

**3-Year Reincarceration Outcomes for Amity In-Prison
Therapeutic Community and Aftercare in California**

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The Prison Journal Vol. 79 (3),
321-336, 1999

ABSTRACT

The study assessed 36-month recidivism outcomes for a prison therapeutic community (TC) program with aftercare using an intent-to-treat design with random assignment. Outcomes for 478 felons at 36 months replicated findings of an earlier report on 12 and 24-month outcomes, showing the best outcomes for those who completed both in-prison and aftercare TC programs. At 36 months, 27% of the prison TC plus aftercare completers recidivated, versus 75% for other groups. Additionally, a significant positive relationship was found between the amount of time spent in treatment and the time until return for the parolees who recidivated. However, the reduced recidivism rates for in-prison treatment found at 12 and 24 months was not maintained at 36 months.

INTRODUCTION

In the last decade, the community-based therapeutic community (TC) model has been modified and successfully adapted to correctional environments where it has become the primary treatment for substance abuse in American prisons (Wexler, 1995; Wexler, Blackmore, & Lipton, 1991; Wexler & Lipton, 1993). The rationale for TC-based treatment in prisons is that the drug problems characteristic of most inmates require high-intensity treatment to restructure attitudes and thinking and to provide the social and relapse prevention skills necessary for improving adjustment in the community following release (Wexler, 1995). Acceptance of the TC by the correctional community has been facilitated by the positive outcomes of studies showing a significant lowering of recidivism rates (as contrasted with several types of comparison groups) and a significant relationship between time-in-program and treatment outcome (Wexler, Falkin, & Lipton, 1990, Lipton, 1995).

The added contribution of aftercare to reductions in recidivism has been reported by a number of recent studies in California (Wexler, De Leon, Thomas, Kressel, & Peters, 1999), Texas (Knight, Simpson, Chatham, & Camacho, 1997), Delaware (Inciardi, Martin, Butzin, Hooper, & Harrison, 1997), and by the Bureau of Prisons (Pelissier, et. al., 1998). The California study, however, was the only State prison study to employ random assignment to in-prison treatment and control conditions. (While the Bureau of Prisons study used random assignment, only preliminary results are available to date). These studies all used follow-up periods of between 12 and 24 months, but longer duration of post release is needed to assess the stability of correctional treatment effects. The current study reports 36-month outcomes for the California evaluation.

The evaluation of the Amity prison TC in California (Wexler, De Leon, Thomas, Kressel, & Peters, 1999) provided important findings on treatment duration and the impact of aftercare. The evaluation reported significant positive treatment outcomes from a prospective follow-up, using an intent-to-treat design with random assignment to a control and treatment condition. The overall difference between the experimental conditions was 50% vs. 34% at 12-months posttreatment, and 67% vs. 43% at 24-month posttreatment. Among the inmates who completed both in-prison TC and aftercare, only 8% at 12-month follow-up and 14% at 24-month follow-up were returned to custody. Positive program benefits were also found even for inmates who were ultimately reincarcerated. Analyses of their average time to incarceration at 12 and 24 months after release from prison, for instance, showed a consistent and significant pattern of increasing positive results across the groups. A design limitation was that random assignment was only used in the assignment to the control and intent-to-treat groups while attendance in aftercare was voluntary, thereby raising the issue of a potential self-selection bias that needs to be considered when evaluating the Amity aftercare results.

Recently, a debate in substance abuse treatment research is being articulated that contrasts the relevancy of classic experimental designs that use random selection versus quasi-experimental designs with multivariate analyses that control statistically for differences in client characteristics. An important concern in treatment research which uses volunteers is that a process of "creaming" might occur which results in the "best" clients choosing to participate in the treatment condition. The reasoning is that more motivated clients are more likely to volunteer for treatment and to succeed with or without the specific intervention(s). An alternative view challenges the utility of classical

research designs with random selection, suggesting that it is overly difficult to implement in treatment environments and it limits the generalizability of results to individuals who are not necessarily interested in recovery and who are often free to leave treatment (De Leon, 1998; De Leon, Inciardi, & Martin, 1995).

