Effectiveness of Arrowhead and Peer I Therapeutic Communities

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EXECUTIVE SUMMARY

The therapeutic community (TC) model has been widely implemented in response to the demand for more treatment options for offenders. The effectiveness of the TC in reducing drug use and criminal behavior among offender populations has made it one of the preferred treatment modalities in prisons and community corrections programs.

Success of the TC modality in effectively treating substances abusers has been linked to the programs' ability to retain clients. The longer the clients remain in treatment the lower their chance of recidivating. Fixed and dynamic client factors have been studied to determine their predictive ability in helping to retain clients. Although dynamic factors appear to be better predictors, results are often sporadic.

Research has also discovered the most prominent factors contributing to successful outcomes include appropriate matching of client needs to programming, retention and length of stay, and a continuum of care.

Study Goals

The objective of the present study aims to establish the effectiveness of Colorado's implementation of the prison plus community TC model by examining different factors in three distinct studies. The two programs evaluated in these studies are the substance abuse TC at the Arrowhead Correctional Center (ACC) and the Peer I TC. Together these programs provide a continuum of care for high risk substance abusing felons.

- Study 1: Examined factors related to retention in the ACC TC where a high percentage of inmates do not complete the program.

- Study 2: Analyzed the outcomes of felons with varying amounts of treatment and examined client factors related to successful outcomes post-prison release. This is a large scale analysis of quantitative data comparing study groups with different levels of involvement in the TC programs across multiple outcome variables, including rearrest and return to prison.

- Study 3: Explored potential barriers and supports that offenders face when returning to the community and how this might impact their outcomes.

Findings

Effectiveness of TC Model in Colorado. Results found that offenders who complete the ACC TC and continue on to Peer I have the lowest rate of community supervision failures (i.e., return to prison or rearrest for new crime) at 1- and 2-year follow up periods. Even though the effect declines over time, a continuum of intensive prison and community services significantly reduces recidivism risk over longer follow-up periods.

- The group who participated in both TCs had a 78% reduction in 1-year recidivism and a 42% reduction in 2-year recidivism over an untreated comparison group.

- Participants who successfully completed ACC TC but had no community TC involvement showed reductions of 12% and 14% for the 1-year and 2-year outcomes, respectively.

- Participants who received treatment only at Peer I TC showed reductions of 10% and 3% for 1-year and 2-year outcomes respectively.

- Participants who unsuccessfully terminated from the ACC TC had similar rates of recidivism as the control group.

Client Profiles. No stable client profiles emerged from the results that would predict outcomes; however there do appear to be personality traits that distinguish those who are more likely to complete treatment from those who do not.

- Clients who quit or expelled from the ACC TC were less likely to be married and more likely to exhibit narcissistic personality disorder, schizotypal and paranoid personality disorders, and early childhood conduct problems. This personality profile typifies individuals who may find it difficult to adapt to and succeed in the TC environment because of the specific treatment techniques employed.

- Motivation was not found to have a statistical relationship with retention in the ACC TC. This finding is in contrast to the findings in Study 2 which found that motivation played a role in group membership, meaning participants attending both TC programs were more highly motivated.

Factors Related to Successful Outcomes. Offenders releasing to the community from prison face a great number of challenges and barriers, including criminal justice supervision, employment, housing, and finances. In addition, their addiction poses a great risk to their ability to remain in the community; relapse is highly correlated with return to prison. Successful participants indicated that they had made an internal decision to change; correspondingly, their decisions relating to criminal justice supervision, employment, housing, and other transition barriers were made with recovery foremost in their thinking.

- Finding initial employment and housing was not reported as a challenge for participants; they did not view their felony status as an obstacle in finding either. However, in the future as they seek more desirable positions and living arrangements their backgrounds might prove more problematic.

- Motivation as measured herein was not statistically related to outcomes. However, case study participants with successful outcomes expressed high levels of internal and external motivation in contrast to those who were unsuccessful.

- The ability to find and maintain positive social support was critical to successful outcomes in the community. Individuals who returned to old neighborhoods and peer groups or had family members with addiction or criminal involvement tended to return to their old patterns of behavior.

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INTRODUCTION

The incidence of substance abuse among criminals is extremely high. Crimes are often committed by individuals under the influence of drugs and alcohol or out of the necessity to fund their dependence (Hiller, Knight, & Simpson, 1999). The costs of drug abuse are significant, not only to the individual, but to taxpayers and communities as well. High rates of recidivism and relapse among the offender population contribute to felons repeatedly cycling through the criminal justice system and overcrowding the jails and prisons (Martin, Butzin, Saum, & Inciardi, 1999).

Fortunately, there is hope for combating this pervasive problem. The effectiveness of treatment in reducing criminal behavior and substance use has been well documented (Chanhatasilpa, MacKenzie, & Hickman, 2000; Martin et al., 1999; Nielsen & Scarpitti, 1997). Concentrated research has found that cognitive-behavioral and social learning approaches have the best success with substance abusing offenders (Gendreau, Little, & Goggin, 1996). Priority is being given to the treatment needs of high risk offenders and the importance of appropriately matching offenders to treatment modality (Andrews & Bonta, 1994; Knight, Simpson, & Hiller, 1999). Research has also demonstrated the necessity of a continuum of care between the prisons and community (Inciardi, Martin, Butzin, Hooper, & Harrison, 1997; Wexler, De Leon, Thomas, Kressel, & Peters, 1999).

Therapeutic Community Modality

The therapeutic community (TC) model has been widely implemented in response to the demand for more treatment options for offenders (De Leon, Melnick, Thomas, Kressel, & Wexler, 2000). The TC is a highly structured program where clients are constantly engaged in a variety of activities including therapy, work, education classes, and recreation. Because of its intensity, the TC is generally reserved for substance abusers with long histories of abuse, multiple failed treatment attempts, and social deficits.

Substance abuse is perceived as a disorder of the whole person within the framework of the TC model (De Leon, 1989). Consequently, addiction is considered merely a symptom of an individual's problems, not the problem itself. The problem lies instead with the individual and is exhibited in many areas besides substance abuse. For this reason, the TC endeavors to create comprehensive lifestyle changes related to substance abuse, employment, criminal behavior, and basic societal values and attitudes.

The TC itself is considered the healing agent as well as the context in which change occurs. Designed for individuals who cannot function sufficiently in society, the community provides an environment in which to effect pro-social change. The community models acceptable social behavior while reinforcing (negatively and positively) behaviors that do and do not conform to community expectations (De Leon, 1994).

De Leon (1994) noted the difficulty of defining, describing, and comparing TC programs. He reported that a variety of residential programs are considered to be TCs, however, some TCs may not be residential programs, and not all TCs employ the same model. Consequently, De Leon theorized that eight essential elements distinguish the TC from other approaches. These elements are: (1) use of participant roles, (2) use of membership feedback, (3) use of the membership as role models, (4) use of collective formats for guiding individual change, (5) use of shared norms and values, (6) use of structure and systems, (7) use of open communication, and (8) use of relationships.

The effectiveness of the TC in reducing drug use and criminal behavior among criminal populations has made it one of the preferred treatment modalities in prisons and community corrections programs (Wexler, 1995). Although successful outcomes have been documented in both environments (Chanhatasilpa et al., 2000), the implementation of a TC program within a prison offers specific challenges. For example, it is more difficult to engage offenders in a prison TC than other forms of substance abuse treatment, because the TC requires offenders to be open and to confront each other about socially unacceptable behavior. This is a concept that flies in the face of the convict code which is adopted by many felons in prison (Wexler & Love, 1994).

Despite the inherent difficulties of operating a TC within prison walls, there is strong evidence that these programs work. Earlier evaluations of the Cornerstone TC in Oregon and the Stay'n Out TC in New York revealed that prison TCs reduce criminal behavior and substance use (Field, 1984, 1989; Wexler, Falkin, & Lipton, 1990). Likewise, earlier research on community TCs have shown reduced criminal activity, substance use

and increased employment among clients with criminal histories (De Leon, 1994; De Leon, Wexler, & Jainchill, 1982; Hubbard, Collins, Rachal, & Cavanaugh, 1988).

Factors Affecting Outcomes

More recent research has examined the key factors that contribute to positive outcomes following TC treatment. Research has discovered the most prominent factors contributing to successful outcomes include appropriate matching of needs to programming, retention and length of stay, and continuation of care.

Research findings have shown that treatment for offenders is optimal when the services offered properly match the needs of the client (Knight et al., 1999). A term referred to as the "risk principle" implies that treatment is maximized when offenders with severe substance abuse issues and criminal histories receive the most intensive treatment opportunities. Treatment outcomes for high risk offenders are more positive when their needs are met with the appropriate programming; retention has also been shown to be higher when the clients' needs are matched to the correct treatment level (Melnick, De Leon, Thomas, & Kressel, 2001). The research has also shown offenders with lower addiction severity seem to respond better to less intensive treatment programming (Gendreau, Cullen, & Bonta, 1994; Knight et al.).

Once placed at the appropriate treatment level, retention of clients in treatment also becomes a fundamental factor contributing to successful outcomes. Researchers have recognized that both client factors and program factors contribute to a client's decision to stay or leave the program (Simpson, 2001).

Motivation and readiness for treatment are important dynamic client factors that affect retention. High internal and external motivation has been shown to generate longer lengths of stay (Knight, Hiller, Broome, & Simpson, 2000). Level of motivation has been shown to contribute to the client's engagement in therapy. Those with higher levels of motivation and readiness have stronger therapeutic relationships, more group attendance and interaction with peers, all of which contribute to improved treatment outcomes (Joe, Simpson, & Broome, 1998). Although motivation has been found to be an important factor used to predict retention, it has not been found to directly impact outcomes; rather it is thought to be an important factor in retaining clients (Wexler, Melnick, Lowe, & Peters, 1999).

Other client variables which include fixed variables (i.e., age, gender, ethnicity) and dynamic variables (i.e., legal involvement, psychological status, self esteem) have also been studied to determine their impact on predicting retention. Nonetheless, there has not been an identified client profile that accurately projects how long a particular client will stay in a program. Much of the research has found that client factors are sporadic in their predictions. When comparing the predictive power of fixed client factors to dynamic client factors, dynamic variables have been found to predict retention more consistently than fixed variables, because they are likely a more accurate indicator of the client's perceptions and feelings at the moment they enter treatment (Condelli & De Leon, 1993).

In addition to client factors, certain program factors contribute to retention. Some of these identified factors include confidence in the program, rapport with the treatment counselor, and the ease with which the client can conform to the program demands (Condelli & De Leon, 1993; Simpson, 2001). Although client and program variables have been studied individually, much of the research suggests that these factors interact together to influence the amount of time a client stays in treatment. The Texas Christian University Model for Treatment Process and Outcomes charts the interaction of both client and program factors. In this model, both treatment characteristics and client characteristics work together to improve program participation and therapeutic relationships which promote retention thus leading to positive outcomes (Simpson).

Researchers have identified a critical threshold in which a client must remain in a TC in order to increase the likelihood of success following treatment. Ideally clients must remain in treatment for at least 90 days before the benefits of treatment can have an impact. Clients who have had less than 90 days in treatment have higher rates of relapse and recidivism (Knight et al., 2000; Siegal, Wang, Carlson, & Falck, 1999). The first 30 to 60 days of treatment is the most crucial period in which the risk of clients dropping out of treatment is highest (Condelli & De Leon, 1993; De Leon, Hawk, Jainchill, & Melnick, 2000). The greatest benefits have been shown when clients stay in treatment for 9 to 12 months (Condelli & De Leon; Wexler, 1995). It has been suggested that by remaining in treatment for this length of time the client is afforded more group hours and more individual

treatment. It also provides more opportunity to interact with staff, more time to practice emotional and behavioral changes and to develop stronger control mechanisms (Bleiberg, Delvin, Croan, & Briscoe, 1994).

TCs that are coupled with aftercare treatment show the greatest magnitude of positive outcomes (Martin et al., 1999; Simpson, 2001). Clients who progress from a prison based TC to a community TC are the least likely to be rearrested and/or relapse. It has also been found that clients who participate in aftercare have the longest elapsed time before recidivating (Knight et al., 1999). Research shows TC treatment without the aftercare component diminishes the success of the outcomes (Inciardi et al., 1997). Because the aftercare component has been proven to be so valuable, researchers have recommended TC programs offer more incentives for clients who go on to aftercare. They also suggest incorporating motivational tools to increase the clients' awareness of the importance of continuing with TC treatment (Wexler, Melnick et al., 1999).

The Present Study

The present study aims to establish the effectiveness of Colorado's implementation of the prison plus community TC model. The two programs evaluated are the TC at the Arrowhead Correctional Center (ACC) and the Peer I TC. Together these programs provide a continuum of care for high risk substance abusing felons.

This project includes three distinct studies. The first examined factors related to retention in the ACC TC, where a high percentage of inmates do not complete the program. The second study is a large scale analysis of quantitative data comparing study groups on several outcome variables, including rearrest data and return to prison. The third study uses case study methodology to further explore how the programs may have impacted the participants' outcomes as well as the supports and barriers that influence outcomes.

STUDY 1: FACTORS AFFECTING RETENTION IN PRISON TC

Method

Participants

Participants included 292 male inmates who entered ACC TC between January 1997 and December 1999. Only participants who discharged from the program at the time of this study (February 2000) were included in the group. An analysis of ethnic groups indicated that 59% of participants were Caucasian (n = 173), 21% were African American (n = 62), 18% were Latino (n = 51), and 3% were Native American (n = 6). The age of offenders ranged from 17 to 62 years with a mean age of 34 years (SD = 7.95).

Participants were grouped according to the following criteria: (1) successful participants who remained in treatment a minimum of 180 days and made a progressive move (n = 75), (2) unsuccessful participants who either quit or were expelled from the program (n = 153), and (3) participants who made a progressive move out of the TC before completing 180 days of the program (n = 63).

Materials

Participants entering ACC TC received a battery of tests within 3 weeks of their admission to treatment. This intake battery included the Millon Clinical Multiaxial Inventory-III (MCMI-III; Millon, Davis, & Millon, 1997) to measure the occurrence of psychopathology and personality disorders, the Barkley Attention Deficit Hyperactivity Disorder (ADHD) Rating Scale (Barkley, 1990), the Wender Utah Rating Scale (WURS; Ward, Wender, & Reimherr, 1993) to measure the presence of childhood ADHD, the University of Rhode Island Change Assessment (URICA; McConnaughy, Procchaska, & Velicer, 1983), and the Circumstances, Motivation, Readiness, and Suitability Scale (CMRS; De Leon, Melnick, Kressel, Jainchill, 1994). The CMRS and URICA are scales measuring motivation and readiness for treatment.

The MCMI-III (Millon et al., 1997) consists of 175 true/false items. The inventory provides diagnostic information in the areas of personality disorders and clinical syndromes. Internal consistency for the clinical scales ranges from .66 to .90 with 20 of the 26 scales having alpha coefficients in excess of .80. Test-retest reliability coefficients for the subscales range from .82 to .96 (Millon et al.).

The Barkley ADHD Rating Scale (Barkley, 1990) is an 18-item self-report scale that assesses the frequency of ADHD symptoms related to inattention and impulsivity or hyperactivity. Symptoms occurring over the past 6 months are rated on a 4-point Likert-type scale from 0 (*never or rarely*) to 3 (*very often*). In the current study, reliability was extremely high as indicated by a Cronbach's alpha of .96.

