

FINAL REPORT

NOBLE CHOICES

RSAT OUTCOME EVALUATION

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EXECUTIVE SUMMARY

Noble Correctional Institution is located in Caldwell Ohio and is operated by the Ohio Department of Rehabilitation and Corrections. Since 1998, the facility has operated the Noble Choices residential substance abuse treatment program with a capacity for 120 males. This evaluation compared those who participated in the Noble Choices residential substance abuse treatment program (RSAT) to individuals serving time in the Ohio Department of Rehabilitation and Correction who screened for a substance abuse problem, but did not receive treatment while in the institution. These individuals were placed in the general prison population.

A non-equivalent comparison group design was used to conduct the outcome evaluation. The specific research questions that were addressed included:

What are the characteristics of individuals being served by the Noble Choices therapeutic community RSAT program? What, if any, differences exist between the treatment and comparison groups with regards to background characteristics?

- The treatment group and comparison groups were similar in regards to background characteristics. The typical offender did not complete 12th grade and was single. There were significant differences in regards to race, age and employment status. The typical offender in the treatment group was white, 28 years of age, and employed full-time at the time of placement, while the typical offender in the comparison group was black, 33 years of age, and unemployed.
- Concerning criminal history the typical offender in the treatment group was a personal or property offender, whereas, those in the comparison group were more likely to be involved in drug offenses. Treatment group members were significantly more likely to be convicted for Felony 2 and 3 offenses while comparison group members were more likely to be convicted for Felony 4 offenses. The age at first arrest was similar for both groups with most individuals reporting their first arrest at age 16 or greater.
- Treatment and comparison group participants were significantly different in regards to prior drug charges with 49.0 percent of the treatment group and 71.7

percent of the comparison group having a prior drug charge. Data were available for the treatment group for age at first alcohol use and age at first drug use. The treatment group first used alcohol at the age of 12 whereas the average age of first drug use was 14.

- Data pertaining to the Prison Inmate Inventory were available for treatment group participants. The data indicated that a majority of the participants have a “problem” or “severe problem” with drugs and alcohol. Also, approximately one-half of the sample reported a “problem” or “severe problem” for distress and judgment. Participants were at higher risk on the adjustment and drug use scales at program termination than at program intake.
- Data pertaining to psychological and social factors as measured by the Client Self-Rating were available for the treatment group. Participants scored high on the desire for help, decision-making, self-efficacy, treatment readiness, and anti-social attitudes scales. Thus, these areas are higher risk factors for the Noble participants.
- The treatment group’s cognitive distortions were measured using the *How I Think* questionnaire. The treatment group were classified as “borderline clinical” or “clinical” in the following scales: physical aggression, lying, oppositional defiance, stealing, self-centered, blaming others and minimizing/labeling thus indicating high levels of cognitive distortions. Offenders categorized in the clinical range have higher needs in these cognitive distortion areas.

What were the specific groups that the individuals participated in while at Noble? What were the rates of phase advancement and individual counseling? How many individuals tested positive for drugs while in the program? How many program violations did individuals experience while in the program?

- Once placed in Noble Choices participants receive the following services and education groups: rational emotive therapy, commitment to change, manifesting excellence, drug and alcohol counseling, and relapse prevention.
- Noble Choices has three different phases for participants to advance through. The induction/orientation phase lasts for lasts for 30 days. Phase two focuses on primary intervention. Phase three continues to focus on primary intervention and completion of treatment goals, improving personal skills, and developing aftercare programming and support networks. Participants spent an average of 49.28 days in Phase I, 116 days in Phase II, and 84.78 days in Phase III. In addition, not all participants successfully completed all three phases prior to release back into the general prison population or the community.
- Rates of individual counseling were available for 114 program participants. The number of individual sessions ranged from one to seventeen with a majority of program participants receiving four or fewer counseling sessions. In total, RSAT

participants received an average of 113.03 minutes of individual counseling across all sessions.

- Drug tests were administered to 173 individuals 802 times while at Noble Choices. All but three drug tests results were negative.
- Noble Choices incorporates three types of program violations. The house violation is the least serious followed by a major violation and a cardinal violation as the most serious. Data on program violations were available for 154 Noble participants. The average number of house violations was 13.18, cardinal violations were .64, and the average major violations were .13. On average, RSAT participants received 13.94 violations during their participation in treatment.

What are the changes in the individuals' level of psychological and social functioning? What are the changes in the individuals' cognitive distortions? What are the completion rates among RSAT participants?

- There was a significant difference between time 1 and time 2 scores on for the following Client Self-Rating scales: anxiety, depression, risk-taking, hostility, desire for help, and readiness for treatment. Participation in Noble's RSAT program reduced the offenders' level of anxiety, depression, risk-taking, hostility, desire for help, and treatment readiness while increasing the levels of self-esteem and decision-making. Regression analysis revealed that time in program did not significantly impact any of the scales.
- With regard to offenders' cognitive distortions, there was a significant difference in the minimizing/mislabeling scale from time 1 to time 2 when including cases that may be suspect.¹ Participation in treatment reduced the offenders' minimizing cognition. There were no significant differences between time 1 and time 2 when suspect cases were removed.
- Over half of the Noble Choices program participants (57.5%) were placed in the general prison population upon completion from the program. In addition, 41.1 percent of the individuals were successfully discharged (met goals and/or time in program), 30.2 percent were unsuccessfully discharged, 14.9 percent withdrew from the program voluntarily, and 13.9 percent withdrew for other reasons.
- The average length of time spent in treatment was 218.62 for the treatment group. The treatment group participants spent an average of 1,127.26 days in prison and comparison group members spent an average of 361.34 days in prison. This difference is statistically significant.

¹ A case is considered suspect when the anomalous response scale (scale used to determine if the individual was lying or randomly marking answers) was 4.0 to 4.25.

- A logistic regression model was calculated to determine which factors predict successful completion of treatment in the Noble Choices therapeutic community RSAT program. There were no significant predictors of successful completion.

What are the rates of new arrest and incarceration after termination? What factors are associated with post-release performance?

- The outcome variables (arrest and incarceration) were examined by length of time “at risk” in the community. Even though the treatment group was less likely to be arrested after termination and less likely to be incarcerated, the differences were not statistically significant for any of the time periods examined.
- Logistic regression models were computed to determine the significant predictors of arrest and incarceration. Nonwhites, younger offenders, and offenders with more prior arrests were more likely to be arrested after termination. Furthermore, offenders who were not married and had been in the community for a longer period of time were more likely to be incarcerated. The group variable in either model was not statistically significant. Thus, participation in Noble’s RSAT program did not statistically reduce the probability of arrest and incarceration.