An advantage of the Amity study design was that random assignment was used with a pool of inmates who had already volunteered for the in-prison TC. However, the use of volunteers in the aftercare condition was a possible study limitation that is attended to in the 36-month analyses by controlling for background variables that are often associated with recidivism. These primary background variables include age and criminal and substance abuse history because they are often correlated with treatment failure and recidivism (Gendreau & Goggin, 1966). Motivation is another important client factor that needs to be controlled for because it has been associated with engagement and retention in treatment (De Leon et. al, 1994; Simpson et. al, 1995, 1997a,b). The current study controls for essential background factors, including motivation and readiness for treatment.

Treatment Program Description

A 200 man-housing unit at the R. J. Donovan medium-security Correctional Facility in San Diego was designated for Amity program occupancy. Treatment programming was conducted in two trailers located in close proximity to the housing unit (see Winnet, Lowe, Mullen, & Missakian, 1992; Graham & Wexler, 1997, for detailed program descriptions.). The program utilized a three phase treatment process that has been described in the literature (e.g., De Leon, 1995; De Leon & Rosenthal, 1989;

Wexler & Williams, 1986). The initial phase (lasting 2 to 3 months in duration) included orientation, clinical assessment of resident needs and problem areas, and planning interventions and treatment goals. Most residents were assigned to prison industry jobs and given limited responsibility for the maintenance of the TC. During the second phase of treatment (lasting 5 to 6 months), residents were provided opportunities to earn positions of increased responsibility by showing greater involvement in the program and through hard emotional work. Encounter groups and counseling sessions focused on self-discipline, self-worth, self-awareness, respect for authority, and acceptance of guidance for problem areas. During the reentry phase (taking 1 to 3 months), residents strengthened their planning and decision-making skills and worked with program and parole staff to prepare for their return to the community.

Graduates of the prison TC were offered an opportunity to participate in a community-based TC treatment program for up to 1 year in an Amity-operated facility. The community TC accommodated up to 40 residents. Residents had responsibility for the work required to maintain this facility (under staff supervision) and to continue the program curriculum they began in prison. The program was built on the foundation of the prison TC curriculum, and it was individualized for each resident by building on their progress while in the prison treatment phase. Aftercare TC also provided services for the wives and children of residents.

The focus of this report is the research question of the stability of treatment outcomes that were previously demonstrated at 12 and 24 months post release. The pattern of outcome results including reincarceration and time until reincarceration are analyzed and compared to the earlier findings.

METHOD

The study utilized an intent-to treat design with random assignment of clients. The program actively recruited volunteers from the general prison population by making presentations to inmate groups and posting recruitment information. The Department of Corrections (DOC) and Amity staff reviewed inmate records to identify eligible inmates. An eligible pool was created by the formation of a waiting list of volunteers who met the admission criteria of having a drug problem and being between 9 and 14 months from parole. Inmates who had been convicted of arson or sexual crimes involving minors were excluded. Those left in the volunteer pool were randomly selected and assigned to the treatment condition, as bed space became available. The random assignment procedure was stratified to obtain approximately equal ethnic proportions. Inmates who were not randomly selected remained in the pool until they had less than 9 months to serve, at which time they were removed from the pool and designated as members of the no-treatment control group.

The original Amity evaluation sample (n=715) were all followed up at 12 months post release from prison. Of the 493 study subjects who had been on parole 3 or more years, 15 (3%) were deceased. The current study focuses on return-to-custody data for the remaining 478 participants who were at risk for at least 36 months. The total of 478 subjects consisted of 189 control and 289 intent-to-treatment subjects. The control group did not receive any formal substance abuse treatment during their prison stay, although limited drug education and 12 step groups were available.

The intent-to-treat group consists of into three subgroups, each with different

lengths of total time in treatment; they include 73 inmates who dropped out of the in-prison TC (191 mean days in treatment), 154 who completed the in-prison TC, but either decided not to participate in aftercare, or they volunteered for aftercare and then withdrew within the first 90 days (mean of 380 days), and 62 who completed aftercare (mean of days 640).

Data Collection

Baseline data were collected in face-to-face interviews with inmates who had volunteered for the treatment program. Interviews were conducted prior to the random assignment to the groups. A baseline test battery collected extensive background information and psychological data, including an assessment of inmate motivation for treatment measured with the Circumstances, Motivation, and Readiness (CMR form: De Leon et al., in press). The CMR is a factor-based instrument consisting of four scales. Circumstances-1 measures pressure to enter and remain in treatment, Circumstances-2 measures external pressure to leave treatment, Motivation measures the internal pressure to change, and Readiness measures the perceived need for treatment. Alpha reliability for the scales in prison-based populations ranges from .53 and .58 for the relatively discrete items measuring external pressure in the Circumstances 1 and 2 scales, to .80 and .84 for the Motivation and Readiness scales.