The WURS (Ward et al., 1993) is a 61-item instrument designed to assess criteria for a retrospective diagnosis of childhood ADHD, required to meet DSM-IV criteria that adult ADHD be present before the age of eight. Individuals are asked to indicate how accurately each item or descriptive phrase characterizes him as a child. Items are rated on 5-point Likert-type scales from 1 (*not at all or very slightly*) to 5 (*very much*). In a study of adults referred to an ADHD specialty clinic, internal consistency for the WURS total score was high, with a Cronbach's alpha of .95 (Ward). Validity of the WURS was established through comparing tests completed by adult participants to a subjective rating of childhood behaviors provided by the participants' mothers. The correlations were modest, .49 for those without a diagnosis and .41 for those with a retrospective diagnosis (Ward).

The URICA (McConnaughy et al., 1983) is a 32-item inventory designed to assess an individual's placement along a theorized continuum of behavioral change. Items describe how a person might think or feel when starting therapy and elicit the level of agreement with the statements. Participants answer on 5-point Likert-type scales that range from 1 (*strongly disagree*) to 5 (*strongly agree*). Four stages of change are measured using an 8-item subscale: precontemplation, contemplation, action, and maintenance. Cronbach's alphas for the subscales were .75, .79, .83, and .78 respectively (Pantalon, Nich, Frankforter, & Carroll, 2002).

The CMRS (De Leon et al., 1994) inventory assesses external pressures (circumstances), intrinsic pressures (motivation), readiness, and suitability for residential TC treatment. The 52 items on the CMRS are answered on 5-point Likert-type scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) or 9 (*not applicable*). The four

subscales are: circumstances (C; 11 items), motivation (M; 17 items), readiness (R; 8 items), and suitability (S; 16 items). Internal consistency of the M, R, and S scales is adequate, with Cronbach's alphas ranging between .70 and .81; the reliability of the C scale was lower (approximately .44). For the total scale, internal consistency reliability is .87 (De Leon, Melnick, & Kressel, 1997). The CMRS has limited predictive validity for retention in treatment, validity coefficients for 30-day retention ranged from .19 to .31, whereas those for 10- and 12-month retention ranged from .16 to .21 (De Leon et al.).

Procedure

Participant data was collected from a program database and department database. This information included entry and exit dates, demographics, and criminal history information. The majority of participant data was furnished through client self-report assessments. A researcher met with all participants in a group setting within three weeks of program admission. At that time the purpose of the research, voluntary nature of participation, and confidentiality of participant information was described. Those who chose to participate signed a consent form and were given a copy for their records. Participants then completed the intake battery, which took approximately 1½ hours.

Results and Conclusions

Fixed factors were explored in relation to treatment retention, specifically age, ethnicity, marital status, education level and time to parole eligibility and mandatory release dates (see Table 1). Analysis of variance and chi-square analyses were conducted to determine differences between groups. Marital status was the only fixed variable related to retention. Unsuccessful participants were more likely to be single than the successful or early release participants.

Prevalence rates of personality pathology and clinical syndromes, as measured by the MCMI-III, are charted in Figures 1 and 2. Not surprisingly, the most common personality disorder was found to be antisocial personality disorder. Other prominent personality disorders among TC participants included avoidant, schizoid, passive-aggressive, self-defeating, depressive, and narcissistic personality disorders. The results also yielded high prevalence rates of alcohol and drug dependence along with anxiety disorder. There was a relatively low frequency for the other clinical syndrome scales.

Table 1. Relationship of Fixed Factors to Treatment Retention (N = 292)

	Unsuccessful (*n* = 153)	**Successful (*n* = 75)**	**Early Release (*n* = 64)**	
Mean Age (*SD*)	32.8 (8.0)	35.3 (7.4)	34.3 (8.3)	$F = 2.74$, $\eta^2 = .07$
Ethnicity				$\chi^2 = 3.11$
Caucasian	54%	56%	59%	
African American	19%	21%	16%	
Latino	19%	13%	20%	
Other	7%	9%	5%	
Marital Status				$\chi^2 = 13.52$**
Single	51%	28%	33%	
Married	24%	35%	30%	
Divorced/ sep/ widow	26%	37%	38%	
Education				$\chi^2 = 4.55$
Less than 12th grade	22%	19%	25%	
Graduated high school	5%	7%	9%	
GED	29%	27%	22%	
Vocational/ trade school	17%	13%	13%	
Attended college	27%	35%	31%	

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

Table 2 presents central tendencies, univariate results, and effect sizes for MCMI-III data across the three groups. Univariate differences were found between groups on the following scales: narcissistic, aggressive, compulsive, passive-aggressive, schizotypal, paranoid, bi-polar: manic disorder, and delusional disorder. Successful and early release participants differed very little from each other; successful participants had lower narcissistic scores and higher drug dependence scores than the other two groups. The unsuccessful participants had higher aggressive and passive-aggressive tendencies than either group; they differed from early releases on the compulsive scale and differed from successful participants on narcissistic, schizotypal, paranoid and delusional scales.

Figure 1. Percent Scoring > 75 on MCMI Personality Scales (N = 292)

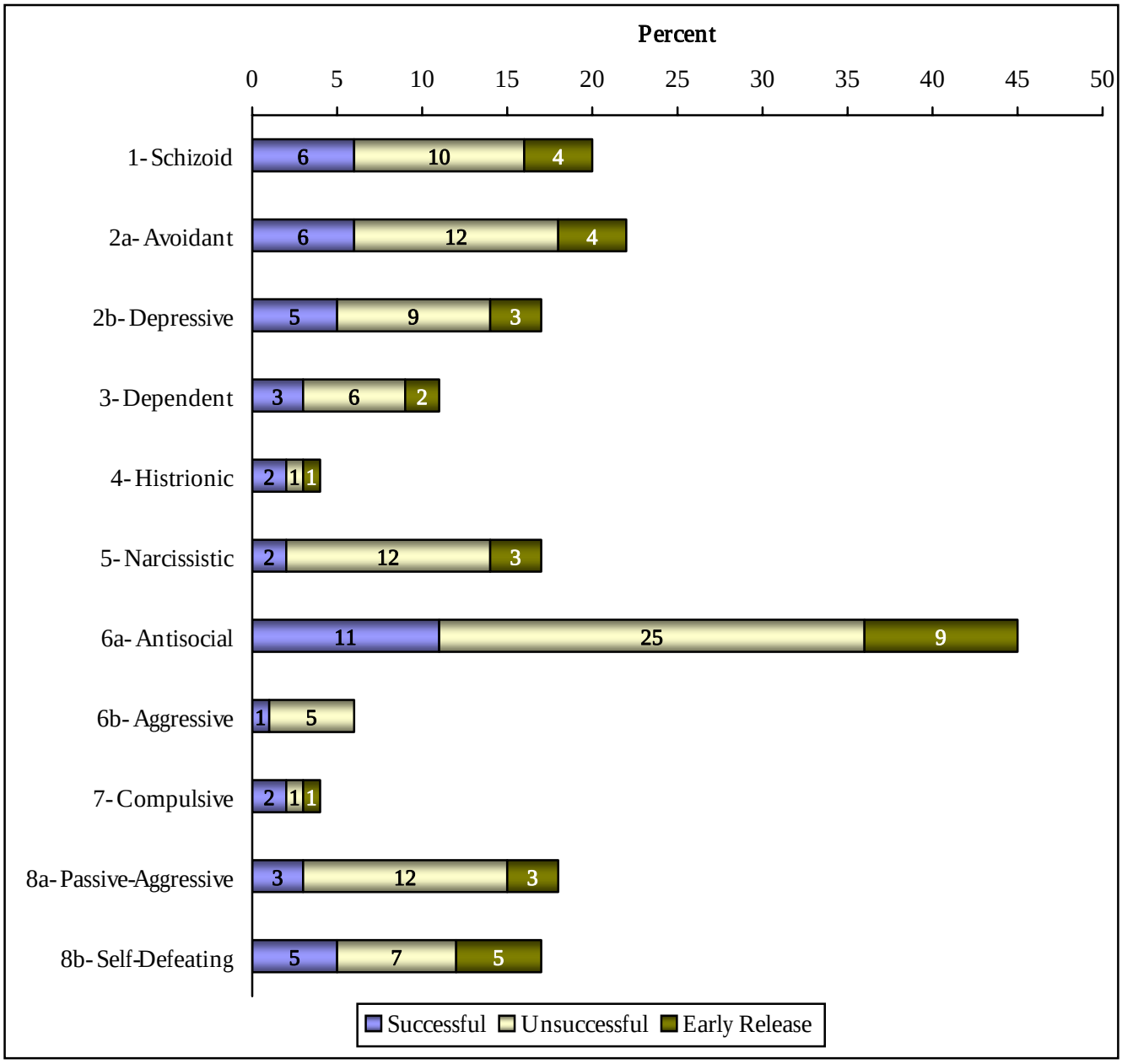


Figure 2. Percent Scoring > 75 on MCMI Clinical Syndromes (N = 292)

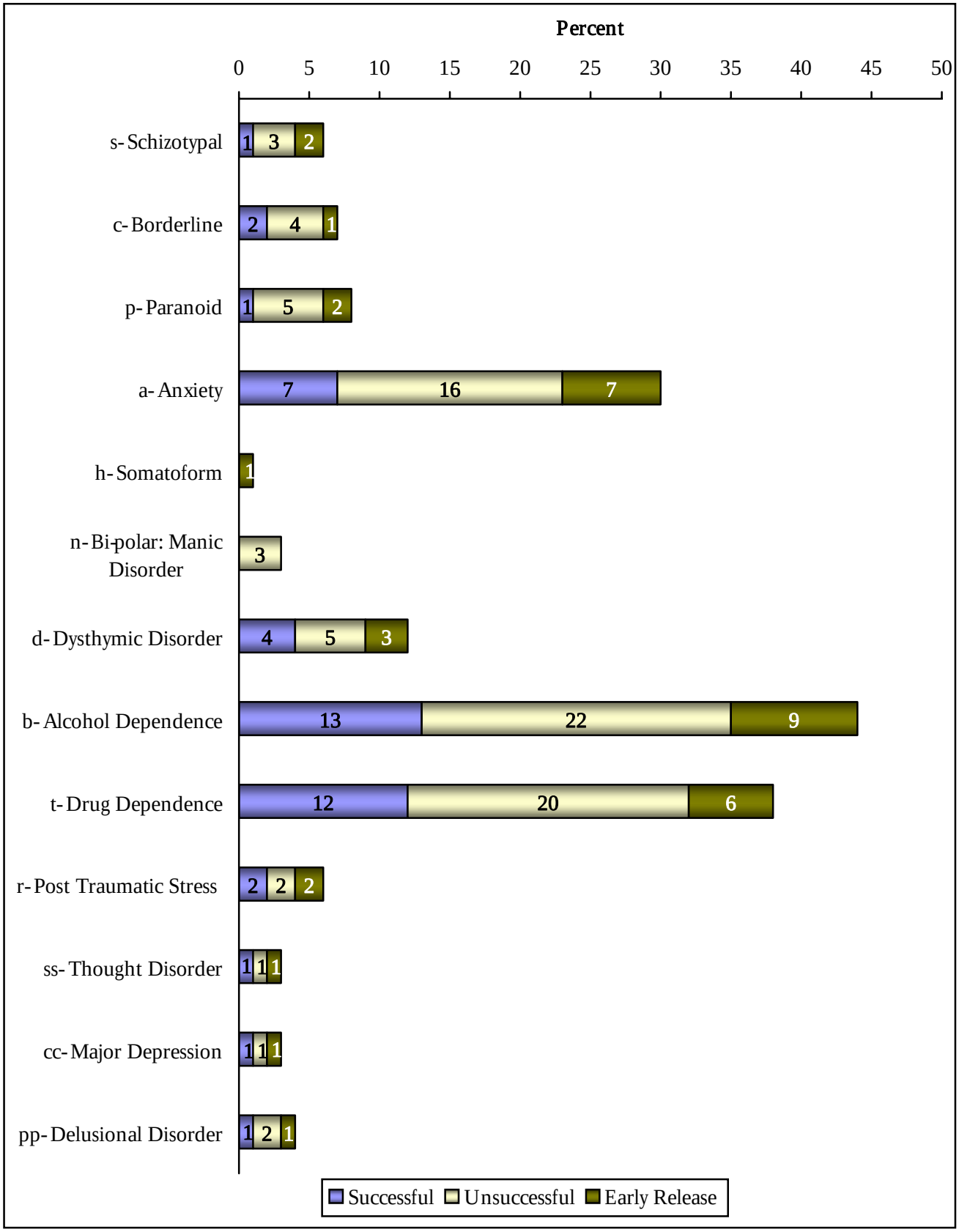


Table 2. Relationship of Dynamic Factors to Treatment Retention

	Unsuccessful *M (SD)*	Successful *M (SD)*	Early Release *M (SD)*	*F*	η^2
MCMI Personality Scales (BR Scores)					
1- Schizoid	57.4 (23.8)	54.4 (28.4)	51.7 (27.1)	1.13	.16
2a- Avoidant	47.2 (29.5)	41.5 (30.8)	41.5 (31.1)	1.29	.15
2b- Depressive	46.6 (31.8)	42.4 (33.0)	42.2 (33.5)	.63	.19
3- Dependent	40.2 (26.7)	40.4 (26.4)	36.8 (28.1)	.39	.18
4- Histrionic	48.2 (13.8)	47.5 (17.4)	52.3 (15.3)	2.02	.19
5- Narcissistic	65.2 (17.0)	56.3 (15.6)	62.2 (15.5)	7.39**	.20
6a- Antisocial	72.2 (17.4)	71.1 (18.0)	68.5 (18.9)	.93	.17
6b- Aggressive	53.6 (20.3)	46.8 (20.2)	44.1 (20.2)	5.87**	.23
7- Compulsive	47.4 (13.7)	51.2 (15.8)	52.6 (12.8)	3.70*	.18
8a- Passive-Aggressive	49.0 (27.0)	40.1 (26.5)	36.0 (29.5)	5.98**	.14
8b- Self-Defeating	47.3 (29.0)	50.6 (28.7)	41.0 (31.6)	1.87	.18
MCMI Clinical Syndromes (BR Scores)					
s- Schizotypal	44.8 (28.2)	32.5 (29.5)	36.4 (30.5)	4.97**	.16
c- Borderline	47.1 (22.6)	44.8 (24.5)	40.7 (23.0)	1.68	.20
p- Paranoid	47.7 (29.3)	35.4 (29.8)	40.8 (30.6)	4.48*	.15
a- Anxiety	47.0 (36.3)	40.8 (37.4)	43.4 (37.3)	.73	.12
h- Somatoform	29.4 (27.8)	26.1 (28.0)	25.9 (30.0)	.51	.09
n- Bi-polar: Manic Disorder†	53.0 (20.6)	46.8 (21.5)	47.0 (22.4)	6.04*	--
d- Dysthymic Disorder	38.1 (31.1)	37.7 (31.5)	37.0 (31.7)	.03	.15
b- Alcohol Dependence	70.8 (22.0)	72.4 (22.6)	71.9 (18.8)	.16	.21
t- Drug Dependence†	72.7 (18.0)	76.0 (14.7)	67.8 (20.2)	5.34	--
r- Post Traumatic Stress	38.5 (28.3)	34.2 (31.9)	35.5 (30.7)	.58	.11
ss- Thought Disorder	37.0 (26.6)	31.8 (28.5)	32.4 (27.9)	1.18	.13
cc- Major Depression	26.7 (26.1)	25.3 (29.0)	27.9 (28.3)	.16	.16
pp- Delusional Disorder†	38.9 (29.2)	29.0 (29.2)	34.9 (30.2)	8.57*	--
WURS					
Total	87.1 (38.0)	75.9 (37.5)	73.5 (38.9)	3.74*	.55
Conduct Problems	15.0 (8.7)	11.1 (8.3)	10.9 (6.8)	8.40**	.14
Learning Difficulty	8.6 (7.3)	7.0 (6.6)	6.9 (6.3)	1.87	.08
Irritability†	11.2 (7.6)	9.4 (7.7)	8.7 (8.8)	8.08*	--
Attention Problems	8.8 (4.6)	8.8 (4.6)	8.2 (4.9)	.33	.08
Unpopularity	11.7 (6.1)	12.3 (5.6)	12.0 (6.2)	.27	.16
Barkley ADHD Scale					
Inattention	.7 (1.3)	.5 (1.1)	.8 (1.8)	.67	.05
Impulsive	1.2 (1.6)	.9 (1.3)	1.1 (1.8)	1.13	.03
URICA					
Precontemplation	50.3 (10.0)	48.0 (10.3)	48.7 (9.7)	1.50	.04
Contemplation	43.6 (12.8)	45.1 (13.4)	43.1 (13.7)	.43	.07
Action	48.8 (8.5)	49.7 (8.8)	48.9 (8.9)	.23	.03
Maintenance	47.2 (10.1)	49.2 (8.6)	47.7 (9.0)	1.17	.02
CMRS					
Circumstances	28.4 (4.2)	28.0 (3.7)	28.5 (4.2)	38.50	.14
Motivation	65.1 (10.3)	65.1 (9.6)	64.5 (10.3)	.07	.29
Readiness	24.9 (5.7)	26.2 (5.4)	24.9 (6.1)	1.39	.15
Suitability	53.8 (9.9)	56.3 (8.3)	53.5 (11.4)	1.77	.38