There were several limitations to the study. First, the quantity and quality of data made available through the data collection process was often lacking. Missing data makes it difficult to compare the groups on potentially important factors. Second, a majority of offenders were placed back into the general population. This severely limited our ability to determine the effects of the program on recidivism. Placing the offenders back into the general population can serve to “undo” any treatment effect because antisocial attitudes are reinforced in the general population. Finally, non-random assignment of cases to the treatment and comparison groups resulted in comparison between non-equivalent groups. This is a common problem in correctional research; nonetheless, it resulted in statistical rather than design control.

Based on these findings, and in order to increase the effectiveness of Noble’s therapeutic community RSAT program, the following recommendations are offered:

- Noble Choices should screen out offenders that are not appropriate for the program. Likewise, criteria for screening individuals for participation in the program should be reviewed and revised to ensure that appropriate placement decisions are made. It is problematic that the majority of offenders who completed the Noble Choices program return to the general population. Placing an offender back into the population could result in an erosion of the treatment effect since antisocial attitudes and behaviors are more likely to be reinforced than positive ones.
- Noble needs to improve treatment as outlined in the Correctional Program Assessment Inventory. First, the program needs to develop a behavioral model that includes more positive reinforces and elimination of shaming and humiliation. There is little evidence that these punishers are effective in changing offender behavior. Second, the program needs to more consistently train offenders to monitor problem situations and rehearse alternative, prosocial responses. This process should be reinforced throughout the entire curriculum/program. Third, staff should receive formal training on the theory and practice of interventions employed by the program. In addition, staff morale was extremely low, which can have a detrimental effect on program integrity. Steps need to be taken to increase staff input into the program. Furthermore, a change in administration resulted in the program not having the level of support it was initially given. Support for treatment efforts from the administration is vital for a program housed in a prison setting, and a lack of strong support can have a detrimental effect on program integrity.
- Noble Choices should continue to evaluate this program with a focus on better data collection and follow-up for program participants. Longer follow-up periods will allow us to determine the long-term effects of the RSAT program. In addition, it will be interesting to see how offenders who go from the RSAT program to general population to the community perform compared to those who go from RSAT to the community. Data were not available to address this issue.

NOBLE CHOICES RSAT OUTCOME EVALUATION

INTRODUCTION

The “war on drugs” has created numerous problems for the criminal justice system: courts are backlogged with drug offenders and prisons are strained with the increasing rate of imprisonment. It is estimated that, within the criminal justice system, seven out of ten men and eight out of ten women are drug users (Lipton, 1998). Recognizing the link between continued drug use and recidivism, state and local agencies are searching for the most effective way of treating this challenging correctional population. The Residential Substance Abuse Treatment programs funded by Subtitle U of the Violent Crime Control and Law Enforcement Act of 1994 offer a promising avenue for treating drug offenders.

Residential substance abuse treatment has its roots in the therapeutic community movement of the 1950’s. Synanon, the first therapeutic community (TC), was established by Dederich in 1958 and emerged out of the self-help movement (Brook and Whitehead, 1980). It is estimated that nearly one-third of all therapeutic communities today are based upon the traditional Synanon programs (DeLeon, 1990a). These traditional programs are highly structured and organized, and treatment lasts from one to three years (Sandhu, 1981). Because drug use is seen as a symptom of a larger personality disorder, traditional TCs are designed to restructure the personality of the offender through encounter group therapy and a focus on occupational improvements. The “community” of drug offenders is seen as the primary agent of change (DeLeon and Ziegenfuss, 1986). Recently modified versions of the traditional TC have emerged which

combine the self-help approach and cognitive-behavioral approaches (e.g. relapse prevention) commonly used by mental health professionals.

Research reveals mixed results for both community-based and prison-based TC's. Several studies of community-based TCs have demonstrated a reduction in criminal behavior and substance abuse and improvement in employment and other prosocial behaviors (Wexler, 1995). Overall, the research on therapeutic communities suggests that program completion and length of stay in treatment are the most significant factors in predicting success (usually measured as no involvement in criminal activity and abstinence from drugs) (Simpson, 1984; DeLeon and Rosenthal, 1979; Faupel, 1981; DeLeon, 1990b).

The research on TCs is not without criticisms. Inciardi, Martin, Butzin, Hooper, and Harrison (1977) identified four criticisms of TC research. First, a lack of multivariate designs makes it difficult to disentangle the effects of individual characteristics and the effects of treatment, leaving us with little information about factors that are predictors or relapse or recidivism. Second, most studies have not incorporated multiple outcome criteria to measure program success. Third, as with most correctional research, the follow-up time frames have been inadequate. Fourth, the comparison groups used often fail to account for significant differences between groups that are likely to influence program outcome. Relatedly, the use of treatment comparison groups is often misleading since members of these groups are likely to have received some kind of treatment. Another common shortcoming in TC research is the insufficient attention that is given to the measurement of program quality (Faupel, 1981; Moon and Latessa, 1994).

This outcome study was designed to evaluate a therapeutic community RSAT program operating in an adult prison for men by examining the outcome measures as well as the quality of treatment. The is evaluation attempts to overcome the above criticisms by: using two measures of outcome – arrest and incarceration, having a longer follow-up period, and using a comparison group which was drawn from the general prison population.

SITE DESCRIPTION

This report describes the results of the outcome evaluation for the Ohio Department of Rehabilitation and Correction (ODRC) Noble Choices program within the Noble Correctional Institute. Noble, located in Caldwell, Ohio has been in operation since 1996. The facility is a medium security prison and is funded by the State of Ohio. The Noble Choices program was implemented in 1998 and is designed to serve 120 male inmates at a time who have drug and alcohol abuse problems.

In 1997, the Ohio Department of Rehabilitation and Correction was awarded a federal grant for the development of a residential substance abuse treatment program. As a result of this grant award, ODRC implemented a therapeutic community called Noble Choices. The Noble RSAT program participated in an outcome evaluation that was funded by the National Institute of Justice. This evaluation compared those who participated in the RSAT program to a sample of male prisoners sentenced to the Ohio Department of Rehabilitation and Correction.

METHODS

Research Design

This outcome evaluation utilized a non-equivalent comparison group design to estimate the impact of Noble Choices RSAT program on future criminal involvement. Random assignment to groups was not possible. Therefore, any significant differences between the treatment and comparison group were controlled statistically. The comparison group used in this study was a sample of male prison inmates sentenced to the Ohio Department of Rehabilitation and Correction during 1998. The comparison group was comprised of individuals screened for substance abuse problems during their initial mental health assessment at the ODRC Reception Center. These offenders were placed in the general population and did not receive any alcohol or substance abuse treatment. Pre-sentence investigation reports were also reviewed to determine whether comparison group participants received any community-based treatment for substance abuse prior to incarceration. A total of 273² offenders were in the treatment group and 258 participants in the comparison group³.