Return-to-prison data were abstracted from the California Department of Correction's computerized Offender Based Information System. Reincarceration outcomes are less ambiguous than incidents of arrest because they include an adjudication process that is more likely to reflect significant criminal behavior. The

study included a related outcome measure, "days until first incarceration", which provided information on relative treatment effectiveness for inmates who were returned to prison. Reincarceration included returns to prison for either a parole violation, or for new arrests. About 5% of the sample who were beginning to show signs of relapse, known as "dry outs," were returned to prison for 30 days or less. The "dry outs" were not counted as recidivists because the brief return to prison was considered a treatment intervention and they were not disproportionately represented in any of the study groups.

Descriptive data (shown in Table 1) are provided for the control, intent-to-treat group, and intent-to-treat subgroups. (The aftercare dropout group reported previously by Wexler et al. (1999) was collapsed here into the prison TC completer group due to the relatively small number of subjects in this category.) Where appropriate, statistical tests including chi-square, ANOVA and logistic and multiple regression were performed. Logistic regression and multiple regression analyses were used to examine the relative contribution of client characteristics and treatment subgroups on recidivism. Logistic regression was used with the dichotomous 36-month reincarceration variable and multiple regression was used to determine the relative contribution of client and treatment variables on days until first reincarceration.

RESULTS

Participant Characteristics

Table 1 describes background characteristics of the study groups. The table also shows the characteristics of the three intent-to-treat subgroups. The total sample reflects a profile of poor social functioning. Over 40% of the inmates lacked a high school diploma

(or GED), less than half were married or living with a partner, and the majority had engaged in high HIV risk behavior. The study sample was a very high crime group, with an average of almost 17 incarcerations and a mean of almost 78 months of incarceration prior to their current sentence.

There were no significant differences between the control and intent-to-treat groups on any of the background variables. Because self-selection was involved in the formation of the voluntary intent-to-treat subgroups, differences were tested with one-tailed tests and .05 levels of significance. Within the treatment groups, inmates who completed aftercare were significantly older ($F=13.74$, $df=2,278$, $p<.000$), more apt to be white ($X^2=17.39$, $N=281$, $df=3$, $p<.002$), more likely to have a history of injection drug use ($X^2=18.70$, $N=279$, $df=2$, $p<.000$), and report greater readiness for treatment ($F=6.14$, $df=2,233$, $p<.003$). There was also a trend toward a greater number of incarcerations ($F=2.17$, $df=2,136$, $p=.07$).

Table 1 About Here

Return to Custody

Table 2 summarizes outcomes for return to state prison custody (reincarceration) within 3 years following parole by treatment status. One-tailed tests were used because the intent-to-treat groups were expected to show superior outcomes. There is a trend for the intent-to-treat group to show lower rates of recidivism, but the difference fails to reach statistical significance ($X^2=2.20$, $N=478$, $df=1$, $p=.069$). The greatest differences are evident in the comparison of the three intent-to-treat subgroups. Data show that only 27% of the aftercare completers were returned to custody in contrast to over three-fourths

of subjects in the other treatment groups ($X^2=63.41$, $N=289$, $df=2$, $p<.000$). Thus, aftercare completers demonstrate a large effect size in the reduction of recidivism of over .50 compared to both the prison TC dropouts and prison TC completers. Although the data are skewed across the groups, the expected cell counts support the use of chi-square tests of significance. All of the expected cell counts exceed five, with a minimum expected cell count of 54 for the control vs. intent-to-treat comparison and 19 for the three intent-to-treat subgroups.

Table 2 About Here

Days Until Reincarceration

Table 3 shows the mean number of days to first return to custody (within the 36-month post prison time period) among inmates who were reincarcerated. The overall intent-to-treat group showed a greater average number of days 84 days ($t=-3.11$, $df=339$, $p<.002$) until return to custody. Thus, there was greater harm reduction for the treated inmates who were returned to custody. The table also shows that the number of days to return increased significantly across the intent-to-treat subgroups ($F=7.65$, $df=2.196$, $p<.001$). The test for linearity was significant ($F=15.24$, $p<.000$) indicating that increased amounts of treatment resulted in a greater number of days to reincarceration. Post hoc analysis showed that it took significantly longer for aftercare completers to recidivate than either the TC drops or TC completers (Sheffe test, with $p<.05$).

