family who are involved, caring, supportive, and who provide active supervision
- Counseling services that are provided immediately and on an ongoing basis
- Involvement in work or employment
- Attending school or pursuing a G.E.D.
- Performing ongoing community service

Reasons Given for Failure on Parole

- Absconding
- Arrest or transfer to adult probation for commission of new offenses
- Non-compliance (e.g., not reporting, not attending classes or counseling)
- Low self-esteem
- Association with old friends/gang members
- Parents in prison
- Substance use/abuse
- Inadequate parole services

APPENDIX A: Texas Youth Commission
Chemical Dependency Treatment Program -- Exit Assessment

Texas Youth Commission RSAT/CDTP Process Study: Exit Assessment

Student's TYC #: _____   Circle Reason for D/C: SC, POPM, Fail, MaxBen, Died, Other

Student's Name: _____   Date of Discharge: _____

                                          Date Form Completed: _____

Please circle the rating under each question that best describes this student. <u>Complete this worksheet for all students leaving the CDTP, regardless of status of discharge</u>. Retain the original copy in one, centrally kept, "RSAT Evaluation file" on your campus.

(1)   What was the student's overall <u>level of participation in the CDTP?</u>

     1 = very   2 = moderately   3 = neither   4 = moderately   5 = very
       passive   passive   active nor passive   active   active

(2)   Please rate the student's understanding of the <u>CD Education Curriculum materials.</u>

     1 = very poor   2 = poor   3 = average   4 = good   5 = very good

(3)   To what extent did the student <u>understand that behavior, thinking errors and choices are related to their addiction?</u>

     1 = not at all   2 = only slightly   3 = moderately   4 = completely

(4)   <u>How actively did the youth seek help?</u> (For example, request individual counseling, attend voluntary support group meetings, express that he or she needs outside help?)

     1 = not at all   2 = only slightly   3 = moderately   4 = strongly

(5)   Did the student accept <u>that their substance dependence interfered with their goals?</u>

     1 = not at all   2 = only slightly   3 = moderately   4 = strongly

(6)   To what extent did the student <u>acknowledge that their substance dependence affected others</u> (e.g., that there were victims of their addiction)?

     1 = not at all   2 = only slightly   3 = moderately   4 = completely

(7)   In terms of overall performance in the treatment program, what <u>grade</u> (equivalent to a letter grade in school) would you give the student?

        A   B   C   D   F

(8)   What is your assessment of the <u>youth's commitment to remaining free of mood-altering chemicals</u> for one year?

     1 = not at all likely   2 = somewhat likely   3 = moderately likely   4 = very likely

(9)   Does the student have any <u>special circumstances or challenges</u> that affected his/her performance in the CDTP? _____ Yes _____ No

      If yes, please explain as many as apply (e.g., learning disabilities, death in the family, gang involvement, etc.). _____

(10) How involved was the youth's family (significant others) in the youth's treatment?

     1 = not at all   2 = only slightly   3 = moderately   4 = strongly

     Signed: _____ Completed by: PSW assigned, other PSW, PA, CDS, sec., other _____

APPENDIX B: PAROLEE DATA WORKSHEET

Texas Youth Commission RSAT/CDTP Outcome Study: Parolee Data Worksheet

Parolee's TYC #: _____

Parolee's TYC Name: _____

Location to which Paroled: _____

Date of Release onto Parole: _____

For the parolee above, we ask that you provide <u>all</u> drug/alcohol test results collected from the time the youth was placed on parole through discharge, revocation, or 6/15/00, whichever is first. Please complete the other items at the end of June. <u>By July 1</u>, the <u>completed worksheet</u> should be sent directly to <u>Bill Kelly, Center for Criminology and Criminal Justice Research, Burdine 336, UT-Austin, Austin, TX 78712</u>; phone 512-471-1122; fax 512-471-1748; e-mail (ccintern@mail.la.utexas.edu).

1. For <u>every</u> drug test while on parole, please provide the date of each test, the type of drug tested for (use any relevant codes), and whether the result was positive or negative.

Date of Drug Testing	Type of Drug Tested For [use code(s)]	Drug Testing Results

Drug Codes		4.	Barbituates	8.	Methaqualone
1.	Opiates	5.	Benzodiazepines	9.	Phencyclidine
2.	Amphetamines	6.	Cocaine	10.	Alcohol
3.	Methamphetamines	7.	Cannabis (THC)	11.	Other (specify)

(Rows for drug test entries, each with + and − columns)

2. Did the student receive CD specialized aftercare while on parole? ____ Yes ____ No

   If yes, please indicate the total CD aftercare sessions attended while on parole. ____ sessions

3. What, if any, were other counseling or follow-up services to which the student was referred? Circle N/A for any that do not apply; otherwise, circle the frequency of attendance/participation.

	Not applicable	1 = attended rarely	2 = attended occasionally	3 = attended frequently	4 = attended regularly
AA meetings or other 12-step meetings	N/A	1	2	3	4
"Free aftercare for CD issues": TCADA-funded program, PDAP, Council on ADA, etc.	N/A	1	2	3	4
Support for other needs: church groups, aftercare for SOTP, COG/ED issues, private therapy, etc.	N/A	1	2	3	4
Other (please specify _____)	N/A	1	2	3	4

4. Did the student admit to using alcohol or drugs while on parole? ____ Yes ____ No

5. If a student tested positive on a UA, or admitted using drugs/alcohol, what sanctions or treatments were used? (Please mark all that apply.)

   (a) None
   (b) Motion to revoke or revocation
   (c) More intensive supervision
   (d) More frequent urine screens
   (e) Out-patient counseling was increased (what program? _____)
   (f) Moved to a more restrictive program (what program? _____)

6. To what extent did the student participate in productive activities (e.g., school, employment)?

   not at all   2 = sporadically   3 = moderately   4 = full participation

7. Overall, how well has the student complied with parole requirements?

   not at all   2 = minimally   3 = moderately   4 = very well

   Please explain, and provide any information that you think might explain his/her success/failure.