Treatment Group

The treatment group was comprised of offenders that entered the Noble Choices RSAT program between August 1998 to June 2001. Noble Choices is a six to nine month therapeutic community consisting of three phases. During Phase I, or the induction phase, new residents learn about the structure of the program and what is

² There were a total of 353 offenders that entered the RSAT program during this time period. However, 80 cases were missing large amounts of information that it was impossible to include these participants in the study.

³ Participation in the treatment group was voluntary. The offenders entered the RSAT group and could leave the program upon their request.

expected of them as members of a therapeutic community. Inmates are also provided with basic drug and alcohol education during this phase. Phases II and III focus on primary treatment and continuing care planning. During phases II and III, inmates participate in the following groups:

- Rational Emotive Therapy – focuses on replacing unhealthy thought patterns with healthy thought patterns that support prosocial behaviors.
- Free Your Mind – focuses on the choices and consequences associated with substance abuse and strategies for change.
- Commitment to Change – identifies thinking errors and strategies for overcoming them.
- Manifesting Excellence – focuses on cultural diversity.
- Relapse Prevention – focuses on the cycle of addiction and on providing clients with the skills necessary for maintaining sobriety.

Offenders also participate in ongoing TC activities including a weekly TC caseload group that focuses on feelings and problem solving, TC family meetings, encounter groups, crew meetings, seminars, and didactics, and individual sessions with their TC counselor.

Comparison Group

The comparison group for this report was selected from a sample of cases provided by ODRC. There were two criteria that had to be met in order to be included into the comparison group. First, offenders had to enter the prison system during 1998. Second, offenders had to be identified as having a substance abuse problem, but assigned to the general population. There were two different sources used to determine if the offender had a substance abuse problem. First, the mental health assessment was examined to identify if the offender had a substance abuse problem. Second, when the

information was not available in the mental health assessment, the pre-sentence investigation was reviewed to determine a presence of a substance abuse problem.

Data Collection

Noble Choices personnel were responsible for collecting intake, treatment, and termination data on program clients using standardized forms created by the University of Cincinnati (Appendix A). The data consisted of: demographics, offense, disposition, prior criminal history, drug use and history, risk level, program phases and advancement, type of treatment, program violations, drug screens, treatment outcome and pre and post assessments. The site also provided agency specific assessment information on each offender (e.g. Prison Inmate Inventory). Information collected by Noble Choices personnel was forwarded to the University of Cincinnati for entry into a database.

Follow-up arrest and conviction data were collected with the assistance of ODRC staff. Recidivism data was collected from standard Records of Arrest and Prosecution (RAP) sheets, which are compiled by the Ohio Bureau of Criminal Identification, and Investigation based upon arrest, disposition, and supervision information submitted by Ohio criminal justice agencies. Recidivism data were also collected from the Ohio Department of Rehabilitation and Corrections Departmental Offender Tracking System (DOTS) and from inmate profiles that are available through the ODRC website.

In addition to quantitative data for measuring program processes, the Correctional Program Assessment Inventory (CPAI) (Gendreau and Andrews, 1994) was used as a measure of program integrity. The CPAI provides a standardized, objective way for assessing the quality of correctional programming against empirically based standards. The CPAI is designed to ascertain how well the program is meeting the principles of

effective intervention. There are six primary sections of the CPAI: program implementation, client pre-service assessment, program characteristics, staff characteristics, evaluation, and other. Each section of the CPAI consists of 6 to 26 items with a total of 77 items. Each of these items is scored as “0” or “1”. For an item to be scored “1”, the program must demonstrate that it has met the specified criteria. Each section is scored as either “very satisfactory” (70% to 100%); “satisfactory” (69% to 60%); “needs improvement” (59% to 50%); or “unsatisfactory” (less than 50%). The overall total and score is summed across the six sections and the same scale is used in determining the overall assessment. Data for the CPAI were gathered through structured interviews with program staff. Other sources of information included examination of program documentation, review of case files, and observation of program activities. Upon conclusion of the assessment, a report was written which detailed the program strengths and areas that needed improvement. The program was assessed in March 1999 and reassessed in April 2001.

Research using the CPAI has shown it to be a significant predictor of arrest and incarceration (Holsinger, 1999). Offenders who participate in programs where there is low program integrity (as measured by the CPAI) are significantly more likely to recidivate (e.g., be arrested and/or incarcerated). Furthermore, other researchers have found support for the concepts that comprise the CPAI (Antonowicz & Ross, 1994).

Process Variables Examined

There were three main categories of process variables examined including offender characteristics, nature of services provided and termination data.

Offender characteristics. The standardized intake form (Appendix A) was used to collect basic demographic information such as age, gender, race, marital status, number of dependents, years of education, and employment status prior to arrest. Information was also collected regarding date of first arrest and prior arrests for substance abuse.

Supplemental information collected on Noble Choices program participants included: the level of psychological and social functioning as measured by the Client Self-Rating Form (Appendix A); level of cognitive distortions as measured by the *How I Think* questionnaire (Appendix A); and the Prison Inmate Inventory (PII) which is designed for inmate risk assessment and needs identification. The PII helps to determine adjustment, supervision levels, and readiness for classification or status changes. The PII also is used to measure the level of substance abuse problems.

Nature of Services Provided. The service tracking form (Appendix A) was used to collect information on the nature of services available at Noble Choices. The information collected included: length of time in each phase, number of encounters, length of individual counseling sessions, and number and type of program violations. Additional information from the CPAI⁴ and the schedule of activities were used as indicators of the services provided.

Termination data. The information collected regarding the clients termination from the Noble Choices program included type of termination (successful and unsuccessful), placement, residency, and supervision upon termination (Appendix A).

⁴ Information for the CPAI included the specific groups and interventions that were being offered to everyone in the RSAT program.

Outcome Variables Examined

There were two main categories of outcome variables examined including intermediate outcomes and longer-term outcomes.

Intermediate outcomes. Intermediate outcomes that were examined included changes in psychological and social functioning as measured by the re-administration of the Client Self-Rating form and changes in the level of cognitive distortions as measured by the re-administration of the *How I Think* questionnaire.

Long-term outcomes. The current evaluation tracked participants six months after they left the institution to March 2002⁵. The outcome variables examined included new arrest and new incarceration.