Table 3 About Here

Multivariate Analyses

Correlations between the background variables and reincarceration at 36 months post prison are presented in Table 4. Only age was significantly related to three year recidivism, and only the Circumstances-1 (external pressure to enter and remain in treatment) and Readiness (perceived need for treatment) scales of the CMR were related to days to return-to-custody. Logistic regression and multiple regression procedures examined the relative contribution of client and treatment factors to reincarceration. Logistic regression was used with the dichotomous 36-month reincarceration variable and ordinary least squares regression (OLS) was used to assess predictors of the number of days until first reincarceration. The client variables were entered into the equations hierarchically.

Table 4 About Here

Multivariate analyses were used to control for the effects of client characteristics that may affect self-selection. Logistic regression analyses assessed the impact of client characteristics and intent-to-treat subgroups on recidivism. Age, ethnicity, injection drug use, drug severity and the CMR readiness scale were selected based on their relationship to the intent-to-treat subgroups in Table 1. Variables were entered hierarchically into the equation. Client characteristics were entered first, followed by the three intent-to-treat subgroups. Age was defined as a categorical variable with four groupings, below 25, 25.01-29, and 29.01-34 and over 34. These groupings are consistent with previous research on the relationship between age and retention in TCs (Melnick, De Leon, Hawke, Jainchill, & Kressel, 1997). Ethnicity was recoded as white and non-white. The number of incarcerations was defined as a categorical variable by dividing the intent-to-

treat group into quartiles. Quartile (Q) 1 ranged from 1 to 5 incarcerations, Q2 from 6 - 9, Q3 from 10-18 and Q4 over 19. The Readiness scale of the CMR was divided into four score levels (De Leon, Melnick, Schoket, & Jainchill, 1994). The four score levels consisted of (a) low defined by scores 1 standard deviation (SD) or more below the mean, (b) moderately low consisting of scores between the mean and - 1SD, (c) moderately high defined by scores between the mean and + 1SD, and (d) high determined by scores +1SD or more above the mean. The prison TC dropouts, prison TC completers, and aftercare completers were coded 1, 2 and 3, respectively, based on the duration of treatment represented by each group.

Results of the logistic analyses showed that age, previous incarcerations, and intent-to-treat groups had a significant impact on return to custody. When age and number of previous incarcerations were controlled, aftercare completers were 6.2 times less likely to return to custody than prison TC completers ($p < .01$) and 4.3 times ($p < .04$) less likely than the prison TC dropouts prison. A separate logistic regression analysis comparing the prison TC dropouts and prison TC completers showed no significant differences.

Multiple regression analysis was used to test the effects of the same set of background variables on days to return to custody among inmates that recidivated in the three intent-to-treat groups. Age, number of incarcerations and the CMR readiness scores were entered as continuous variables, using days to first incarceration as the dependent variable. Only treatment subgroup was significant in the analysis ($R^2 = .07$, $p < .001$). Therefore, the regression results confirmed the univariate analysis. When background variables were controlled for, there was a significant relationship between increasing

amounts of treatment and increasing amounts of time until incarceration.

DISCUSSION

There is a strong association between completing both the in-prison and community aftercare treatment programs and the return-to-custody outcome at 3 years post-parole. Approximately three-fourths of the control, program dropouts and prison treatment completers were returned to custody, whereas only 27% of community program completers were returned. Comparison across the 12, 24 and 36-month follow-up periods demonstrate consistent positive outcomes associated with the completion of the aftercare program. Although recidivism rates rise for all groups as time at risk increases from 12 to 36 months, parolees who completed both the in-prison and aftercare TC treatment continued to show reductions in recidivism ranging from 42% and 53%. The consistency of results for clients who complete aftercare indicates the stability of the treatment effect.

Whereas the 12 and 24-month outcomes showed a positive linear relationship between the length of treatment and reincarceration, the current 36-month findings show only a strong effect of aftercare. Thus, moderate improvements shown at 12 and 24 months by the inmates who completed the prison TC but not aftercare phase disappeared at 36 months. Although not sustained, these moderate decreases in recidivism found at 12 and 24 months have short-term crime reduction and cost benefits to society.