† Kruskal-Wallis chi-square values are reported because of ANOVA assumption violations.
* $p < .05$; ** $p < .01$

Prevalence rates of ADHD were examined by the WURS and Barkley Rating Scale (see Table 2). The Barkley Rating Scale did not indicate the presence of adult ADHD in the ACC TC population. Neither did this scale differentiate between the groups. On the other hand, the WURS was found to discriminate between

successful and unsuccessful treatment participants, with unsuccessful participants exhibiting greater irritability and conduct problems.

Mean URICA scores indicated that ACC TC participants were within normal ranges of motivation on each of the four scales (see Table 2). Because URICA scores are scaled as T-scores, any scores ranging from 40 to 60 can be interpreted as the norm. Interestingly, TC participants model a precontemplation cluster (Blanchard, Morgenstern, Morgan, & Labouvie, 2003), characterized by the belief that they do not have a problem, which is inconsistent with their placement in treatment. Curiously, participants' scores on the CMRS yielded somewhat contrary findings. Participants likely would have scored in the high range on the circumstances scale were it not for two items that did not apply to incarcerated offenders (normal range is 25 to 33). Participants scored above the normal range on the Motivation scale (42 to 56) and in the normal range for Readiness (27 to 36) and Suitability (49 to 64) scales. There were no differences across groups, however, on either measure.

Generally, the early release group aligned with the successful group. The unsuccessful completers differentiated from the other groups on various measures, all in the direction that would suggest they are a more difficult inmate group. Interestingly, the measures of motivation and readiness for treatment did not differentiate between successful and unsuccessful participants.

A discriminant function analysis was conducted to determine if a combination of variables could predict group membership into two groups (successful and unsuccessful). Predictor variables included in the equation were narcissistic, aggressive, passive-aggressive, compulsive, schizotypal, paranoid, delusional, WURS conduct, months to parole eligibility, and marital status (coded as single/non-single). The discriminant function resulted in an eigenvalue of .23 and a canonical correlation of .43. The pooled within-groups correlations found the best predictors to be narcissistic personality disorder (.52), marital status (-.49), WURS conduct problems (.45), schizotypal disorder (.44), and paranoid disorder (.43). Classification results revealed that the discriminant function correctly classified 70% of all cases.

This study yielded surprising results in terms of treatment retention. Factors traditionally associated with successful treatment completion, particularly motivation, were not identified. If unsuccessful participants did not outnumber successful participants by double, it could be postulated that the program works with clients at all levels of motivation. However, it seems more likely that there is a specific offender profile related to unsuccessful program terminations.

STUDY 2: EFFECTIVENESS OF ACC AND PEER I TC PROGRAMS

Method

Participants

Treatment groups. Five groups of participants were used to examine treatment outcomes (N = 778). Participants in group 1 (*Both)* received treatment at both the ACC TC and the Peer I TC (n = 31). They successfully completed treatment at ACC TC, which included a minimum stay of 180 days and a progressive transition to the community TC.

Participants in group 2 received treatment at Peer I TC only (n = 97). They did not receive TC treatment at any prison-based TC, but may have been involved in a less intensive treatment program.

Group 3 participants received treatment at ACC TC only (n = 162). Participants in this group successfully completed the program, which included a minimum stay of 180 days and a progressive move to the community. They did not attend Peer I or any other community-based TC treatment.

The 4th group received treatment at ACC TC only, but did not successfully complete the program (n = 256). An unsuccessful completion was defined as dropping out of the program, being expelled, or transferring out of the program with less than 180 days in treatment even if the move was a progressive one. Participants who left for medical reasons or were discharged with an administrative termination (e.g., transfer to another program) were excluded from the sample because these discharges were deemed beyond the participants' control.

The control group, or group 5, participants were identified as needing residential substance abuse treatment, but did not attend a TC in either prison or the community (n = 232). Participants were not excluded from this group if they attended treatment at a less intensive level at some point. However, participation in the Department of Corrections' (DOC) bootcamp program and community residential substance abuse treatment was tracked in order to rule out the effects of these intensive treatments; participants receiving those treatment modalities were not excluded from the study. Control participants were screened individually for any refusals to go to TC treatment. Twenty cases were excluded for refusing admission to TC. Sex offenders and offenders who discharged their corrections sentence were excluded from this group to model TC admission criteria.

Table 3 shows the demographic makeup of each of the five groups. Groups were not different from each other on ethnicity, education, or marital status. However, the Peer I only group, the ACC non-completers, and the controls were significantly younger than the ACC completers and the Both group. Ages of the participants ranged from 19 to 65 years, with a mean age of 34.31 years (SD = 7.99). Participants identified themselves as being in one of three racial groups, with the majority of participants being Caucasian (55%) followed by African-American (24%) and Latino (20%). Most participants had received their general equivalency diploma (55%), but others had graduated from high school (20%) or not completed either (25%). Marital status was fairly evenly split among participants who were single (34%), and participants who were married or in a common-law relationship (36%) and those who were divorced, separated, or widowed (30%).

Selection criteria. Although random selection to groups is desirable, it was not feasible in this study due to ethical concerns with prisoners; therefore, treatment placement criteria were used as is routine. Substance abuse treatment placement is driven by Colorado's standardized offender assessment (SOA), and offenders must have been recommended for residential treatment on the SOA in order to be admitted to either TC. All other selection criteria in this study were based on TC admission policy.

ACC TC requires that offenders have enough time before release to receive an adequate treatment dosage, approximately 6 to 12 months, and at least 6 months since their last disciplinary violation. Offenders convicted of a sex offense may not be admitted to the drug and alcohol TC, although a modified TC for sex offenders exists in the same facility.

Mental illness alone does not preclude one from participating in the TC, however offenders assessed as having a mental illness must not have acute symptoms. If an offender is taking psychotropic medications, both programs require that he be stable on those medications before treatment entry. Occasionally, an offender diagnosed with a mental illness is admitted to the ACC-Peer I sequence, however, most of the time, they are

placed in a separate treatment track designed specifically for offenders with co-occurring disorders. Offenders in this separate treatment track were excluded from the study.

Participants admitted to Peer I directly from prison were approved for placement by the Denver community corrections board. Offenders convicted of violent crimes are rarely admitted to Peer I, although each case is reviewed by the Peer I admissions board. Parolees are also eligible for admission to Peer I and can be recommended for treatment by a parole officer.

For all groups, offenders were excluded as participants if they released from a Colorado prison to a parole program out of state. Any offender who attended Peer I or ACC TC for less than 30 days was also excluded because the treatment dosage was deemed too small to have an effect. Four participants had less than 30 days in Peer I and 61 had less than 30 days at ACC TC.

Table 3. Demographic Characteristics of Study Participants

	Both	Peer I	ACC Completers	ACC Non-completers	Controls	*p*
Ethnicity						n.s.
Caucasian	48%	47%	54%	58%	55%	
African American	32%	26%	25%	20%	25%	
Latino	16%	26%	18%	19%	18%	
Other	3%	1%	3%	3%	3%	
Education						n.s.
High school diploma	16%	18%	20%	22%	19%	
GED	58%	59%	58%	52%	54%	
Neither	26%	23%	22%	26%	27%	
Marital status						n.s.
Single	26%	30%	27%	40%	34%	
Married/ common-law	39%	40%	35%	35%	35%	
Divorced/ sep/ widow	35%	30%	38%	25%	31%	
Mean age (*SD*)	37.81 (8.15)	33.53 (7.05)	36.56 (7.32)	33.46 (7.83)	33.54 (8.58)	< .001

Materials

Placement in substance abuse treatment is contingent upon SOA battery scores. Two key SOA instruments are the Level of Service Inventory – Revised (LSI-R; Andrews & Bonta, 1995), a recidivism risk measure, and the Adult Substance Use Survey (ASUS; Wanberg, 2001). Scores on the SOA determine placement into one of seven categorical treatment levels. The treatment system provides education and therapy services of varying intensity: (1) no treatment, (2) education and increased urinalysis, (3) outpatient treatment, (4) intensive outpatient treatment, (5) intensive residential treatment, (6) TC, and (7) no treatment, assess for psychopathy. When used in the Colorado criminal justice system, treatment levels are set by combining the LSI-R total score (supervision) with the score on the Disruption subscale of the ASUS (substance abuse).

The LSI-R (Andrews & Bonta, 1995) is a semi-structured interview administered to Colorado offenders to assess criminal risk. It consists of 54 items with 10 subscales including Criminal history, Accommodation, Companions, Alcohol/drug problems, Education/employment, Financial, Attitude/orientation, Family/marital, Leisure/recreation, and Emotional/personal. In a study of the LSI-R with Colorado offenders (Arens et al., 1996), intercorrelations between subscales ranged from -.13 to .38, subtotal-total correlations ranged from .31 to .70, and Cronbach's alphas for each subscale ranged from .20 to .73. Information obtained in the interview is verified through official offender records and other sources. Each item is scored using a coding system of either 0 or 1, with a score of 1 indicating that an item is true. The resulting overall LSI-R score can range from 0 to 54. This total score is used to assign the level of supervision for the offender and to determine allocation of services (Motiuk, Motiuk, & Bonta, 1992).

The ASUS (Wanberg, 2001) is a standardized self-report inventory to screen for adults who indicate a history of substance use problems. The ASUS consists of five main subscales and a global scale. These subscales

are designed to measure five domains (involvement in 10 common drug categories, degree of disruption resulting from use of drugs, antisocial attitudes and behavior, emotional and mood adjustment difficulties, and defensiveness and resistance to self-disclosure (Wanberg). Each subscale of the ASUS consists of between 5 and 20 items using either a 4- or 5-point Likert-type scale. An overall, or global, score is obtained by combining the scores of the involvement, disruption, social, and mood subscales. The offenders are assessed using this measure as they enter the DOC. Internal consistency for the subscales is good with Cronbach's alphas ranging from .65 to .90 for criminal justice clients in TC (Wanberg, 1997).

In addition to the SOA, participants entering ACC TC received a battery of tests within 3 weeks of their admission to treatment. This intake battery included the MCMI-III (Millon et al., 1997), Barkley ADHD Rating Scale (Barkley, 1990), WURS (Ward et al., 1992), URICA (McConnaughy et al., 1983), and CMRS (De Leon et al., 1994). These instruments are described in study 1. Participants in groups 2 and 5 completed the MCMI-III upon admission to prison, but did not complete the other instruments in this battery.

Procedure

Baseline data. Self-report assessment instruments were used to collect psychological profile data. A researcher administered the intake packet in group format to participants within 3 weeks of admission to ACC TC. Participants were informed of the voluntary nature of the study and the strict procedures used to ensure confidentiality of the data. A consent form was signed by each participant. Participants were neither compensated for participation nor subjected to negative consequences for non-participation.

Data regarding program attendance were collected from computerized databases maintained by TC staff at both ACC TC and Peer I. These data were verified through the DOC administrative database. All demographic, SOA, and treatment data, as well as some MCMI-III data, were collected from the DOC database system.

Outcome data. Outcome data was gathered for a 2-year follow-up period for each participant. For groups 3, 4, and 5, the trigger date was the date that they released from prison into the community. For groups 1 and 2, the trigger date was the date that they entered Peer I, because not all Peer I clients enter treatment directly from prison.

Data regarding new crimes and arrests were gathered from the National Crime Information Center and the Colorado Crime Information Center. The date of the first arrest during the 2-year follow-up period in each category (felony, misdemeanor, and technical violation) was recorded. Number of days between trigger date and first arrest was calculated and analyzed.

Date of reincarceration was obtained from the DOC data system. The date of reincarceration was defined as the date an offender came back to prison or to jail if a prison stay followed immediately. For offenders who absconded from parole, the date they absconded, rather than the date of the consequent arrest was used as a reincarceration date.

Results and Conclusions

Group comparisons were made across baseline measures of criminal history and substance abuse. Chi-square tests were conducted on categorical data while one-way analyses of variance (ANOVA) were conducted with interval and continuous data. Data for each group is presented in Table 4.

No analyses were conducted for release type by group because of empty cells. Post-hoc tests revealed the following differences between groups, including: (1) less serious degree of felony classification for ACC non-completers and controls, (2) lower LSI-R scores for Peer I only than all other groups, (3) higher ASUS disruption score for controls than ACC non-completers, and (4) higher ASUS social score for controls than ACC completers.

Table 4. Baseline Comparisons Across Groups

	Both	Peer I	ACC Completers	ACC Non-completers	Controls	*p*	η^2
Release Type						--	--
Parole	0%	36%	42%	41%	59%		
Comm. corrections	100%	64%	52%	43%	41%		
Sentence discharge	0%	0%	6%	16%	0%		
Mean prior incarc. (*SD*)	0.7 (1.0)	0.5 (0.8)	0.4 (0.6)	0.5 (0.7)	0.4 (0.7)	n.s.	.01
Mean felony degree (*SD*)	3.8 (0.8)	4.0 (0.8)	3.9 (0.8)	4.3 (0.9)	4.4 (0.9)	< .001	.05
Mean LSI-R score (*SD*)	33.0 (6.0)	29.7 (5.8)	31.9 (5.2)	32.6 (6.1)	32.6 (5.1)	< .01	.03
Mean ASUS (*SD*)							
Involvement	16.8 (7.9)	16.3 (8.4)	14.0 (10.2)	14.5 (10.2)	15.0 (7.8)	n.s.	.01
Disruption	37.1 (18.3)	31.7 (18.5)	31.7 (19.6)	31.0 (22.0)	37.4 (11.6)	< .01	.03
Social	13.3 (6.0)	13.2 (6.3)	11.6 (5.5)	13.4 (10.0)	14.8 (5.2)	< .01	.03
Mood	9.1 (4.8)	7.9 (4.7)	7.6 (5.4)	8.8 (10.3)	9.0 (7.7)	n.s.	.01
Defensive	4.4 (2.8)	5.5 (3.0)	6.4 (3.2)	7.1 (7.3)	6.7 (6.9)	n.s.	.01

Outcome Rates

Rearrest and return to prison rates were examined for participants in each group. A series of analysis of covariance (ANCOVA) tests were conducted to determine difference in outcomes between groups (see Table 5). Supervision failure is defined as return to prison, misdemeanor arrest, or felony arrest. All comparisons were significant except felony arrests at the 2-year follow-up period. Figures 3 through 7 present outcome results.