Analysis

This study examines differences among the RSAT participants and comparison group members along a variety of measures. In some instances, data for the comparison groups were not available. When this was the case, only the treatment data were presented. Statistical tests conducted include chi-square, t-tests, analysis of variance, and logistic regression. Logistic regression identifies significant predictors, which could then be translated into estimates of the probabilities of rearrest and reincarceration.

The purpose of the logistic regression analysis was two-fold. First, a logistic regression model identifies the significant predictors of the outcome – new arrest or new incarceration. Second, logistic regression controls for differences between the groups. Accordingly, variables in which the treatment and comparison group were significantly different were included in the models to control for these differences. The variables

⁵ Offenders who were “at risk” for less than six months were not included in the long-term outcome tracking.

chosen for the logistic regression included: race, age, marital status, completion of 12th grade, number of prior arrests (included in the arrest model), number of prior convictions (included in the incarceration model), participation in previous treatment, days at risk in the community, and the group variable. These variables were chosen for three reasons: 1) they were correlated at the bivariate level with the outcomes; 2) they were included as control variables because there were significant differences between the groups; or 3) previous research has shown that the variable was a significant predictor of outcome.

RESULTS

Social demographic data were collected to describe the RSAT participants and comparison group. These data were also collected to investigate whether differences in outcomes were related to differences within the samples. By knowing the type of offenders served through the Noble Choices RSAT program, we can determine whether outcome was influenced by any of these demographic characteristics. This section provides a profile of the RSAT participants and comparison group based on demographic characteristics such as age, race, educational level, and employment and prior criminal history. Specifically, this section will address the following questions:

- **What are the characteristics of the offenders served by the NOBLE Choices RSAT Program?**
- **What differences exist between the treatment and comparison group with regard to demographics, current offense, and prior history factors?**

Social Demographic Information

Table 1 compares the treatment and comparison groups with regard to demographic and background characteristics. There were significant differences between the groups in regards to race, age, and employment status prior to arrest. The treatment

Table 1: Demographic & Social Characteristics

Characteristics	Treatment (N = 273)		Comparison (N = 258)	
	N	%	N	%
Race:				
White	177	64.8	86	33.3
Nonwhite	96	35.2	172	66.7
$\chi^2 = 52.658; p = .000$				
Age at Intake:				
17 - 20	39	14.7	25	9.7
21 - 24	72	27.0	40	15.5
25 - 29	56	21.1	41	16.0
30 - 34	37	14.0	39	15.1
35 - 39	38	14.4	35	13.7
40+	0	0.0	64	22.9
$F = 28.641; p = .000$		$\bar{x} = 28.26$	$\bar{x} = 33.80$	
Number of Dependents:				
0	92	35.2	72	36.0
1	60	23.0	53	26.5
2	51	19.5	37	18.5
3	30	11.5	22	11.0
4 or more	28	10.7	16	8.0
$F = .026; p = .873$		$\bar{x} = 1.47$	$\bar{x} = 1.42$	
Highest Grade Completed:				
9 th grade or less	42	16.8	49	24.7
10 th grade	48	19.2	47	23.7
11 th grade	45	18.0	47	23.7
12 th grade	67	26.8	46	23.2
Some college or higher	49	19.2	9	4.5
		$\bar{x} = 11.04$	$\bar{x} = 10.48$	
GED Earned:				
Yes	57	48.3	45	18.1
No	61	51.7	203	81.9
$\chi^2 = 36.180; p = .000$				
Marital Status:				
Married	61	22.7	36	18.7
Not married	208	77.3	157	81.3
Employment:				
Employed full-time	155	60.1	49	24.9
Employed part-time	22	8.5	8	6.6
Unemployed	81	31.4	140	71.1
$\chi^2 = 70.451; p = .000$				

N's may not equal total due to missing data

group was more likely to be white (64.8%) whereas the comparison group (66.7%) was more likely to be nonwhite (i.e., the majority of the comparison group was African American). The comparison group was also significantly older than the treatment group when they entered prison (\bar{x} = 33.8 years versus \bar{x} = 28.3 years). Last, the treatment group was more likely to be employed prior to arrest whereas the comparison group was more likely to be unemployed prior to arrest.

The groups were similar with regards to educational level, marital status, and number of dependents. The average grade completed was 11th grade for the treatment group and 10th grade for the comparison group. The majority of offenders in both groups (77.3% of the treatment group and 81.3% of the comparison group) were not married at the time of their arrest. Finally, the average number of dependents for offenders in both groups was similar.

Current Offense and Criminal History

As illustrated by Table 2, the majority of comparison group participants were arrested for a drug offense⁶ (97.3%) while the majority of the treatment group was arrested for either a personal (37.2%) or a property crime (44.0%). The treatment group was significantly more likely to be convicted for more serious offenses (felony 1 or felony 2) whereas the comparison group was more likely to be convicted of a felony 4 or felony 5 offense.

The comparison group was significantly older than the treatment group on age at first arrest. On average, the age of first arrest for the treatment group was 16.92 years compared to 20.30 years for the comparison group. There were significant differences

⁶ The difference in offenses results from the need to purposely isolate Department of Rehabilitation and Correction offenders in the general prison population with a drug problem.

between the groups on prior drug charge. The comparison group was significantly more likely to have a prior drug charge.

Information on the number of prior arrests and prior convictions were also available. The treatment group had significantly fewer number of prior arrests ($\bar{x} = 6.98$) compared to the comparison group ($\bar{x} = 8.18$). However, the treatment group had significantly more prior convictions than the comparison group ($\bar{x} = 4.24$ versus $\bar{x} = 3.06$).

Drug and Alcohol History

Table 3 presents prior drug use information for the treatment and comparison groups. Age at first alcohol use, age at first drug use, dual diagnosis, and history of family substance abuse are presented for the treatment group. This information was not available for the comparison group; however, information regarding the first drug of choice and history of prior treatment is presented for both the treatment and comparison groups.

The average age for first alcohol use was 12.71 years whereas the average age for first drug use was 14.61 years. With regard to the primary drug of choice, the treatment and comparison groups were significantly different in regards to first drug of choice. Treatment group participants were more likely to choose alcohol (37.2%) or marijuana (36.8) as their drug of choice whereas the comparison group was more likely to choose marijuana (34.4%) or cocaine (33.6%).