Among the inmates who were reincarcerated during the 36 months following prison release, there was a positive relationship between duration of treatment and the number of days to reincarceration. These results replicated the 12 and 24-month findings of our previous study. The longer the duration of treatment, the longer the subjects

remained on parole prior to a first return.

There are several limitations, however, that bear on the interpretation of the present findings. The study design did not randomly assign inmates to the aftercare TC and regular parole conditions. Although the California Department of Corrections did allow random assignment to the prison TC (intent-to-treat group) and regular prison conditions (no-treatment control group), it was required that all program completers have an opportunity to go to the aftercare TC. Thus, client selection factors may have influenced entry into and/ or completion of the aftercare program. Possible differences in motivation are most often suggested to account for differential outcomes that include voluntary treatment choices.

The multivariate results that controlled for background differences among the groups showed the impact of completing aftercare treatment was still highly significant after controlling for differences in background variables (age, ethnicity, injection drug use, and number of prior incarcerations). An additional step was taken in order to address the concern that differences in motivation may have created a “creaming effect” that could account for the results. The finding that inmates who completed aftercare had the highest readiness scores identified this variable as an important client selection factor. However, readiness was not related to recidivism and did not account for the impact of aftercare on recidivism rates.

Some differences in the interpretation of time-at-risk among the treatment groups also presents a possible confound. The average duration of aftercare was 7 months, which reduced the time spent out of treatment among aftercare completers when compared to the prison TC participants who did not complete aftercare. Although it

could be argued that the additional time in treatment reduced the “degree” of time at risk for the aftercare completers because they lived in a treatment residence, these clients voluntarily elected to remain in treatment and could have left at any time. Also, the level of surveillance, imposed by parole progress report requirements was greater in the aftercare TC program, compared to living in the community. It therefore is quite possible that the aftercare group was at higher risk since the failure to keep the conditions of parole was more likely to be discovered during the time spent in aftercare.

Issues and Implications for Research and Policy

It is especially important that the earlier 12 and 24-month findings showing decreased rates of recidivism with increased treatment duration was not replicated using the 36-month data whereas there was strong support for the sustained positive impact of aftercare completion. Our earlier evaluation (Wexler et. al., 1999) suggested that the increase in positive outcomes were related to time spent in prison TC treatment followed by additional time in aftercare (i.e., dose-response effect). However, since aftercare is a later phase of treatment and takes place in the "free" community, it can be viewed as a discrete event with potentially unique impact. It is this view that is supported by the 36-month results.

Since the present study was not designed to separate the effects of time in treatment and aftercare, it was not possible to assess their independent and combined impacts. Future studies that vary prison TC treatment duration and the presence and absence of aftercare to disentangle the effects of treatment duration from completion of aftercare, are recommended. In addition, cost studies are needed since the planned

duration of treatment and aftercare programming has financial implications.

The growing number of evaluations that show evidence of treatment effectiveness for prison TC treatment followed by community-based TC aftercare have important policy implications. The findings indicate the value of supporting participation in TC treatment while in prison and engagement in aftercare after prison. The mandating of treatment in a humane manner (e.g., allowing for withdrawal from treatment without penalties after a reasonable period where the program has an opportunity to engage the inmate) and the use of incentives (e.g., privileges) should be considered. In addition, techniques that include the use of specialized motivational enhancement interventions to increase inmates' perceived need for aftercare are recommended. (See Simpson et al., 1997c for an overview of drug abuse treatment process components that improve retention.) These techniques might include a combination of TC social learning group techniques, such as special motivational groups or seminars (De Leon, Jainchill & Hawke, 1996; Blankenship, Dansereau & Simpson, in press) and individual techniques, such as motivational interviewing (Miller & Rollnick, 1991).

Notwithstanding study limitations, the reincarceration findings for this study are consistent with developing research documenting the effectiveness of prison TC programs for substance abusers. The 3-year TC outcomes are similar to the long-term outcomes reported in the Delaware (Martin, Butzin, Saum & Inciardi, in press) and Texas (Knight, Simpson, & Hiller, in press) studies. Together, these evaluation studies document the long-term effects of modified prison TC that is continuous with TC aftercare on criminal involvement. These collective findings obtained with different

inmate populations, in different prison TC and aftercare programs, and in different geographic areas are strong messages for policy makers concerning the need for expansion of aftercare following prison treatment.