Post-hoc tests were conducted to examine where the group differences existed. All significant post hoc comparisons are available in Appendix A. Participants who received treatment at both programs generally had better outcomes than the other four groups, particularly for supervision failure outcomes. The only significant comparison between Peer I and ACC completers groups was that Peer I had fewer technical violations at both follow-up periods. Likewise, the ACC non-completers and controls were very similar to each other; the only difference being that non-completers had a higher return to prison rate at 2 years. While control participants consistently had worse outcomes than those in the Both group, they were not that different from the Peer I and ACC completers groups. The only differences were that controls had more technical violations and felony arrests than the Peer I group at 1 year, more technical violations and misdemeanor arrests than Peer I at 2 years, and more misdemeanor and supervision failure than ACC completers at 2 years. On the other hand, the ACC non-completers generally had worse outcomes than the three treatment groups.

Table 5. ANCOVA Results

Outcome	df_{error}	F	p	η^2	Covariates
1-Year outcomes					
Technical violations	695	9.01	< .001	.05	Release type, LSI-R, ASUS disruption
Return to prison	708	6.01	< .001	.03	Release type, LSI-R
Misdemeanor arrests	708	2.45	< .05	.01	Release type, LSI-R, age
Felony arrests	771	3.02	< .05	.02	Release type, age
Supervision failure	707	6.57	< .001	.04	Release type, LSI-R, felony degree
2-Year outcomes					
Technical violations	709	7.12	< .001	.04	Release type, LSI-R
Return to prison	709	5.57	< .001	.03	Release type, LSI-R
Misdemeanor arrests	772	7.94	< .001	.04	Release type
Felony arrests	772	1.91	n.s.	.01	Age
Supervision failure	771	6.33	< .001	.03	LSI-R

Figure 3. Technical Violations Outcome by Group

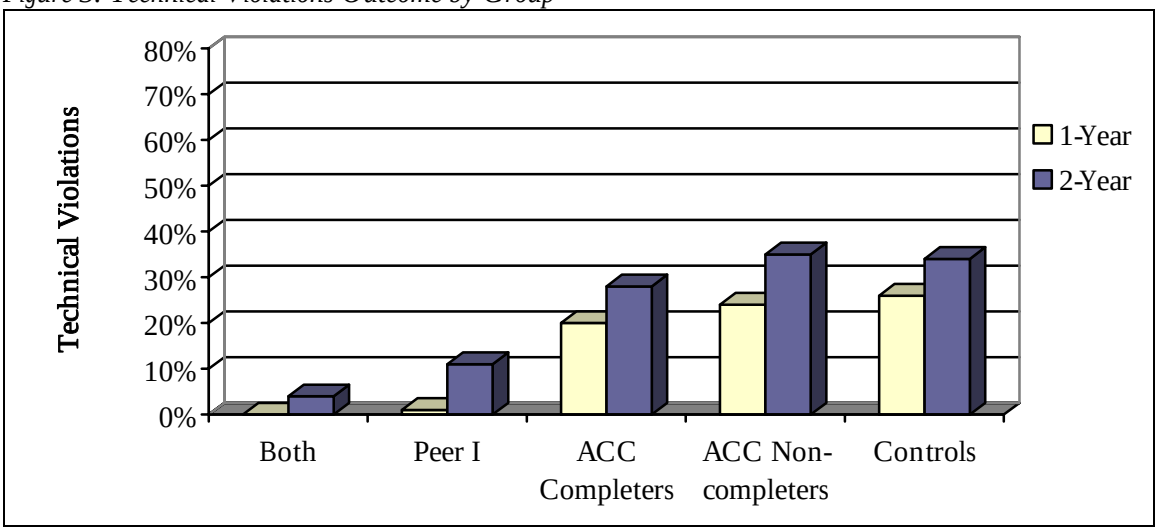


Figure 4. Return to Prison Outcome by Group

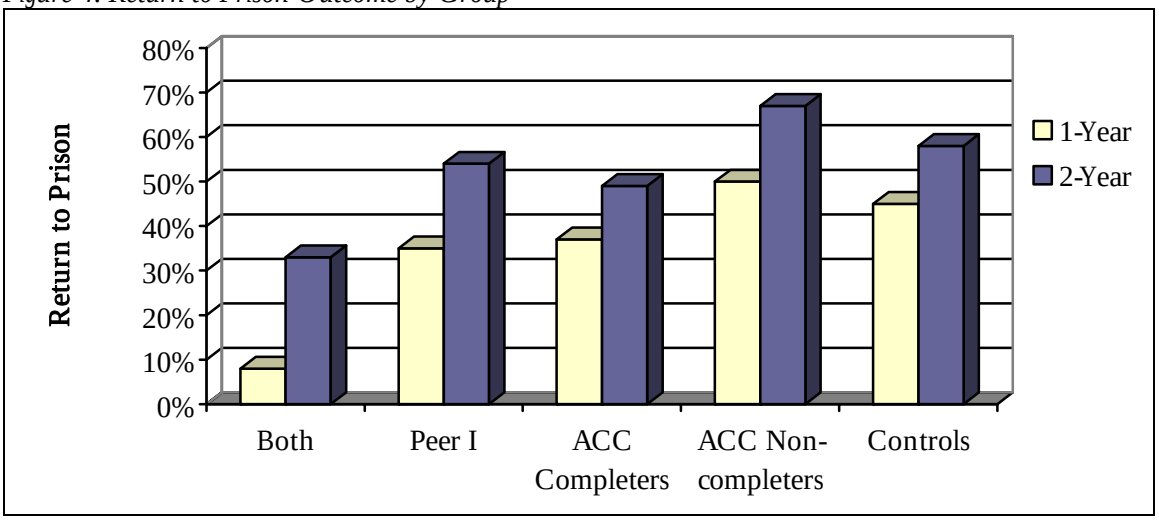


Figure 5. Misdemeanor Arrests Outcome by Group

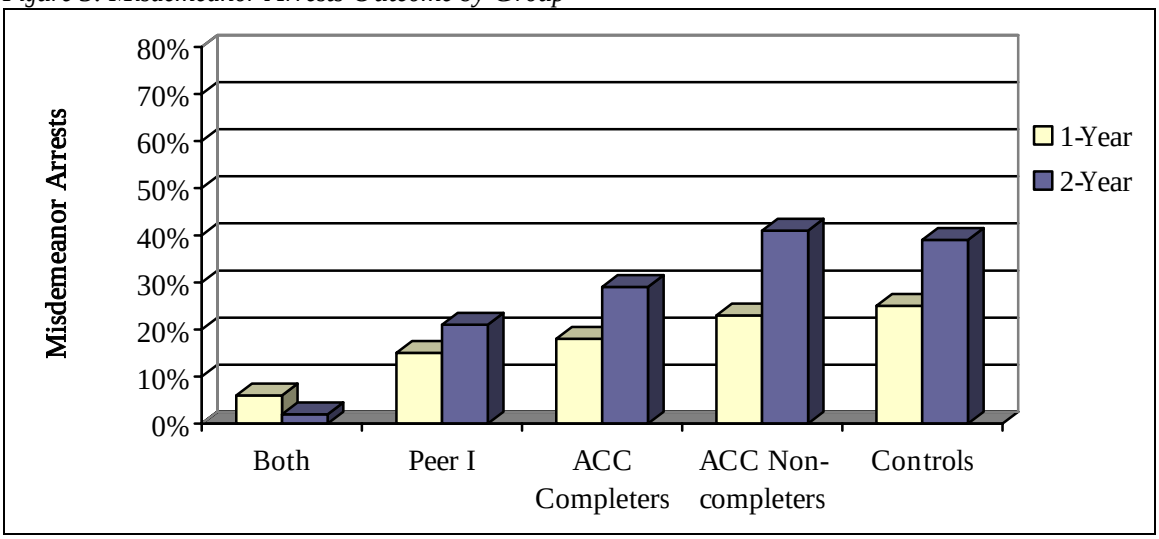


Figure 6. Felony Arrests Outcome by Group

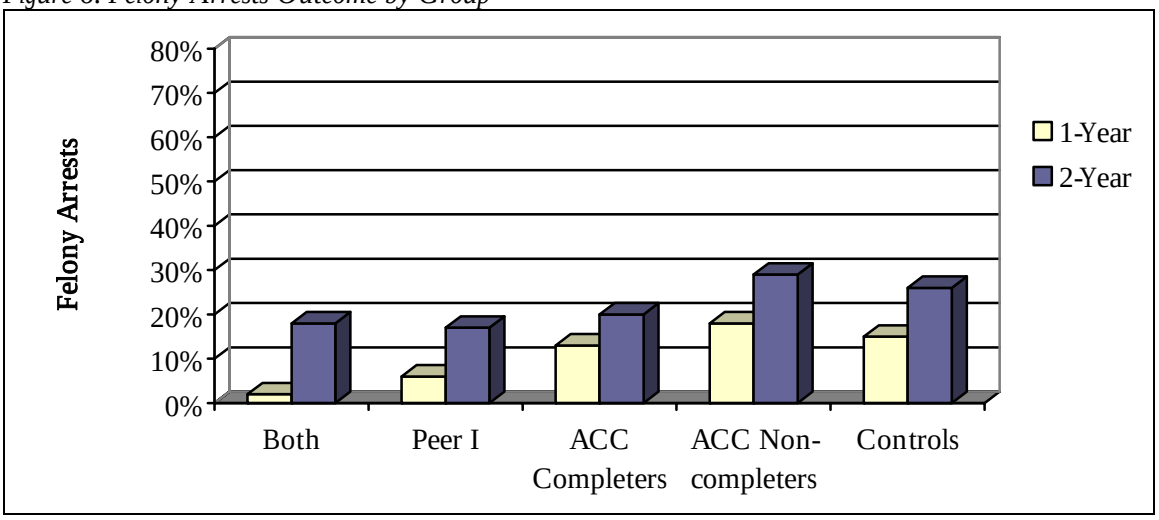
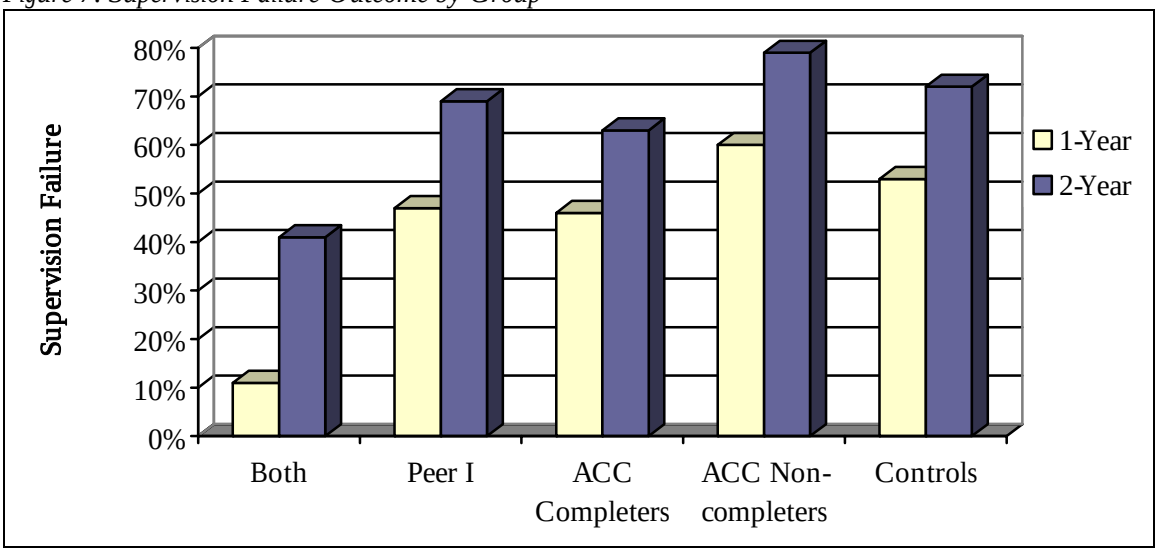


Figure 7. Supervision Failure Outcome by Group



Survival Analysis

A survival analysis was completed on supervision failure (return to prison or new arrest) in order to compare groups on length of time until recidivism (for comparisons on each outcome variable see Appendix B). For participants who did not recidivate, the length of time from trigger date until the end of the study (10/03/03) was used to calculate the survival time.

Table 6 gives the estimated survival times for each group for 1- and 2-year recidivism periods. Figure 8 gives the survival functions for 2-year outcomes. These figures show that the participants who received treatment in both TCs have the slowest failure rates; the groups who received at least one of the programs look similar to each other and have faster failure rates than the Both group, and the ACC non-completers and control groups had the fastest failure rates and look similar to one another. Hazard functions give an estimate of failure risk at any given point in time and are useful to examine potential high-risk periods. Both of the ACC groups and the control group tend to have the highest risk periods when first leaving prison and risk continues to decline over time. The groups that participated in the Peer I program have peak risk periods a year after leaving prison, with the Peer I only group having risk periods at about 9 months and the group receiving both programs has the highest risk at about 1.5 years. This longer period until the highest risk period compared to the other groups is probably an artifact of participants leaving the residential component of the Peer I program about a year after they start it.

Table 6. Survival Rates

	1-Year Outcomes			2-Year Outcomes		
Group	*Mean Survival Time (days)*	*SE*	*% Censored*	*Mean Survival Time (days)*	*SE*	*% Censored*
Both	1,785	156	77	1,385	173	55
Peer I	1,314	121	53	971	111	34
ACC completers	1,438	90	57	1,061	84	38
ACC non-completers	1,042	70	41	677	56	21
Control	1,077	72	45	742	61	27

To compare differences between groups, pair-wise comparisons between groups using the log rank statistic were completed. The Both group had 1-year and 2-year mean survival times greater than all other groups, except the ACC completer group at 2-year follow-up. For the participants who participated in the Peer I treatment program only, both 1-year and 2-year mean survival times were greater than the ACC non-completer group. For the ACC completers group, both the 1-year and 2-year mean survival times were greater than the ACC non-completer and the control groups. There was not a significant difference between the ACC non-completer group and the control group.

These outcome findings for survival time match the findings found in the ANCOVA results and indicate that not only are the treatment groups returning to prison less, but that the rates of survival are higher for treatment groups with the group receiving both programs having the strongest effects in reducing recidivism.

Predictors of Outcome

Baseline psychological assessments were analyzed to discern profiles of offenders who are more or less likely to succeed. Table 7 presents results from a series of two-way ANOVAs; independent variables were group and supervision failure at 2 years. Post-hoc tests were conducted to determine specific comparisons that were statistically significant.