Very few of the treatment group participants (16.7%) were diagnosed with drug and mental health problems, however, 62 percent of those responding indicated that they have a family member with a substance abuse problem. When asked about treatment

Table 3: Drug History

Characteristics	Treatment (N = 273)		Comparison (N = 258)	
	N	%	N	%
Age at First Alcohol Use:				
9 and under	44	16.2		N/A
10 to 12	66	24.1		N/A
13 to 15	85	30.9		N/A
16 and over	53	19.5		N/A
	$\bar{x} = 12.71$			N/A
Age at First Drug Use:				
9 and under	21	7.7		N/A
10 to 12	57	20.8		N/A
13 to 15	81	29.6		N/A
16 to 18	82	30.1		N/A
	$\bar{x} = 14.61$			
First Drug of Choice:				
Opiates	5	2.0	5	2.0
Cocaine	47	18.6	86	33.6
Marijuana	93	36.8	88	34.4
Alcohol	94	37.2	74	28.9
Other	14	5.6	3	1.2
	$\chi^2 = 26.756; p = .001$			
Dual Diagnosis:				
Yes	38	16.7		N/A
No	190	83.3		N/A
History of Family Substance Abuse:				
Yes	152	62.0		N/A
No	93	38.0		N/A
History of Prior Treatment:				
Yes	141	57.3	24	9.9
No	105	42.7	219	90.1
Type of Prior Treatment:				
Detoxification	33	12.1		N/A
Methadone TX	3	1.1		N/A
Outpatient	65	23.8		N/A
Short-term inpatient	49	17.9		N/A
Long-term residential	77	28.2		N/A

N's may not equal total due to missing data

N/A = Information was not available

history, 57.3 percent of the treatment group reported a history of prior treatment, including long-term residential (28.2%), outpatient (23.8%), short-term inpatient (17.9%), detoxification (12.1%), and methadone maintenance (1.1%). While specific information regarding the type of prior treatment is not available for the comparison group, 90.1 percent of this group did not report any history of prior treatment.

In addition, information from the Prison Inmate Inventory was used to measure the level of drug and alcohol involvement for treatment group participants. Individuals entering the ODRC are assessed using the Prison Inmate Inventory (PII) (Behavior Data Systems, Ltd., 1998)⁷. The PII is a standardized quantifiable instrument that measures several risk factors including drug use. Table 4 presents the results of the PII drug scale for the treatment group. A majority of offenders indicated drug use as a risk factor, with 51 percent scoring in the problem category and 18.9 percent scoring in the severe problem category. The PII also measures alcohol use. Just over one-half of the treatment group scored in the “problem” category (31.1%) or “severe problem” category (25.5%).

Risk Level

In addition to drug use, the Prison Inmate Inventory (PII) measures several other risk factors including truthfulness, adjustment, anti-social skills, violence distress, judgment, self-esteem, and stress. Inmates receive a percentile score on each scale that indicates the level of risk presented by that factor. The higher the percentile score the more severe the risk. Depending upon their percentile scores inmates were classified as “low,” “medium,” “problem,” or “severe” risk. Noble Choices administered this instrument upon intake to the program. Scores were provided for 196 (71.9%) of the 273

⁷ The PII was administered by correctional personnel at the facility and are maintained in the offender’s records. Thus, information on the PII was not available for the comparison group from ODRC database.

Noble Choices program participants. Results of the treatment group scores are presented in Table 4.

As discussed in the previous section, the PII confirms that the treatment group participants are at risk for drug use. The PII results reveal that 69.9 percent of the treatment group had a “problem” or “severe problem” with drug use. Also, 56.6 percent of the sample participant’s scores revealed that alcohol use was a problem or severe problem. In addition, the majority of treatment group (51%) were at a problem risk or severe risk for distress. The distress scale measures an inmate’s level of anxiety and depression. Forty-eight percent of the treatment group was classified as having a problem or severe problem for the judgment scale. This scale measures an inmate’s comprehension and understanding and their ability to understand right from wrong.

In addition to administering the PII upon intake to the Noble Choices program, the PII was to be administered when the participants exited the Noble Choices program, however, data were only available for 38 program participants at program intake and exit. Paired sample t-tests were conducted to compare the means of the PII categories at intake and exit. Table 5 illustrates the differences in these scores from time one to time two. Noble Choices program participants scored significantly different on the adjustment and drug scales from time one to time two. In both instances the mean score was higher the second time the PII was administered, indicating a higher risk on these scales.

Psychological and Social Functioning

Psychological and social factors such as depression, anxiety, risk-taking, anti-social values, and hostility have been found to be positively related to substance abusing behaviors and longevity and success in treatment, while factors such as self-esteem, self-

Table 4: Ohio Prison Inmate Inventory (PII) For the Treatment Group

Variables	Treatment (N = 273)	
	N	%
Truthfulness Scale:		
Low Risk	96	49.2
Medium Risk	56	28.7
Problem Risk	36	18.5
Severe Problem Risk	7	3.6
Adjustment Scale:		
Low Risk	57	29.1
Medium Risk	51	29.1
Problem Risk	57	29.1
Severe Problem Risk	31	15.8
Alcohol Scale:		
Low Risk	41	20.9
Medium Risk	44	22.4
Problem Risk	61	31.1
Severe Problem Risk	50	25.5
Drug Scale:		
Low Risk	26	13.3
Medium Risk	33	16.8
Problem Risk	100	51.0
Severe Problem Risk	37	18.9
Anti-social Scale:		
Low Risk	60	30.6
Medium Risk	61	31.1
Problem Risk	50	25.5
Severe Problem Risk	25	12.8
Violence Scale:		
Low Risk	42	21.4
Medium Risk	64	32.7
Problem Risk	45	23.0
Severe Problem Risk	45	23.0

Ns may not equal total due to missing data

Table 4: Ohio PII For the Treatment Group (continued)

Variables	Treatment (N = 273)	
	N	%
Distress Scale:		
Low Risk	42	21.4
Medium Risk	54	27.6
Problem Risk	59	30.1
Severe Problem Risk	41	20.9
Judgment Scale:		
Low Risk	58	29.7
Medium Risk	42	21.5
Problem Risk	46	23.6
Severe Problem Risk	49	25.1
Self-esteem Scale:		
Low Risk	77	39.5
Medium Risk	58	29.7
Problem Risk	43	22.1
Severe Problem Risk	17	8.7
Stress Scale:		
Low Risk	62	31.3
Medium Risk	63	31.3
Problem Risk	44	22.2
Severe Problem Risk	29	14.6