Author Note:

This study was a cooperative effort by the Center for Therapeutic Community Research at National Development and Research Institutes, Inc. and the California Department of Corrections Office of Substance Abuse Programs. The evaluation was funded by the National Institute of Drug Abuse, Grant #PAODA07700-01.

The Amity staff is acknowledged for their dedicated clinical work and full cooperation and participation with the research. Points of view or opinions in this article do not necessarily represent the official position of the U.S. government or NDRI.

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Table 1**Background Characteristics of Participants by Study Groups**

	<u>Total</u>	<u>Control</u>	<u>Intent-to-Treat*</u>	<u>Prison TC Dropouts</u>	<u>Prison TC Completers</u>	<u>Aftercare Completers</u>	<u>p Value</u>
N	478	189	289	73	154	62	
Age (SD)	30 (7.45)	30.48 (6.48)	30.85 (7.74)	28.30 (6.43)	30.45 (7.17)	34.90 (8.98)	****
Race/Ethnicity							
African American	33	36	31	43	32	14	****
Hispanic	25	22	27	24	29	26	
White	37	35	38	28	34	58	
Other	5	7	4	4	5	2	
Education							
<HS	43	41	44	53	42	37	ns
GED or HS Dipl.	53	53	53	46	54	58	
>HS Dipl.	4	6	3	1	4	5	
Marital Status							
Married w/Partner	39	41	38	42	40	29	ns
Separated/Div./Wid.	20	20	21	18	18	31	
Never married	40	39	41	41	42	40	
Employed 12 mos. prior to prison)	32	33	32	38	30	29	ns

Criminal History							
# times incarcerated	16.90 (19.11)	15.81 (18.42)	17.99 (19.77)	17.18 (20.09)	16.14 (17.38)	22.29 (23.44)	**
# months incarcerated	77.64 (65.08)	77.64 (62.72)	77.64 (67.64)	82.06 (72.82)	68.14 (51.90)	92.86 (86.40)	ns
HIV Risk							
Injection Drug Use (lifetime)	58	55	58	43	56	80	****
Unprotected Sex	80	80	81	76	78	79	
Circumstances 1	7.66 (2.85)	7.9 (2.95)	7.53 (2.79)	7.59 (2.82)	7.43 (2.81)	7.76 (2.73)	ns
Circumstances 2	11.88 (2.04)	11.68 (2.09)	12.00 (2.00)	11.58 (2.27)	12.17 (1.92)	12.00 (1.83)	ns
Motivation	20.05 (3.95)	19.84 (4.02)	20.19 (3.90)	19.86 (3.54)	19.96 (4.07)	21.29 (3.75)	ns
Readiness	27.61 (4.82)	27.16 (5.06)	27.89 (4.66)	26.61 (4.51)	27.86 (4.67)	29.72 (4.28)	***

* Note: Since there were no significant differences between the intent-to-treat and control groups p values are omitted.

** p<.10

*** p<.05

**** p<.000

Table 2

Percent Returned to Prison within 3 Years Post-Parole

	<u>Number</u>	<u>% Returned</u>
Control (no treatment)	189	75
Treatment-Exposed	289	69
Treatment-Exposed Breakout		
Prison Dropout	73	82
Completed Prison TC	154	79
Completed Amity Aftercare	162	27

Table 3

Days on Parole to First Return to Custody

	<u>Number Returned</u>	<u>Average Number of Days to Return</u>	<u>SD</u>
Control	142	294.98	213.56
Intent-to-Treat	199	378.56	265.00
1. TC Drop	60	305.57	230.63
2. TC Completers	122	386.59	271.53
3. TC Completers	17	578.53	228.7

Table 4

**Simple Correlations Between Background and Motivational Variables
with 36-month Recidivism for Intent-to-Treat Subgroups**

<u>Variable</u>	<u>Correlation with Recidivism</u>	<u>Correlation with Days to Return to Custody</u>
N	289	199
Age	-.24**	.10
Ethnicity (White)	.11	.06
Education	-.11	.02
Marital Status	.05	.00
Employed 12 mos. prior to prison	-.09	.04
Number of times reincarcerated	-.08	-.08
# Months incarcerated	.09	-.14
# Times used needles (lifetime)	.11	-.14
Unsafe sex	-.03	.12
Circumstances 1	-.02	.19*
Circumstances 2	.04	.01
Motivation	-.06	.11
Readiness	.04	.18*

** p<.01

* p<.05