Group main effects indicated that participants in the Both group had higher antisocial, drug dependence, and motivation scores. Peer I only and ACC non-completers had higher narcissistic scores than ACC completers. The only significant main effects for failure indicated that supervision failures had higher bipolar manic and thought disorder scores than successes. Finally, two interaction effects were significant. These indicated (1) that higher dependent personality scores predict failure for the Peer I group, while lower scores predicted failure for the Both, ACC non-completer and control groups, and (2) higher self-defeating scores predict failure for the Both and ACC non-completer groups, but failure is predicted by lower self-defeating scores for ACC completers.

The findings do not yield a strong, consistent pattern that would characterize individuals prone to success. Primarily, the strongest findings indicated that group membership, which is based on self-selection, dictates client profiles. The difference between successes and failures, found across only two variables, was weak. And finally, the interaction effects that do not produce a clear, interpretable pattern that suggests perhaps these are Type I errors.

Figure 8. Survival Function for 2-Year Supervision Failure

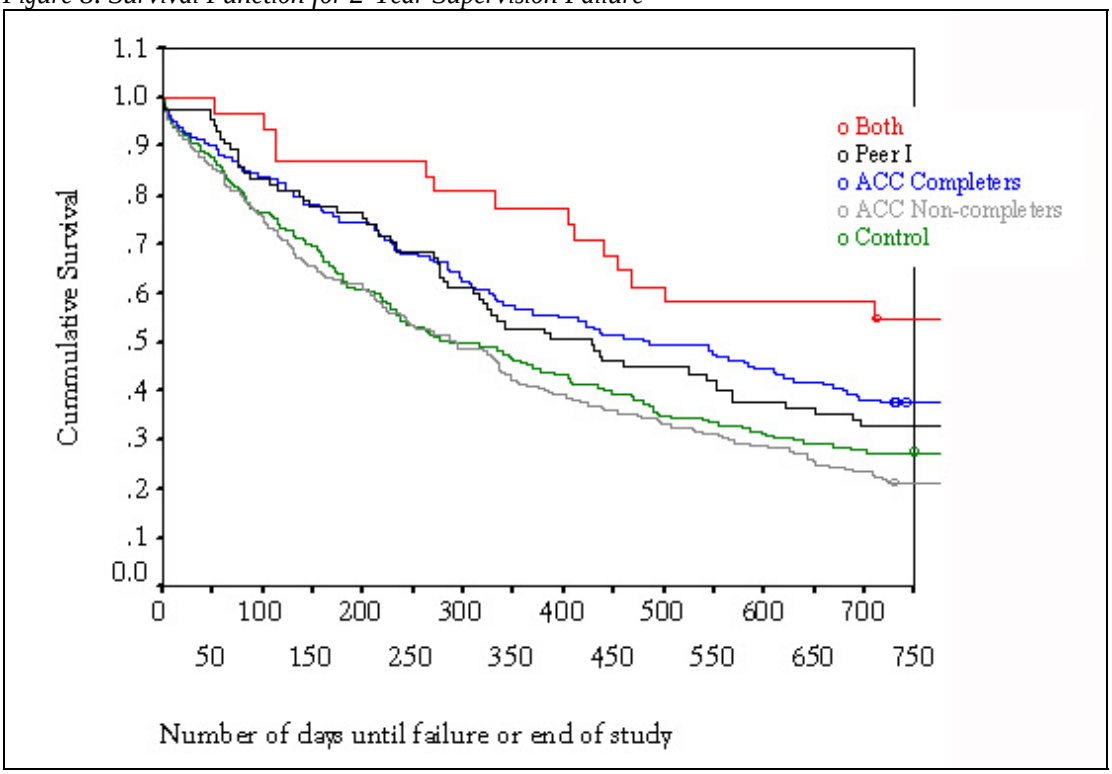


Table 7. Baseline Psychological Assessments as Predictors of 2-Year Supervision Failure

	Group	Failure	Group x Failure
MCMI-III Personality Scales			
1- Schizoid	$F(4, 560) = 0.29, \eta^2 = .00$	$F(1, 560) = 3.68, \eta^2 = .01$	$F(4, 560) = 0.98, \eta^2 = .01$
2a- Avoidant	$F(4, 560) = 0.72, \eta^2 = .01$	$F(1, 560) = 0.32, \eta^2 = .00$	$F(4, 560) = 1.49, \eta^2 = .01$
2b- Depressive	$F(4, 560) = 0.87, \eta^2 = .01$	$F(1, 560) = 2.51, \eta^2 = .00$	$F(4, 560) = 1.82, \eta^2 = .01$
3- Dependent	$F(4, 560) = 0.92, \eta^2 = .01$	$F(1, 560) = 0.39, \eta^2 = .00$	$F(4, 560) = 2.66^*, \eta^2 = .02$
4- Histrionic	$F(4, 560) = 0.84, \eta^2 = .01$	$F(1, 560) = 0.00, \eta^2 = .00$	$F(4, 560) = 0.67, \eta^2 = .01$
5- Narcissistic	$F(4, 560) = 2.90^*, \eta^2 = .02$	$F(1, 560) = 0.09, \eta^2 = .00$	$F(4, 560) = 1.72, \eta^2 = .01$
6a- Antisocial	$F(4, 560) = 2.62^*, \eta^2 = .02$	$F(1, 560) = 0.97, \eta^2 = .00$	$F(4, 560) = 1.59, \eta^2 = .01$
6b- Aggressive	$F(4, 560) = 1.52, \eta^2 = .01$	$F(1, 560) = 0.02, \eta^2 = .00$	$F(4, 560) = 0.77, \eta^2 = .01$
7- Compulsive	$F(4, 560) = 1.12, \eta^2 = .01$	$F(1, 560) = 0.89, \eta^2 = .00$	$F(4, 560) = 1.80, \eta^2 = .01$
8a- Passive-aggressive	$F(4, 560) = 1.40, \eta^2 = .01$	$F(1, 560) = 1.36, \eta^2 = .00$	$F(4, 560) = 1.41, \eta^2 = .01$
8b- Self-Defeating	$F(4, 560) = 0.60, \eta^2 = .00$	$F(1, 560) = 0.86, \eta^2 = .00$	$F(4, 560) = 3.12^*, \eta^2 = .02$
MCMI-III Clinical Syndromes			
s- Schizotypal	$F(4, 560) = 0.82, \eta^2 = .01$	$F(1, 560) = 0.28, \eta^2 = .00$	$F(4, 560) = 0.76, \eta^2 = .01$
c- Borderline	$F(4, 560) = 1.18, \eta^2 = .01$	$F(1, 560) = 1.53, \eta^2 = .00$	$F(4, 560) = 1.98, \eta^2 = .01$
p- Paranoid	$F(4, 560) = 1.54, \eta^2 = .01$	$F(1, 560) = 1.90, \eta^2 = .00$	$F(4, 560) = 0.86, \eta^2 = .01$
a- Anxiety	$F(4, 560) = 2.20, \eta^2 = .02$	$F(1, 560) = 1.92, \eta^2 = .00$	$F(4, 560) = 0.65, \eta^2 = .01$
h- Somatoform	$F(4, 560) = 1.55, \eta^2 = .01$	$F(1, 560) = 1.29, \eta^2 = .00$	$F(4, 560) = 0.97, \eta^2 = .01$
n- Bi-polar: manic disorder	$F(4, 560) = 0.98, \eta^2 = .01$	$F(1, 560) = 4.89^*, \eta^2 = .01$	$F(4, 560) = 1.65, \eta^2 = .01$
d- Dysthymic disorder	$F(4, 560) = 0.66, \eta^2 = .01$	$F(1, 560) = 0.27, \eta^2 = .00$	$F(4, 560) = 1.57, \eta^2 = .01$
b- Alcohol dependence	$F(4, 560) = 2.76^*, \eta^2 = .02$	$F(1, 560) = 1.26, \eta^2 = .00$	$F(4, 560) = 0.55, \eta^2 = .00$
t- Drug dependence	$F(4, 560) = 3.37^{**}, \eta^2 = .02$	$F(1, 560) = 0.30, \eta^2 = .00$	$F(4, 560) = 1.82, \eta^2 = .01$
r- Post traumatic stress	$F(4, 560) = 0.92, \eta^2 = .01$	$F(1, 560) = 3.40, \eta^2 = .01$	$F(4, 560) = 1.58, \eta^2 = .01$
ss- Thought disorder	$F(4, 560) = 1.65, \eta^2 = .01$	$F(1, 560) = 4.54^*, \eta^2 = .01$	$F(4, 560) = 1.06, \eta^2 = .01$
cc- Major depression	$F(4, 560) = 1.40, \eta^2 = .01$	$F(1, 560) = 1.47, \eta^2 = .00$	$F(4, 560) = 0.61, \eta^2 = .00$
pp- Delusional disorder	$F(4, 560) = 1.73, \eta^2 = .01$	$F(1, 560) = 1.87, \eta^2 = .00$	$F(4, 560) = 0.29, \eta^2 = .00$
WURS			
Total	$F(2, 268) = 0.23, \eta^2 = .00$	$F(1, 268) = 1.54, \eta^2 = .01$	$F(2, 268) = 1.17, \eta^2 = .01$
Conduct problems	$F(2, 269) = 2.02, \eta^2 = .02$	$F(1, 269) = 2.44, \eta^2 = .01$	$F(2, 269) = 0.56, \eta^2 = .00$
Learning difficulty	$F(2, 265) = 0.07, \eta^2 = .00$	$F(1, 265) = 0.20, \eta^2 = .00$	$F(2, 265) = 1.47, \eta^2 = .01$
Irritability	$F(2, 263) = 0.36, \eta^2 = .00$	$F(1, 263) = 3.17, \eta^2 = .01$	$F(2, 263) = 0.76, \eta^2 = .01$
Attention problems	$F(2, 269) = 1.34, \eta^2 = .01$	$F(1, 269) = 0.84, \eta^2 = .00$	$F(2, 269) = 3.38^*, \eta^2 = .03$
Unpopularity	$F(2, 268) = 0.45, \eta^2 = .00$	$F(1, 276) = 0.48, \eta^2 = .00$	$F(2, 276) = 1.25, \eta^2 = .01$
Barkley ADHD scale			
Inattention	$F(2, 274) = 0.27, \eta^2 = .00$	$F(1, 274) = 0.19, \eta^2 = .00$	$F(2, 274) = 1.36, \eta^2 = .01$
Impulsive	$F(2, 274) = 1.78, \eta^2 = .01$	$F(1, 274) = 0.45, \eta^2 = .00$	$F(2, 274) = 0.94, \eta^2 = .01$
URICA			
Precontemplation	$F(2, 274) = 2.54, \eta^2 = .02$	$F(1, 274) = 0.23, \eta^2 = .00$	$F(2, 274) = 0.14, \eta^2 = .00$
Contemplation	$F(2, 272) = 5.20^{**}, \eta^2 = .04$	$F(1, 272) = 0.01, \eta^2 = .00$	$F(2, 272) = 2.74, \eta^2 = .02$
Action	$F(2, 275) = 2.81, \eta^2 = .02$	$F(1, 275) = 0.02, \eta^2 = .00$	$F(2, 275) = 0.95, \eta^2 = .01$
Maintenance	$F(2, 272) = 5.16^{**}, \eta^2 = .04$	$F(1, 272) = 0.00, \eta^2 = .00$	$F(2, 272) = 2.15, \eta^2 = .02$
CMRS			
Circumstances	$F(2, 241) = 0.27, \eta^2 = .00$	$F(1, 241) = 0.27, \eta^2 = .00$	$F(2, 241) = 1.58, \eta^2 = .01$
Motivation	$F(2, 248) = 1.64, \eta^2 = .01$	$F(1, 248) = 1.66, \eta^2 = .01$	$F(2, 248) = 1.24, \eta^2 = .01$
Readiness	$F(2, 256) = 6.23^{**}, \eta^2 = .05$	$F(1, 256) = 0.02, \eta^2 = .00$	$F(2, 256) = 1.61, \eta^2 = .01$
Suitability	$F(2, 252) = 9.92^{**}, \eta^2 = .07$	$F(1, 252) = 0.01, \eta^2 = .00$	$F(2, 252) = 1.36, \eta^2 = .01$

Note. WURS, Barkley, URICA and CMRS data were not available for Peer I only or control groups. * $p < .05$, ** $p < .01$.

STUDY 3: CASE STUDIES

In this study a case study approach is used in order to explore potential barriers and supports that people face when returning to the community. It is believed that this information can provide hypotheses that may be explored in future research studies. It also provides information about offenders' experiences in the programs and community programs that people may have found particularly helpful or difficult.

Method

Participants

Case study participants were 10 men from DOC. The participants were selected from a sample of potential participants who were eligible for the study based on their TC treatment history, using the same group selection criteria outlined in Study 2. The only difference being those participants eligible for the case study interviews must have released from prison to the community between January 2002 and June 2002.

After narrowing the sample of potential participants based on the above criteria, participants were further divided into "successful" or "unsuccessful" outcome cases. For each of the five treatment groups, two cases were selected, one successful outcome and one unsuccessful outcome. Successful outcomes were defined as participants who were still living in the community after 12 to 18 months without any new charges. Unsuccessful outcomes were defined as those participants who were returned to prison for a technical violation or new charges. These unsuccessful outcomes were eligible for the study only if they had been living in the community for 6 to 12 months before returning to prison.

The above time criteria were established to allow participants to have adequate time in the community, while maximizing the distinction between successful and unsuccessful cases. It was important that the successful cases were in the community long enough to demonstrate positive achievements and stability. Likewise, it was important that the unsuccessful cases were in the community long enough to allow them to have experiences in the community relating to employment, housing, family and their recovery, etc.

Once all eligible participants in the five groups were established, the participant demographic information was then considered to identify the most representative cases from each treatment group. The demographic information included age, race/ethnicity, marital status, and education. The cases that best exemplified the average TC client (using the sample characteristics from Study 2) were identified and then recruited to participate from each group to the extent possible, given small pools of eligible participants. The sample of 10 was selected so that it was representative of the larger TC population (e.g., roughly 50% of the participants were from a minority ethnic group).

The ages of the participants ranged from 31 years old to 43 years old with a mean age of 39 years old. Three of the men were divorced, five were single, and two were married. Of the 10, six obtained their GED while in prison; the others had graduated from high school. Five participants were Caucasian, two were African American and three were Hispanic.

Table 8 gives a summary of the participants. Names used in this table and in the quotes are not true names. Criminal justice system (CJS) involvement was defined as the amount of time spent in the system beginning in adolescence to the time of the interview, including time served in other states. Amount of involvement includes time in county jail, probation, community corrections, and/or prison; minimal involvement was 1 to 4 years, periodic was 5 to 9 years, and continual was 10 years or more.

Participants were compensated for their participation with a monetary payment. Those participants in prison were paid a total of $65 and participants on parole were paid a total of $170. This differential reflects the earning potentials for those in the community versus those in prison. Because of this differential it would have been coercive to pay inmates such a significant amount. Significant others were also paid $40 for their interview.

Materials

An interview packet was used which contained prompting questions for the interviewers. The packet outlined general topic areas and semi-structured questions. General topic areas included finances, housing, family

and partner relationships, substance abuse and criminal history. There were 13 topic areas and five comprehensive questions targeting the participant's overall treatment and prison experiences. Two tape recorders were used to record the interviews. One tape recorder was used as the primary, the other for backup.