Ns may not equal total due to missing data

Table 5: Paired Sample t-tests on the Prison Inmate Inventory Time 1 – Time 2

Scale (range 0 – 100)	Treatment (N = 38) Time One				Treatment (N = 38) Time Two			
	Min.	Max.	Mean	SD	Min.	Max.	Mean	SD
Truthfulness Scale	5	95	55.82	26.83	15	94	46.81	22.49
Adjustment Scale*	13	99	58.29	25.65	28	97	66.76	22.60
Alcohol Scale	2	99	65.26	34.09	3	99	71.86	26.28
Drug Scale*	6	99	67.76	28.55	41	96	75.76	18.37
Antisocial Scale	21	99	59.55	25.18	19	96	58.42	21.85
Violence Scale	12	99	58.58	28.08	26	97	64.28	23.60
Distress Scale	13	99	61.00	27.19	16	96	58.92	23.44
Judgment Scale	17	99	65.03	25.18	20	97	57.47	22.74
Self-esteem Scale	1	99	46.55	34.83	6	94	44.03	24.02
Stress Coping Scale	5	99	54.50	26.72	5	98	46.65	27.19

N's may not equal total due to missing data

* p<.05

efficacy, and decision-making ability have been found to be negatively associated with substance abusing behaviors and longevity and success in treatment (Simpson and Knight, 1998). Therefore, these areas are all potential targets for treatment. Theoretically, therapy should reduce individuals' levels of anxiety, depression, risk-taking, hostility, and antisocial values, and increase their self-esteem, self-efficacy, decision-making ability, desire for help, and treatment readiness.⁸

The Client Self-Rating form (Simpson and Knight, 1998) was used as a measure of the Noble Choices program participant's level of psychological and social functioning. Clients were assessed at intake and termination from the program. As illustrated in Table 6, intake information was available for 246 program participants. However, items constituting the desire for help, treatment readiness, and anti-social attitudes scores were not available for all 246 individuals due to changes to the instrument during the evaluation study. The anxiety, depression, self-esteem, decision-making, risk-taking, hostility, and self-efficacy scales remained constant throughout the evaluation process.

For the anxiety, depression, risk-taking, hostility, and antisocial attitudes, the higher the scale score the more of a problem it is for the offender. For the self-esteem, decision-making, self-efficacy, desire for help, and treatment readiness scales, the higher the scale score the less of a problem the offender has with psychological and social functioning. Overall, participants scored high on the anxiety, hostility, and anti-social attitudes scales, indicating that these areas were problems for RSAT offenders.

⁸ See Appendix B for the reliabilities for the Client Self-Rating scales.

Table 6: Descriptive Statistics for Client Self-Rating – Time 1

Scale	N	Min.	Treatment		SD
			Max.	Mean	
Anxiety (range 7 – 35)	240	7	35	19.22	5.65
Depression (range 6 – 30)	246	6	28	15.98	4.74
Self-esteem (range 6 – 30)	244	6	30	19.11	4.25
Decision-making (range 9 – 45)	245	12	45	30.58	6.48
Risk-taking (range 9 – 45)	246	10	34	21.91	5.14
Hostility (range 8 – 40)	245	8	40	21.64	6.50
Self-efficacy (range 7 – 35)	244	10	35	25.60	4.49
Desire for Help (range 7 – 35)	140	16	35	27.06	4.73
Treatment Readiness (range 8 – 40)	133	10	40	30.90	5.59
Anti-social Attitudes (range 5-30)	111	5	23	26.00	12.34

N's may not equal total due to missing data

Cognitive Functioning

Cognitive distortions represent inaccurate ways of attending to or conferring meaning upon experiences (Barriga, Gibbs, Porter, & Liau, 1999). Research has indicated that cognitive distortions may contribute to antisocial or criminal behavior (Yochelson and Samenow, 1976). Using the *How I Think* questionnaire (Barriga, et al., 1999), Noble Choices program cognitive distortions were assessed. Four self-serving cognitive distortions were examined: self-centered (according such status to one's own views that the opinions of others are not considered), blaming others (misattributing blame to outside sources), minimizing/mislabeling (believing that antisocial behavior is acceptable, admirable, or causes no real harm), and assuming the worst (assuming that improvement is impossible, or considering a worst case scenario).

The *How I Think* questionnaire also depicts four behavioral referents scales that are manifested from the cognitive distortions: opposition/defiance, physical aggression, lying, and stealing. From these subscales, three summary scores were computed. The overt scale was computed by averaging the opposition/defiance and physical aggression means. The covert scale was computed by averaging the lying and stealing means. The overall *How I Think* score was computed by averaging the means of all eight subscales. Higher scores indicate higher levels of cognitive distortions.⁹

The *How I Think* questionnaire was administered at intake and termination for the treatment group only. Data from the *How I Think* questionnaire were available for 179 (65.6%) of the 273 program participants at intake¹⁰. The questionnaire has an anomalous responding scale that determines the truthfulness of answers. Scores greater than 4.25 are

⁹ Reliabilities for the *How I Think* Questionnaire are found in Appendix B.

¹⁰ Implementation of the *How I Think* Questionnaire was conducted during the study period. Thus, not all offenders had the opportunity to complete the questionnaire.

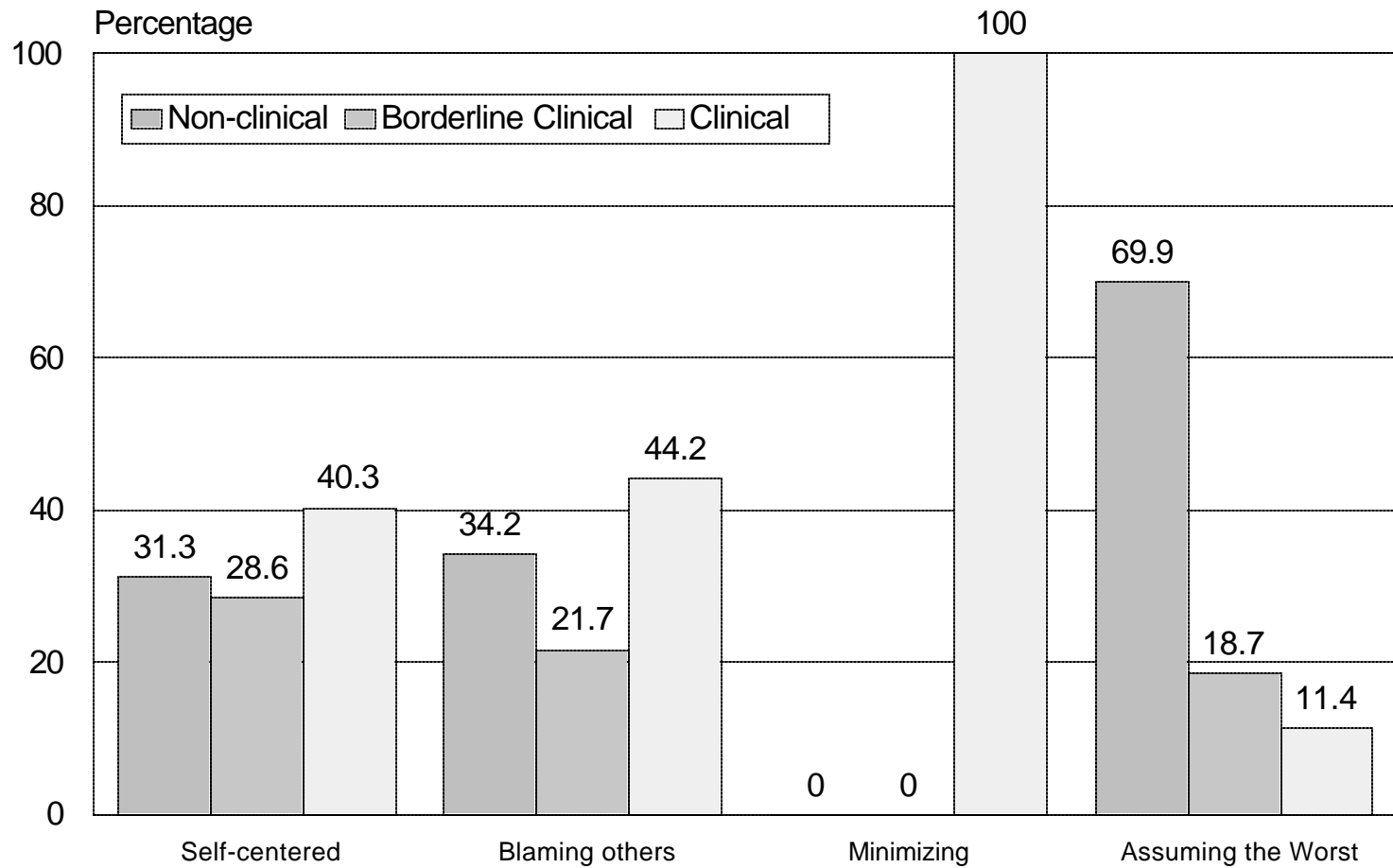
invalid and cannot be used in data analysis. Scores greater than 4.0 but less than or equal to 4.25 are considered “suspect” and should be interpreted with caution. After removing the invalid cases (55 cases), there were 124 cases that were available for analysis of which 51 cases were considered “suspect”.

One way to analyze the scales of the *How I Think* questionnaire is to determine which of the three ranges (non-clinical, borderline clinical, clinical) the score falls into. The ranges on the eight subscales can be used to provide a fine-grained analysis of the treatment program participants. As Figure 1 reveals, the majority of participants fell into the “clinical” range on the minimizing scale, whereas the majority of treatment program participants fell into the “non-clinical” scale on the assuming the worst scale. These individuals can be described as having a strong egocentric bias and a need for treatment that addresses their externalization and minimizing the consequences of their actions. In addition, the majority of participants fell into the “borderline clinical” or “clinical” range on the self-centered and blaming others scale. It appears that the RSAT participants are high risk for these cognitive distortions.

Figure 2 shows the behavioral referents scales. The majority of treatment program participants fell into the “clinical” range for the physical aggression and stealing scales, whereas the majority of clients fell into the “borderline clinical” or “clinical” range for the lying and oppositional defiance scales. Thus, the RSAT participants allow their cognitive distortions to manifest into behavior resulting in a higher risk (i.e., clinical range) for these items.

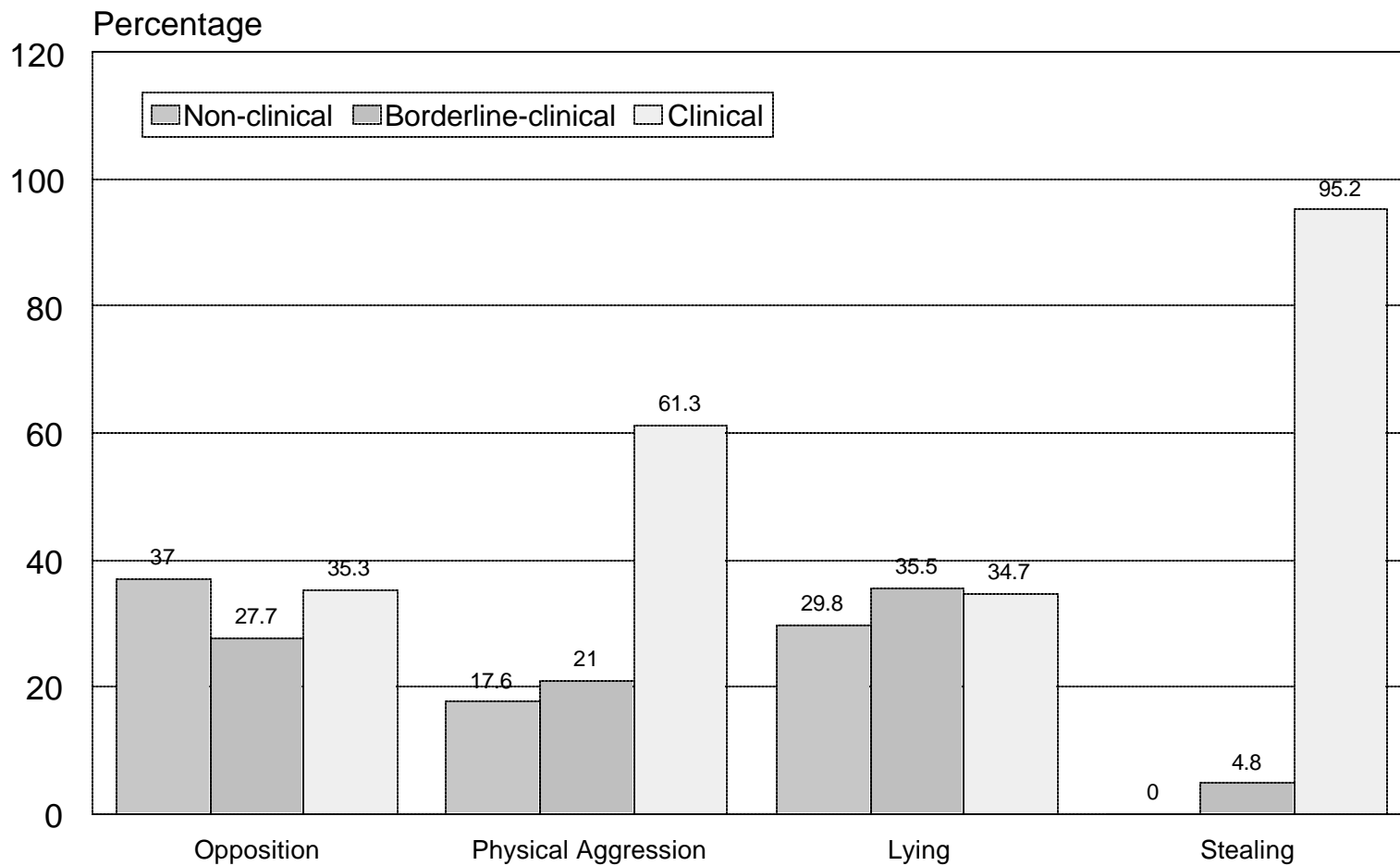
Finally, as illustrated in Figure 3 the majority of treatment program participants fell into the “clinical” range for the overt, covert, and overall *How I Think* scales.