Table 8. Case Study Participants

Name	Treatment Group	Outcome	Marital Status	Children	CJS Involvement	Drug of Choice
Richard	Both	Unsuccessful (self-revoked)	Single	√	Continual	Alcohol
Ron	Both	Successful	Divorced	√	Minimal	Cocaine
Dan	Peer I	Unsuccessful	Single	∅	Continual	Heroin, alcohol
Todd	Peer I	Successful	Divorced	√	Minimal	Alcohol, cocaine, prescription meds
Jerry	ACC Completers	Unsuccessful	Married (Separated)	√	Continual	Alcohol, cocaine
Tom	ACC Completers	Successful	Divorced	√	Minimal	Cocaine
Josh	ACC Non-completers	Unsuccessful	Common-law marriage	√	Periodic	Cocaine, amphetamines
Carl	ACC Non-completers	Successful	Single	∅	Minimal	Alcohol
Tony	Controls	Unsuccessful	Single	√	Periodic	Alcohol, cocaine
Mark	Controls	Successful	Single, In committed relationship	√	Continual	Heroin, cocaine

Procedure

Unsuccessful case participants were contacted in person, in prison, and approached to participate. Contact information for successful case participants was obtained through their parole officer. These potential participants were called by phone and if agreeable, were then met in person at an arranged location. There was only one potential participant who was contacted and declined to participate, but the next most suitable participant was substituted.

Willing participants were asked to read and sign a consent form outlining the nature of the study. They were asked to consent to a primary and follow-up interview which would be tape recorded and transcribed. They were also asked to give permission to have a significant other (i.e., wife, family member, or friend) interviewed and to provide the contact information for that person. It was requested that the participant ideally name a significant other who had known the participant prior to their incarceration, who was in contact with them during the time of their recent release, and who could be reached for an interview in person.

Incarcerated participants were interviewed in a private visitation room within the prison. Community participants were interviewed in library group rooms or a park. Participants' significant others were interviewed in library group rooms or at their homes.

The primary interview with consenting participants took an average of 3 hours. Participants were encouraged to respond to questions relating only to the specified timeframe. The timeframe for unsuccessful cases included their time in the community until their return to prison. The time frame for successful cases included their time in the community thru the day of the interview.

There were two interviewers present during the primary interview to increase objectivity and decrease researcher bias. The lead interviewer directed the majority of the interview, following the questions from the packet and probing responses with additional questions. The second interviewer served as an observer who was present to ask adjunct questions not addressed by the lead interviewer.

The interviews followed the same format for each participant. Questioning was open-ended. Following the interview, the interviewers recorded their initial impressions and additional questions to address with the significant other or during the participant follow-up. There was minimal content debriefing between the interviewers following the interviews to limit researcher bias.

The significant other interviews were conducted in person and were approximately 1 hour long. Only one interviewer was present and interviews followed the same format as the primary interview. These interviews aimed to confirm participant's self-report and identify any conflicting or additional information.

Prior to the follow-up interview, the transcript of the primary interview was used to write a case report. The case report is a summary of the participant's reported experiences in the community, highlighting each topic area. Information from the significant other's interview was not incorporated at this time. The report was reviewed by the other interviewer to substantiate the content.

Follow-up questions were generated by the interviewers using the transcripts and case report. The participants' criminal justice file was also reviewed to verify the accuracy of the report and to provide additional questions.

Only one interviewer conducted the follow-up interview. The participants were asked to review the report and suggest any changes to the facts or content. Follow-up questions were then addressed. The entire follow-up interview, including the review of the report, took approximately 1 to 2 hours. Final changes were made to the report based on the follow-up and any contradictory information from the significant other interview was added as an adjunct.

Results and Conclusions

Participants' Background Information

There are similar themes in each of these participants' lives of early drug and alcohol abuse and involvement in the criminal justice system. These patterns of behavior have continued through most of their lives well into adulthood. For those in the treatment groups, many had been in other types of substance abuse treatment prior to entering either of the TC programs. The two men with no TC treatment have also been involved in several drug and alcohol treatment classes throughout the criminal justice system. Table 8 shows those participants who have been successful in their recovery following their TC experiences, and those who have not. Four of the five men who returned to prison were revoked from parole because of a drug or alcohol relapse, while the fifth participant self revoked back to prison because he did not want to comply with the TCs requests.

Substance Abuse History. Each participant had significant substance abuse histories, the majority of them were poly drug users. Most reported they began using drugs and alcohol in adolescence. They were often introduced to these substances by their parents and/or friends.

> *I was a teenager. That's when like everybody started in the teenage years. I know it starts off with weed and drinking 40 ozs then escalates to something else. You get to doing harder drugs. Somebody will introduce you to it or if you're slinging dope you eventually start using your product, you know? –Mark*

> *My mom was alcoholic. She was only 42 when she passed away...She and my step-dad [were alcoholic]. He was a psychiatrist; I'm sure prescription drugs were part of that, too. Writing themselves prescriptions, because I know when I was a kid I kind of got with the pills, too, through him. I mean, I could get Valium or what-have-you just off of sample type tablets. That stuff seemed like it was everywhere. I don't know if it was through his drunkenness that this stuff was everywhere ~ but he could drink like a half gallon of Vodka in a night. –Tony*

Most of the participants' drug use peaked in their late 20's and 30's. Two participants did not begin using heavily until later in adulthood. They were able to hide their drug use for years before they became involved in the

criminal justice system. In contrast to the other participants, these individuals demonstrated stability in the years prior to their drug dependence and had long periods of sobriety.

Overall, however, the majority of participants began experimenting with drugs and alcohol early on in their lifetime and rarely had periods of sobriety. Their longest periods of reported abstinence coincided with their incarcerations.

Criminal History. The amount of prison time spent in DOC varied between the participants. All participants claimed their felony charges were directly related to their drug use; they were either high or intoxicated at the time of their crimes.

> *I was in a drug-induced psychosis. [I had been using meth all day.] I saw a police officer parked. I thought I was in a dream. I took off from the parking lot and did donuts around him and then led him on a high-speed chase. I thought I was a stunt driver, tried to test the police, that's why I'm sitting here [in prison] today. Felony eluding. –Josh*

> *I robbed a restaurant. That was robbery. I'm violent when I drink and use drugs. I never physically hurt anybody but emotionally I've f***ed a lot of people up and that's violent enough. –Todd*

All participants were targeted as being both high criminal risk as well as having significant drug and alcohol treatment needs. It is these two primary factors which qualified them for treatment in the TCs.

Transition

As a result of entering the criminal justice system, the participants have been forced to make a series of transitions throughout the course of their incarceration and reintegration back into society. Going to prison caused a significant disruption in these offenders' lives. While incarcerated they have been mandated to treatment, both in the prison and community. This adjustment to the treatment setting was often very difficult because it was unlike any of the participants' previous experiences. Following their release, the participants were again required to adjust to new environments in the community which were very different from what they had become accustomed to in the prison facilities. As they progressed through the levels of community supervision they were readjusting to society and the demands of parole. Some participants were adapting to the Peer I program, others to community corrections. As they regained more and more of their freedom they were given additional responsibilities such as securing employment and housing. Although these transitions may not seem to directly impact their overall success or failure, it is important to understand the challenges they face throughout these transitions.

TC Program. Many of the men expressed difficulties adjusting to the TC once entering the program, either in the prison or the community. They not only faced the challenges of adapting to the intense milieu, but also often disagreed with how and why they were placed in the program.

> *When I first got there and I seen all the yelling and all the drama, I was like, Oh hell no, you guys got to send me back because I wasn't quite sure how I was going to be able to take somebody yelling at me, especially somebody that I'd probably smash somewhere else. And getting okay with myself to not just stand there and take it but to listen to whatever message was trying to be sent. That was hard. –Richard*

> *I quit [TC]. I wasn't enjoying it at all because I wasn't trying to change back then. I wasn't even attempting to change. I'm trying to change now. I have slips-ups now, but then I was just full-blooded - I just wanted to be a criminal, cooking dope and doing my thing. I was just going along with it but then they denied my community because they said I needed more treatment so I was like, "man, I'm out of here." –Josh*

> *I went to the TC to get out of jail. I didn't go to the TC for self help. –Dan*

Another challenge for participants entering the prison TC was overcoming their own perception, as well as other inmates' negative perceptions, of the program as a "snitch camp." This is a common conception among the general prison population because the TC is known for inmates confronting each other about their negative behaviors. For some, the TC philosophy compromises their ability to uphold the convict code.

> *Prison TC is for people trying to get out of population, they are not even strong enough to be in population…snitching on their friends through the system. –Dan*

> *We were in the TC program and were doing something that wasn't mainstream. We were dealing with the criticism of being called rats and snitches by general population. [Staff] admired what we were doing because we were being so persecuted by our own peers. –Ron*

It often took participants a few months in the program to begin to see that it might have something to offer them.

> *There were a couple of guys in the program walking through the yard, and the guy I was with said "Snitch~ those guys all snitching on each other, they're all snitchers." I explained it to the guy, "It's more of bringing up your self-awareness and I didn't think of that before. It's an awareness." It even took me awhile to see they're not snitching. –Jerry*

> *You hear it called a snitch camp, because you have to tell on each other and stuff like that, but it's bringing your awareness up. It's like bringing your awareness to other people's behaviors and it also brings your awareness to your own behaviors. How am I going to go around calling people on their behaviors when I'm doing the same thing? So by bringing your awareness to your own behaviors and thoughts, it will help change the outcome. –Josh*

In addition to adjusting to the TC program, the participants also were adjusting to the transition of being back in the community. Depending on their circumstances, they were either entering the community TC program or releasing directly into the community. Over the course of their interviews it became apparent that they were encountering some challenges during the transition from prison.

Barriers in the Community. The inability to drive was mentioned by most as one of the greatest difficulties faced during the transition to the community. Commuting on the bus often took a great deal of additional time; rarely were the men able to find work close to their residence. Dependence on a bike or the transit system made juggling the demands of parole and work difficult.

> *I had to ride the bus and then you had to walk twenty minutes to the bus, you had to catch all these buses and then you have to write down your location and everything- where you're going, who you talked to, their number and all that sh*t. Yeah, and then you had to be back at a certain time and then the rules. I didn't like it, but I had to do it if I wanted to be out here [in community corrections]. –Mark*

Successful participants possessed a strong resolve to do whatever was required of them to comply with the demands of parole and the programs. Although they agreed it was difficult, they possessed a certain vigilance the unsuccessful participants did not demonstrate.

Some of the "hoops" the participants referred to included reporting to their parole officer once a week, random urinalysis and daily breathalyzers, and, for those who were not at Peer I, attending weekly substance abuse groups. These parole obligations not only put demands on the offenders' time, but also cost a substantial amount of money.

> *Geez… $17 for group, $55 for individuals, $12 a week for UA's and then BA's- I think it was $12 for a month for those. –Josh*

Because of these costs and others including restitution, child support and daily living costs the participants were anxious to find employment. In addition to needing the money, finding work within a few weeks of release was also a condition of parole and community corrections. ACC TC has no supervision over them at this point and Peer I does not allow them to work initially.

Employment. Although they might have experienced some difficulty transitioning into the community, finding employment was not reported as a challenge. No one reported their felony records affecting their ability to obtain work, and most were able to find work within weeks of their release.

> *I think it's the way I sold myself, the way I presented myself- honesty, you know what I mean? And it worked out pretty good. –Jerry*

> *Oh, mandatory. I needed the job because that's the stipulation. If you don't have a job it's grounds to go back... I didn't want to go back, ever. –Ron*

> *I'm kind of a people person anyway. I never have much trouble on the job. I've never been fired from a job. I've never ever collected unemployment. I've never been laid off. –Tom*

Although the men did not experience too much difficulty finding work; they all expressed a desire to get out of the line of work they were currently in. A majority of the men were in construction or manual labor positions. These types of jobs were manageable for them at the time; however, the demands of the jobs were often hard on their bodies. These positions were not ones they felt they could do for many more years, therefore, in the future, their criminal records and substance abuse histories might make it more difficult for them to find more desirable employment.

Housing. The participants who went to Peer I were housed on the TC campus until they progressed out of the residential phase. They were then transitioned to nonresidential housing, which is off campus, but still run by the TC program. Those participants who were in the Peer I TC found it difficult to make this transition, largely because of the location of the off campus apartments and the living situations.

> *[In response to the location of non-residential housing] I didn't like it. Just that particular area is dope ridden and a lot of prostitution, a lot of women on the street- you'd have to go catch the bus right there… –Richard*

The participants did not report any difficulties securing their own arrangements in the community. Their felony records did not seem to present a problem to most property-owners. One participant, however, mentioned finding an apartment complex known for not doing background checks.

A greater challenge was transitioning into the community where they were provided more freedom and less structure than the TC living arrangements or community corrections. Given more independence or because of issues within the system, some participants returned to old neighborhoods, which led to problems; others tried to avoid "old stomping grounds."

> *The recommendation everyone had was to change playmates and trade playgrounds. But then [my PO] turns around and tells me I have to go back to [my home town]. I said "Well, that's the same playground I've been in for twenty years, playing hard." I told her I was thinking about staying here [another city] and she said "NO, the programs we want you to participate in aren't available here." [So they paroled me back home.] –Tony*

> *I just wanted to feel [the old neighborhood]. I just wanted to feel it, you know, and I seen a couple of guys and they were still getting high and then I just... I didn't even want to be around it. It made me mad smelling that stuff and I got out of the house and I didn't want to be around it, but that was just something I had to do. I just had to go back [to the old neighborhood], and now I don't even look back. – Mark*

Factors Related to Community Success

Certain factors emerged from the interviews to indicate there were personal characteristics and treatment factors that did make an individual most amenable to a successful treatment outcome. Many of these factors apparently influenced the outcome, regardless of the specific treatment provided. There seems to be an overall difference between those participants who were successful in their recovery and those who struggled with relapse on many of these factors.

Family Support. All of the participants reported having contact with their family; however the extent of this contact and the quality of their family relationships varied.

> *My mom and I [talk] a lot. We talk about it [addiction], what's going on, what it takes….in depth. About the use and what got you there. And she knows. She's pretty informed. She's pretty informed about what's going on. She knows more about me than she ever did. –Tom*

> *You know, I'm very lucky to have my granny. She is my Rock of Gibraltar. I can ask her anything. I can say anything to her, she's my confidant. She's confessional. I'm very fortunate to have that. –Carl*

> *Yeah, my brother has always helped me out…… All he wants is for [me] to straighten up. But here he is four years later and he's getting kind of sick of it. Hell, [I'm] still sitting in this damn prison. –Dan*

Though each man had support from his family, it became apparent through their description that the level of support varied significantly. Some depended on their family relationships heavily for stability in their recovery; others maintained more superficial relationships with family members. Some family members expressed their desire for the participants to "get clean" or "straighten up," but other than offering these wishes, it did not appear they offered much *emotional* support. Overall, the participants with failed outcomes tended to have less family support than the participants with positive outcomes.

Romantic Relationships. Participants with successful outcomes had a greater tendency to avoid becoming romantically involved compared to those participants who were unsuccessful. Successful participants did not feel it was best for their recovery to enter into a romantic relationship right away.

> *I just made that decision. Right in the beginning. I'm not doing anything because I'm a clingy person. I don't want to get out there and get really clingy, and end up in a bad situation; I'm not ready for that. So I just think about it. I guess until I know what I'm doing. Just slow, very slow. –Tom*

> *I can't have a relationship unless I'm grounded. I need to be in a spot where I'm okay. When I'm okay with me. –Todd*

The majority of the unsuccessful participants however, were either already in a relationship or entered into a romantic relationship soon after releasing from prison. These relationships often became a distraction for these participants, partly because their partners were continuing to use drugs and alcohol and were not a stable support to the participants' recovery.

> *My wife wasn't well. She was still drinking, even after she got out of jail. We were calling on the phone because we couldn't have contact, except phone contact, bottom line was we weren't going to stop calling. –Jerry*

> *The [community] TC offered a significant others group, but she wouldn't get involved. She said it wasn't for her and I kind of agreed with her. She ain't guilty; she didn't go to prison or get a*

sentence… She did like to drink and heck I was buying the alcohol for her, so I think the potential for me to pick up a beer too someday was probably greater than if I was with someone who wasn't drinking. –Richard

Peers. Besides family and romantic relationships the participants reported having few friends. Those involved in the TCs often relied on their "TC brothers" for support and friendship, but did not have many other peer relationships.

[We'd] see each other [TC brothers] every day and all go downtown,[I] loved that camaraderie, a lot of good friends, a lot of good relationships, but the problem happened when we transitioned to non-residential... People start breaking off and going back to their own families, their own ties, which you can't blame them… But someone like me with no family, I kind of got left out. –Dan

Those not in Peer I found meeting new friends to be difficult. Most often they met new people through their work, but more commonly coworkers were poor influences. They would often get together after work for a drink, and in some instances actively use drugs on the job. Rarely did the participants try to foster a friendship with these individuals; although one participant ended up relapsing in this situation.

It was payday – Friday of course, some of the guys said, "Well, we're going out for beers, are you going to come?" I would say "No, I don't drink, but have fun!" Sometimes they'd bring the beer to the workplace outside in the parking lot. I'd sit there and drink a pop or two before I would have to leave. …Sometimes, I would find myself saying that same old [story] - "Well I could just have one or two…" Sometimes there's a little more pressure than others. –Richard

Seeking Positive Support. Many of the participants mentioned that the TC programs recommended they seek positive social support. Generally the participants agreed that the TC encouraged working on family relationships, but discouraged relationships that might be harmful to their recovery. Specifically the TC warned against becoming involved in romantic relationships until they were more stable. Most of all they encouraged participants to find positive support and to avoid "old people, places and things." Taking this advice was easier for some than others.

*Definitely. Without my support system I might as well just say f**k it. There's no question about that…I don't know what it's going to take for people to get it, they just have to push themselves in that recovery direction otherwise they're done. They're done. If I stop going to meetings I won't know how to act. What am I going to do with my time? Where am I going to go? All my friends are in recovery. What would I do, honestly? –Todd*

You need to make sure that you know your boundaries and you stick to your boundaries and you stick to what works for you. You need to have a support group…not just one support group, you need to have a bunch of support groups and you need to be able to contact them whenever and you should know that you have a true support group so that when you decide to just ignore them, stop talking to them, stop calling them, that they'll call you and they'll make sure they check on you, that's a support group. –Ron

Although all of the participants knew social support was important, many of them struggled to find it. Most of their old friends were negative influences. They had a difficult time identifying places to meet new, sober people. Because of other barriers, like limited free time, transportation, and curfew times, it was even more difficult to make finding positive support a priority.

I think the best social time I had was the RTD bus. Yeah. That's about it. I was trying to find a church and I went to a couple of churches. Went there a couple of times by myself. I went and it just

didn't get a grab, I didn't grab onto it, because I was still being tugged different places…nothing jelled. –Jerry

[In response to meeting new people] I felt uncomfortable. Like the people I met at church and the people that I met around work- even though the inadequacy was a lot in my own mind and eventually it got easier, but that's just another obstacle…. They recommended support groups, you know, AA, NA. I got into an NA group that I really started to like but then –I seen the bad side of that, too. They'd go outside and go fix their dope right after group… I kind of shied away from that kind of support at that point. –Dan

For some, isolation was a cause for relapse. The restrictions of supervision caused many participants to be home early every night. Many participants found themselves alone a majority of the time promoting loneliness and boredom.

Yeah that's a good time for me to start drinking again. I can do that pretty easy. Boredom. Get some DVDs and get some beer and just sit at the house and get drunk alone, no problem there. –Tony

I remember both [TCs] warning against that, against isolation. Against trying to do things on my own and shut everybody out and think I could just go ahead and handle it with what they've given me. Yeah, they warned against that. To always have some kind of support around you whether it be through AA or some kind of support group, people that you know of a like mind that are going through treatment and so, yeah, they both warned against being isolated because being left alone with your own thoughts and decisions you're probably going to …[trip yourself up]. –Richard

Avoiding Negative Influences. Social support is a critical factor. Equally important is the participants' ability to set boundaries with those who are not supportive and have a negative influence on their recovery. A strong characteristic of the successful participants was their ability to set strict boundaries that eliminated negative influences from their lives.

*A guy was staying with me and he went out one night and came back a couple of days later and said, "I stayed at my sister's." I said, "You can't bullsh*t a bullsh*tter." I said, "You were out getting high and you have to leave." One thing leads to another with addiction, so that day, he was gone. –Todd*

Those who were unsuccessful seemed to struggle with setting boundaries. They were unable to separate themselves from those who continue to use even when it put their own sobriety at risk.

I couldn't bring myself to go to the counselor and tell them I can't get along with [my roommate], which is what I was supposed to do, to get him kicked out of my apartment because he was drinking before I was drinking……I couldn't go tell them that this guy and me is not getting along because after twenty years in prison…. [I couldn't snitch]. –Dan

If she wanted to drink at the house when I was there, I was okay with that, too. I just wasn't going to do it, but yeah, I wasn't going to put demands on her, so to speak. I didn't want to push my recovery on her. –Richard

External Motivation. All of the participants stated that, in some ways, going to prison was good for them. It forced them to get sober, at least for a while, to clear their heads and make some decisions about what they wanted.

I'm not mad at going to prison 'cause I think I needed that. A place to sit down and get hold of my personal growth so I can grow and research myself and see where I'm at. –Mark

It just got me…it put me in a place where I could actually look out, you know, and see what was really happening, gave me time. Where would you ever get that? Bad place, though. –Tom

Although they see their past or current incarceration as being an important life lesson, the participants cite avoiding prison in the future as a strong reason to stay sober and crime free.

I ain't trying to go back. I already have my days planned out before I wake up. I already know what I'm gonna do. And I know how I'm gonna avoid these streets. The games in the streets…. I ain't trying to do life. I don't want to do life. –Mark

Children were also a motivator for those who were parents. Although many of the participants did not have very involved relationships with their children, they hoped to reunite with their children in the future. This desire was reported as a powerful motivator, but often it did not appear to be enough.

I convinced myself during the TC program every time I disagreed with a lot of things, to keep focused on my family and to keep on pushing myself to go on through the program. Then when my P.O. said I couldn't have contact with my wife and couldn't move my kids into my house with me, I told her "Look, just send me back." Because I hadn't changed, which I learned now; I should have changed for myself. –Jerry

I have a daughter and I've missed a lot of her birthdays because of this and I want to… I really didn't want to blow it for her sake more than my own and I know that you can't get sober for somebody else and all that kind of thing. But she was definitely my motivation to stay out, because at that point it was her. –Tony

Internal Motivation. Although all participants, successful and unsuccessful alike, cited external motivating factors, the successful participants appeared to be more motivated by internal factors overall. Successful participants cited the personal decision to stay clean as the principal reason they were successful, regardless of legal or family factors. The motivation to change their quality of life emerged as most important to these individuals. They wanted to "stay straight" for themselves, for their health, and to have new experiences.

Motivation? Life I think. You know? That wasn't life. I don't want to live that way anymore. The way that got me there, you know? There are a lot of things that are really important. Life. I won't live that way again. It was bad. Nothing stable. –Tom

*Drinking was a big part of my life, but it's over. I don't wallow in the sh*t no more. I've got a life to live. I want to get on and do other things…. [drinking] got to the point where I was a prisoner by my own means because at any time of the day or night I could be busted. Basically I was a prisoner to myself by my partying and that's why it's not that big of a deal for me giving it up. I see what it's like now. There are benefits to it. It's been definitely better on my health… –Carl*

Those who have been successful stated they made the decision to stop using drugs and drinking long before entering the TC(s) or alternative treatment. Some participants acknowledged the programs offered many important tools and means to stay sober, but they believe they made the commitment to stay clean regardless of whether they entered the TC or not.

*That sh*t [treatment] don't help you unless you want help. They can make you take a thousand classes. It ain't gonna help unless you want the help. –Mark*

You can lead a horse to water but you can't make it drink, you know? If you don't want to quit you're not going to quit. And some of the people there – [TC] did good for them. They wanted to be there; they wanted to get anything they could. –Carl

Self Esteem. Participants' level of self esteem also appears to contribute to their success or failure in the community. Those who felt they deserved to be happy and could move past their "drug addict" or "felon" self-image despite their past mistakes seemed to have more success in staying sober and clean. They were proud of being able to change their life and see good come of it.

It doesn't matter what people think~ One thing I know for sure is I'm not my past~For a long time it did bother me, but I had to work through that and that comes with time and effort. The self esteem level gets back up. –Todd

Being able to look at a whole person instead of just the top of their shoes and look at myself in the mirror and be okay with me... okay, alright, I'm okay today, yeah. I'm feeling okay. –Ron

Others only see themselves as convicts and failures; they continue to struggle to overcome these negative self images. They exhibited less pride and confidence in themselves. They had doubt that they could be successful, because they had failed so many times already.

[When asked what he would like to change] Probably my feelings of "do I belong here?" I mean is this where I belong, do I really belong here [in the community]? Am I always going to be a convict? That was probably the hardest thing. Can I get to feel comfortable? Can I get to feel that I… this is where I'm supposed to be, you know? –Dan

Attitudes about Recovery. More that just being externally or internally motivated, those who have had successful outcomes present defined attitudes about their recovery and what it means to them. These attitudes are focused on internal incentives to be sober and crime free, attitudes which appear to be lacking in those participants who were unsuccessful. These participants struggle to define what recovery and relapse mean for themselves. Successful participants not only knew the consequences of a relapse, but took deliberate actions to avoid it. They were able to clearly identify many of the reasons they used in the past and what it would take to avoid those pitfalls in the future.

Well, it's pretty simple to get all wrapped up in yourself thinking that you can do something. If you've got an addiction problem like I do, the way I look at it is- I can't use again or drink again because I'll die and I don't want to die. I will die because there's no changing the way I act when I use drugs and drink. So I have to do the things I have to do to make sure I don't use. I didn't like it at first, but I know I had to do something different so I created a habit for myself and I go to groups three times a week. –Todd

Those who have been unsuccessful in trying to stay sober do not seem to possess the same clarity with which they view their decisions to stay sober. Although they may be able to identify all the reasons they *should* stay clean, they have not internalized those reasons, and appear to wonder still, how they could continue their use but avoid the negative consequences.

I don't want to do this [prison] anymore. So what am I going to do when I leave here? You know, can I drink? Parole says no, I mean, everything says don't do it and in the back of my mind I'm still going "Well, if I don't drive, if the only offense I have is driving, drinking and driving well…" I'm weighing it in my mind. I wish there was an easy way just to say I'm free of this. I just don't desire to drink anymore… Everybody seems to think that "You've got all the tools" which again I've had all the tools for however long. It's whether I use them or not. –Tony

Others appear to lack the tools necessary to manage the situations and issues leading to their drug use. Even though they might be able to identify their triggers, they do not know how to effectively change their behaviors. These participants struggle to impose self structure. They maintained their recovery while in community corrections or the TC program, but struggled to maintain the same structure once given more personal freedoms.

> *[What led to his relapse?] I overwhelmed myself. I put too much on my plate, I was just tired. I got tired and there was no support. –Jerry*

> *[Community corrections] helps me focus more on what exactly it is I do. When I have that kind of structure I get a lot more in tune with myself. I organize things a lot different and I approach things a lot different. I actually set out to do something and I'll be real articulate about me wanting to get this done, this done and this done. –Tony*

Such an in-depth look into these participants' lives and struggles with abstinence exemplifies again the need to have a strong continuum of services available to offenders extending from within prison to a long period of community transition. As shown through these stories, the challenge is not only to address substance abuse but all the additional challenges these individuals face which at any moment can be a threat to their recovery. The TC programs have a great responsibility to encourage change in the whole person, and along with this duty comes reintegration issues, family issues, and individual issues.

DISCUSSION

Similar to previous research (Inciardi et al., 1997; Wexler, Melnick et al., 1999), results showed that the group who participated in both TCs had the most successful outcomes and showed a reduction in 1-year recidivism (defined as community supervision failure) of 78% compared to the control group. Although the reduction of recidivism decreases to 42% in the second year, this is still a major impact of long-term care on outcomes. Participants who received treatment only in the prison TC showed reductions of 12% and 14% for the 1-year and 2-year outcomes. Participants who only received treatment in the community-based program had similar reductions in recidivism for the 1-year outcomes (10%) but this reduction declined to only 3% for 2-year outcomes. The participants who started but did not complete the prison TC had similar rates of recidivism as the control group. Survival analysis also supported these results, namely those who participated in treatment and then progressed to the aftercare TC had the longest survival times.

These findings substantiate the need for a continuum of care in the treatment of substance abusing offenders. Other research has also shown that those offenders who continue on to complete treatment, post prison, have improved outcomes after a 3-year follow up (Knight et al., 1999; Martin et al., 1999; Wexler, Melnick et al., 1999). This is a model of treatment that has shown consistently, with increased retention and length of stay, those who continue on to an aftercare program have better outcomes. It is important to remember, however, that the effect diminishes over time and with longer follow up periods (Wexler, Martin et al.; Martin et al.).

No stable client profile emerged from these results that would predict outcomes. While it is a common goal of the research to determine a profile that would allow the prediction of successful treatment outcomes (Collins & Allison, 1983); the inability to do so suggests the programs have the ability to impact offenders with substance abuse issues regardless of their personality or other individual traits.

Although this data does not demonstrate the ability to predict individuals who will have positive outcomes, it distinguishes those who are more likely to complete treatment. Because research has demonstrated that the longer a client is retained in treatment the more positive their outcomes (Knight et al., 2000), using client profiles to identify individuals more likely to complete treatment should indirectly improve their outcomes.

The results showed there were certain personality traits that characterized those who are more likely to remain in the ACC TC and those who are not. Fixed factors played a small role in determining the profile of such clients; non-married clients were more apt to leave the program before its completion. Other predictors associated with non-completers included the presence of narcissistic personality disorder, schizotypal and paranoid disorders, and past conduct problems.

Clients with these personality styles may have difficulty remaining in the programs because they have a tendency to be superficial and self-centered and are characterized by a total lack of empathy for others. They tend to be free of marital commitments and isolate from others, perhaps as a result of their suspicious nature and inability to develop personal attachments. Furthermore, unsuccessful completers have long-standing patterns of conduct problems dating back to early childhood.

Because of these personality traits, it would be difficult for such a client to adapt to and succeed in the TC environment. As described previously, the TC treatment philosophy is built on the model of structure and accountability; the delivery of treatment is dependant on clients' development of relationships and attempts to correct negative behaviors and thinking patterns.

It is important to consider that there was much unexplained variance unaccounted for in the analysis. Simpson (2001) has suggested that program characteristics and client characteristics work together to improve client participation and therapeutic relationships. The influence of program variables was not accounted for in the results.

In contrast to previous research that has found motivation to impact time spent in treatment (Joe, Simpson, & Broome, 1998; Knight, Hiller, Broome, & Simpson, 2000), it was surprising to find that motivation did not have a statistical relationship with retention in the ACC TC. This is also in contrast to what was found in the case study research and the second study where clients participating in both TCs had higher motivation scores than the other four groups. This finding implies that motivation played a role in group membership, but did not directly relate to retention or outcomes. The lack of a strong relationship in the quantitative data may reflect a

problem with measurement that needs to be further explored. Future research needs to focus on the development of a psychometric measurement that could better gauge a person's level and source of motivation and readiness for treatment.

Case study participants expressed both external and internal motivating factors for their success in recovery. These factors appeared to impact their dedication to treatment and willingness to change in contrast to the unsuccessful participants. This theme suggests motivation is still an important factor that needs to be further investigated.

Social support was also a common theme in each of the case studies. There was an obvious indication of strong support, or lack of it, in the participant's lives. This appeared to directly influence their success or failure in the community. Previous research has found similar results indicating the role of positive support in increasing treatment retention and satisfactory outcomes (Broome, Simpson, & Joe, 2002; Hiller et al., 1999).

Both TC programs were successful in communicating to the participants the value of positive support, but many of the men struggled with *how* to find and maintain such support. Based on the psychological traits many of these clients display, it is not surprising that they would struggle with how to form and sustain positive relationships with family and peers.

Program Recommendations

Overall, the results indicate that long-term intensive TC treatment providing a continuity of care from prison to the community can produce remarkable reductions in recidivism over a 2-year period. In recognizing this as such an important factor, more attention needs to be directed towards involving clients in aftercare programming. This can be done by offering more incentives to those clients who progress to community TCs. While offenders are incarcerated they are mandated to treatment, however it is voluntary to choose the Peer I TC; therefore efforts to engage clients in community treatment are key. Offering offenders education about the importance of continuing care and providing incentives must become a priority to increase positive outcomes.

Getting more offenders involved in continuing care following treatment in prison means having more programs and aftercare options available. There is a high demand for the treatment beds available at Peer I, more effort and resources are necessary to make additional programming available to those who want to continue with their treatment.

A more detailed intake process could be implemented, prior to clients entering the TC programs, to better identify positive client characteristics and sources of motivation. By identifying the characteristics of each client, and targeting those who might be more likely to drop out, the program could take greater efforts to employ different rules of engagement. Using various techniques, dependant on the client, would be most beneficial in increasing retention and utilizing program resources.

Overall, treatment should work to equalize these characteristics among clients by assessing and developing individualized treatment plans to address offenders' strengths and weaknesses. In doing so, the program can target specific life skills and treatment needs that correlate to outcomes.

Possible interventions or strengthening of programs in the area of improving clients' social skills should also be further investigated. Programs should target new ways to help clients develop relationships. More focus is needed to build social skills and sef esteem to cultivate successful outcomes. Overcoming feelings of intimidation, shame and discomfort in meeting new people needs to be addressed; specifically how to talk to people about past criminal involvement and substance abuse, as well as set appropriate boundaries. It is important that participants learn how to avoid isolation and recognize individual patterns causing seclusion.

Participants often found it difficult to adjust to high levels of confrontation in the TC programs; however, they felt that once they adjusted to the program they benefited from that type of interaction. Those clients in the ACC TC also had the challenge of dealing with the stigma associated with participating in treatment while incarcerated. Past research has found that the ease with which a client can conform to the program demands impacts retention (Condelli & De Leon, 1993). This may suggest that orientation periods need to be strengthened to help clients make the transition into the program easier and overcome some of these initial challenges. It also reinforces the notion that these programs need to be of long duration so that participants may get the most from the program.

Limitations

Selection effects are a major problem for these studies. The participants who received both treatments may have characteristics that make them uniquely different from the other groups. Self-selection plays a role in participating in both treatment programs, especially for the community-based TC. These participants may see the benefits of the TC program for their own recovery, and those who benefited especially well from the prison TC or who are highly motivated to change might be more likely to continue in the aftercare TC. Conversely, the participants who did not complete the prison TC may be different on variables that impact outcomes. It is important to note, however, that even though substance abuse treatment is not considered voluntary within the DOC, as there are many external pressures and consequences for refusing recommended treatment, participation ultimately lies with the offender.

Offenders in the criminal justice system are often directed to participate in some form of treatment, be it group therapy or other drug and alcohol classes while in prison and the community. These types of less intensive treatment programs are widely available in Colorado. Therefore, previous treatment history was not controlled for in this research. It is quite probable many of the participants had some form of treatment prior to entering the TC and those in the control group probably had some other form of treatment as well.

An additional problem arises in that the participants who were in the prison TC were split into groups based on their success in the program. However, participants in the community-based TC were kept together regardless of whether or not they completed the program successfully. This may account for the fewer positive outcomes in the Peer I only group compared to the successful prison TC group. Appendix C explores the impact of program completion on outcomes for the community-based program.

The inability to collect baseline psychological assessments on participants in the control group or the Peer I only group was another limitation of the study. Even though the MCMI-III is administered upon intake into the DOC, there was much missing data for participants not in the ACC treatment groups. Additionally, participants' responses to the test might be different under research conditions where their confidentiality is maintained as opposed to intake conditions where decisions are made that may impact their incarceration stay.

The inconsistent findings related to motivation might not only be attributable to the need for more accurate measurement tools, but our design did not allow for measuring them in a dynamic way. A repeated measure design would be most appropriate to assess the changes in motivation across time as opposed to relating a single baseline measure to retention or recidivism. In doing this, it would be possible to assess if participation in the programs increased motivation.

Finally, because the case studies only included a small number of participants the results can be highly specific to the sample studied. Although efforts were made to match participants to the larger population of inmates who are eligible for TC treatment, some differences were inherent. Interviewing methods can be problematic because of the biases of the researcher or the biases of the participants. We attempted to reduce biases of the researcher by using multiple interviewers and having multiple reviewers of the case report including the participant. We also attempted to reduce the biases of participants by gathering a significant other reports, giving a follow-up interview to review potential differences, using collaborating information such as official data, and ensuring confidentiality.

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APPENDIX A

Pairwise Comparisons in Outcome Analyses

Group	1-Yr Outcomes	1	2	3	4	5	2-Yr Outcomes	1	2	3	4	5
(1) Both	Return to prison		✓	✓	✓	✓	Return to prison		✓		✓	✓
	Tech. viol.			✓	✓	✓	Tech. viol.			✓	✓	✓
	Misd. arrest				✓	✓	Misd. arrest			✓	✓	✓
	Fel. arrest				✓		Fel. arrest					
	Sup. failure		✓	✓	✓	✓	Sup. failure		✓	✓	✓	✓
(2) Peer I	Return to prison	✓			✓		Return to prison	✓			✓	
	Tech. viol.			✓	✓	✓	Tech. viol.			✓	✓	✓
	Misd. arrest						Misd. arrest				✓	✓
	Fel. arrest				✓	✓	Fel. arrest				✓	
	Sup. failure	✓					Sup. failure	✓			✓	
(3) ACC +	Return to prison	✓			✓		Return to prison				✓	
	Tech. viol.	✓	✓				Tech. viol.	✓	✓			
	Misd. arrest						Misd. arrest	✓			✓	✓
	Fel. arrest						Fel. arrest					
	Sup. failure	✓			✓		Sup. failure	✓			✓	✓
(4) ACC -	Return to prison	✓	✓	✓			Return to prison	✓	✓	✓		✓
	Tech. viol.	✓	✓				Tech. viol.	✓	✓			
	Misd. arrest	✓					Misd. arrest	✓	✓	✓		
	Fel. arrest	✓	✓				Fel. arrest		✓			
	Sup. failure	✓		✓			Sup. failure	✓		✓		
(5) Controls	Return to prison	✓					Return to prison	✓			✓	
	Tech. viol.	✓	✓				Tech. viol.	✓	✓			
	Misd. arrest	✓					Misd. arrest	✓	✓	✓		
	Fel. arrest		✓				Fel. arrest					
	Sup. failure	✓					Sup. failure	✓		✓		

Note. ✓Indicates statistically significant differences between groups.

APPENDIX B

Mean Survival Times for All Outcome Variables

	1-Year Outcomes			2-Year Outcomes		
Group	Mean Survival Time (days)	SE	% Censored	Mean Survival Time (days)	SE	% Censored
Supervision Failure						
Both	1785	156	77	1385	173	55
Peer I	1314	121	53	971	111	34
ACC completers	1438	90	57	1061	84	38
ACC non-completers	1042	70	41	677	56	21
Control	1077	72	45	742	61	27
Return to DOC						
Both	1830	155	79	1463	176	59
Peer I	1502	119	59	1104	113	38
ACC completers	1543	93	60	1226	90	44
ACC non-completers	1211	75	47	852	65	30
Control	1244	77	48	958	70	33
Technical Violations						
Both	2164	88	95	2076	120	90
Peer I	2286	84	93	1999	123	78
ACC completers	1849	95	74	1610	100	61
ACC non-completers	1559	89	62	1236	87	45
Control	1452	91	58	1204	89	45
Misdemeanor Arrests						
Both	2067	127	91	1993	141	86
Peer I	1939	100	82	1643	115	65
ACC completers	1912	89	77	1642	96	62
ACC non-completers	1589	79	63	1255	78	46
Control	1575	78	67	1231	77	47
Felony Arrests						
Both	2180	92	95	1866	161	77
Peer I	2059	93	88	1763	115	70
ACC completers	2032	85	82	1822	94	71
ACC non-completers	1763	77	72	1452	81	55
Control	1897	77	77	1573	84	60

Pairwise Comparisons in Mean Survival Times

	Group						Group				
1-Yr Outcomes	1	2	3	4	5	2-Yr Outcomes	1	2	3	4	5
Return to DOC						*Return to DOC*					
1: Both	X	=	=	>	>	1: Both	X	=	=	>	>
2: Peer I	=	X	=	=	>	2: Peer I	=	X	=	=	=
3: ACC completers	=	=	X	>	>	3: ACC completers	=	=	X	>	>
4: ACC non-completers	<	+	<	X	+	4: ACC non-completers	<	<	<	X	=
5: Control	<	<	<	=	X	5: Control	<	<	<	=	X
Technical Violations						*Technical Violations*					
1: Both	X	=	>	>	>	1: Both	X	=	>	>	>
2: Peer I	=	X	>	>	>	2: Peer I	=	X	=	=	=
3: ACC completers	=	=	X	>	>	3: ACC completers	<	=	X	=	>
4: ACC non-completers	<	<	=	X	=	4: ACC non-completers	<	=	=	X	=
5: Control	<	<	<	=	X	5: Control	<	<	<	=	X
Felony Arrests						*Felony Arrests*					
1: Both	X	=	=	>	=	1: Both	X	=	=	=	=
2: Peer I	=	X	=	>	=	2: Peer I	=	X	=	=	=
3: ACC completers	=	=	X	=	=	3: ACC completers	=	=	X	>	=
4: ACC non-completers	<	<	=	X	=	4: ACC non-completers	=	=	<	X	=
5: Control	=	=	=	=	X	5: Control	=	=	=	=	X
Misdemeanor Arrests						*Misdemeanor Arrests*					
1: Both	X	=	=	>	>	1: Both	X	=	>	>	>
2: Peer I	=	X	=	>	=	2: Peer I	=	X	=	>	>
3: ACC completers	=	=	X	>	+	3: ACC completers	<	=	X	>	>
4: ACC non-completers	<	<	<	X	=	4: ACC non-completers	<	<	<	X	=
5: Control	<	=	=	=	X	5: Control	<	<	<	=	X
Supervision Failure						*Supervision Failure*					
1: Both	X	=	=	>	>	1: Both	X	=	=	>	>
2: Peer I	=	X	=	=	=	2: Peer I	=	X	=	=	=
3: ACC completers	=	=	X	>	>	3: ACC completers	=	=	X	>	>
4: ACC non-completers	<	=	<	X	=	4: ACC non-completers	<	=	<	X	=
5: Control	<	=	<	=	X	5: Control	<	=	<	=	X

= Indicates no statistically significant differences. > Indicates row group is significantly larger than column group.
< Indicates row group is significantly smaller than column group. X Indicates a comparison of a group with itself.

APPENDIX C

Additional analyses were conducted that excluded participants who did not complete the residential phase of the Peer I program, if they were included in groups 1 or 2. The sample size reduced by 5 for the Both group (n = 26) and by 47 for the Peer I only group (n = 50). One year outcomes were analyzed, using the completion date for the residential program as the trigger date to begin tracking outcome successes and failures. Two-year outcomes were not available for many group participants due to the shift in trigger dates.

A series of one-way ANCOVA analyses were conducted to compare outcomes between groups. The tables below provide re-offending rates, ANCOVA results, and post-hoc analyses. The results indicate lower recidivism rates for the Peer I group when only completers are included in the analyses. Consequently, the Peer I only group was not different from either the Both or the ACC completers groups, but had significantly improved outcomes over the Control and ACC non-completers groups. Overall, the community-based program demonstrated more successful outcomes, as compared to the control group, than the prison program alone. However, prison plus community aftercare model continues to demonstrate the most positive effects.

Recidivism Rates by Group

1-Yr Outcomes	Both	Peer I	ACC Completers	ACC Non-Completers	Controls
Technical violations	0%	9%	20%	24%	25%
Return to prison	14%	22%	37%	50%	45%
Misdemeanor arrests	4%	10%	20%	26%	24%
Felony arrests	8%	8%	12%	18%	15%
Supervision failure	22%	34%	46%	59%	52%

ANCOVA Results

1-Yr Outcomes	df_{error}	F	p	η^2	Covariates
Technical violations	662	3.37	< .05	.02	Release type, LSI-R
Return to prison	662	5.98	< .001	.04	Release type, LSI-R
Misdemeanor arrests	717	3.32	< .05	.02	Release type, age
Felony arrests	719	1.46	.21	.01	None
Supervision failure	661	4.91	< .05	.03	Release type, LSI-R, felony degree

Post-hoc Comparisons

Group	1-Yr Outcomes	1	2	3	4	5
(1) Both	Return to prison			✓	✓	✓
	Tech. viol.			✓	✓	✓
	Misd. arrest				✓	✓
	Fel. arrest					
	Sup. failure			✓	✓	✓
(2) Peer I	Return to prison				✓	✓
	Tech. viol.				✓	✓
	Misd. arrest				✓	✓
	Fel. arrest					
	Sup. failure				✓	✓
(3) ACC +	Return to prison	✓				
	Tech. viol.	✓			✓	
	Misd. arrest					
	Fel. arrest					
	Sup. failure	✓			✓	
(4) ACC -	Return to prison	✓	✓			
	Tech. viol.	✓	✓	✓		
	Misd. arrest	✓	✓			
	Fel. arrest					
	Sup. failure	✓	✓	✓		
(5) Controls	Return to prison	✓	✓			
	Tech. viol.	✓	✓			
	Misd. arrest	✓	✓			
	Fel. arrest					
	Sup. failure	✓	✓			