Figure 1. Cognitive Distortion Scales for the Treatment Group*



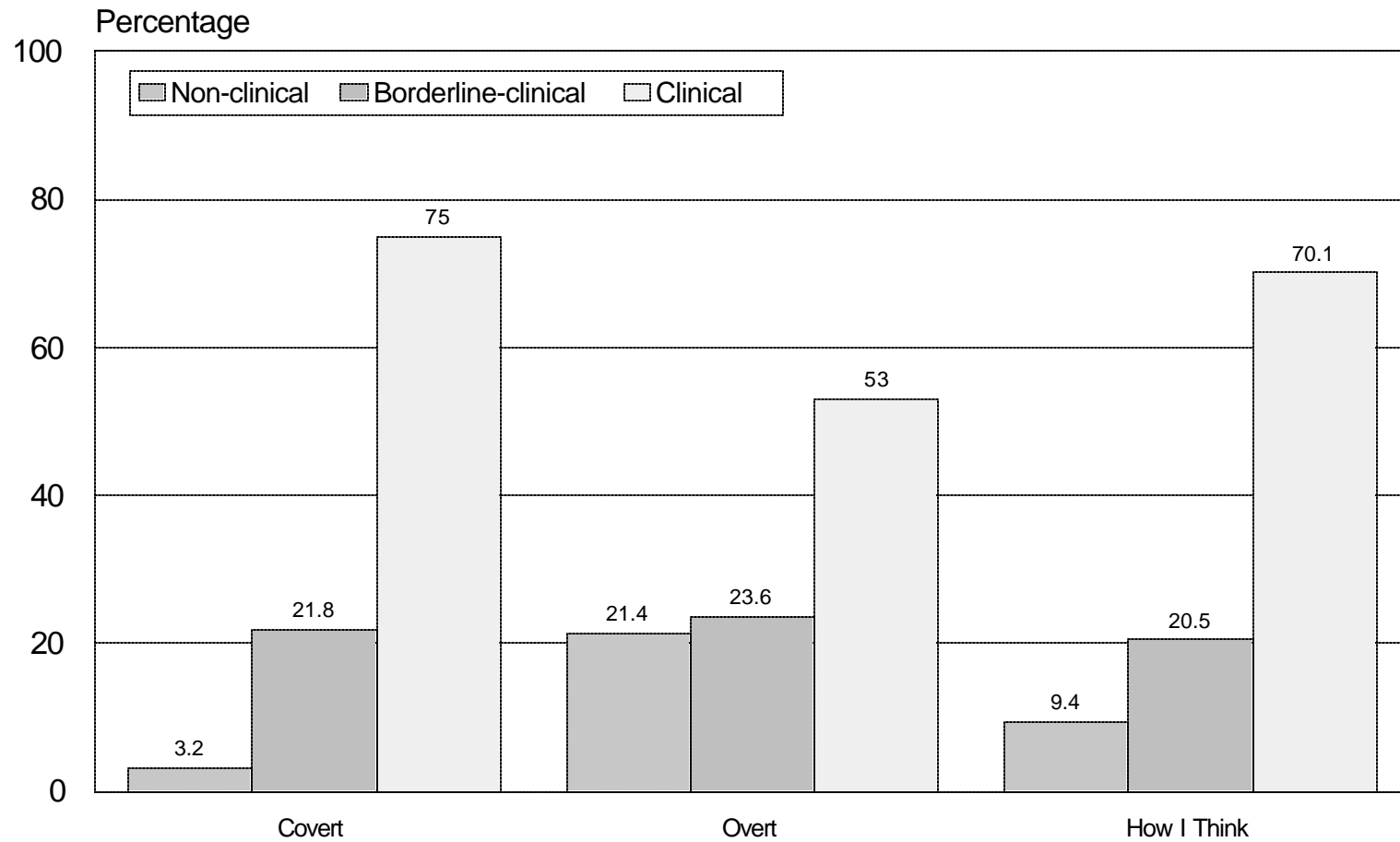
*Youth scoring 4.25 or lower on the Anomalous Response Scale. Youth were placed in the classifications based on which third of the scale their scores fell within. Higher scores indicate a problem in the cognitive distortion measured.

Figure 2. Behavioral Referents for the Treatment Group*



*Youth scoring 4.25 or lower on the Anomalous Response Scale. Youth were placed in the classifications based on which third of the scale their scores fell within. Higher scores indicate a problem in the behavioral referent measured.

Figure 3. Summary Score for How I Think for the Treatment Group*



*Youth scoring 4.25 or lower on the Anomalous Response Scale Youth were placed in the classifications based on which third of the scale their scores fell within. Higher scores indicate a problem in the summary score measured.

According to Barriga et al. (1999), individuals falling into the “borderline clinical” and “clinical” range for the *How I Think* scale may exhibit externalizing psychopathology. Individuals in the “borderline clinical” and “clinical” ranges in the overt scale may exhibit antisocial behavior that typically involves confrontation with the victims, whereas these ranges for the covert scale indicate non-confrontational antisocial behavior (see Appendix B for complete statistics).

Treatment Considerations

Outcome evaluations are enhanced when the researcher is able to determine what happened to the client while under supervision. This may include documenting whether a participant moved to different phases based on progress and the outcome of treatment. The purpose of this section is to identify the general services provided by Noble Choices and the rates of phase advancement. In addition, this section will address behavior while in the RSAT program. In-program behavior, as measured by violations and drug testing, can be an important indicator of program operation. The specific research questions addressed were:

- **What specific groups did the treatment group participate in while at Noble Choices program?**
- **What were the rates of phase advancement?**
- **What were the rates of individual counseling?**
- **How many individuals tested positive for drugs while in the program?**
- **How many program violations did participants experience while in the program?**

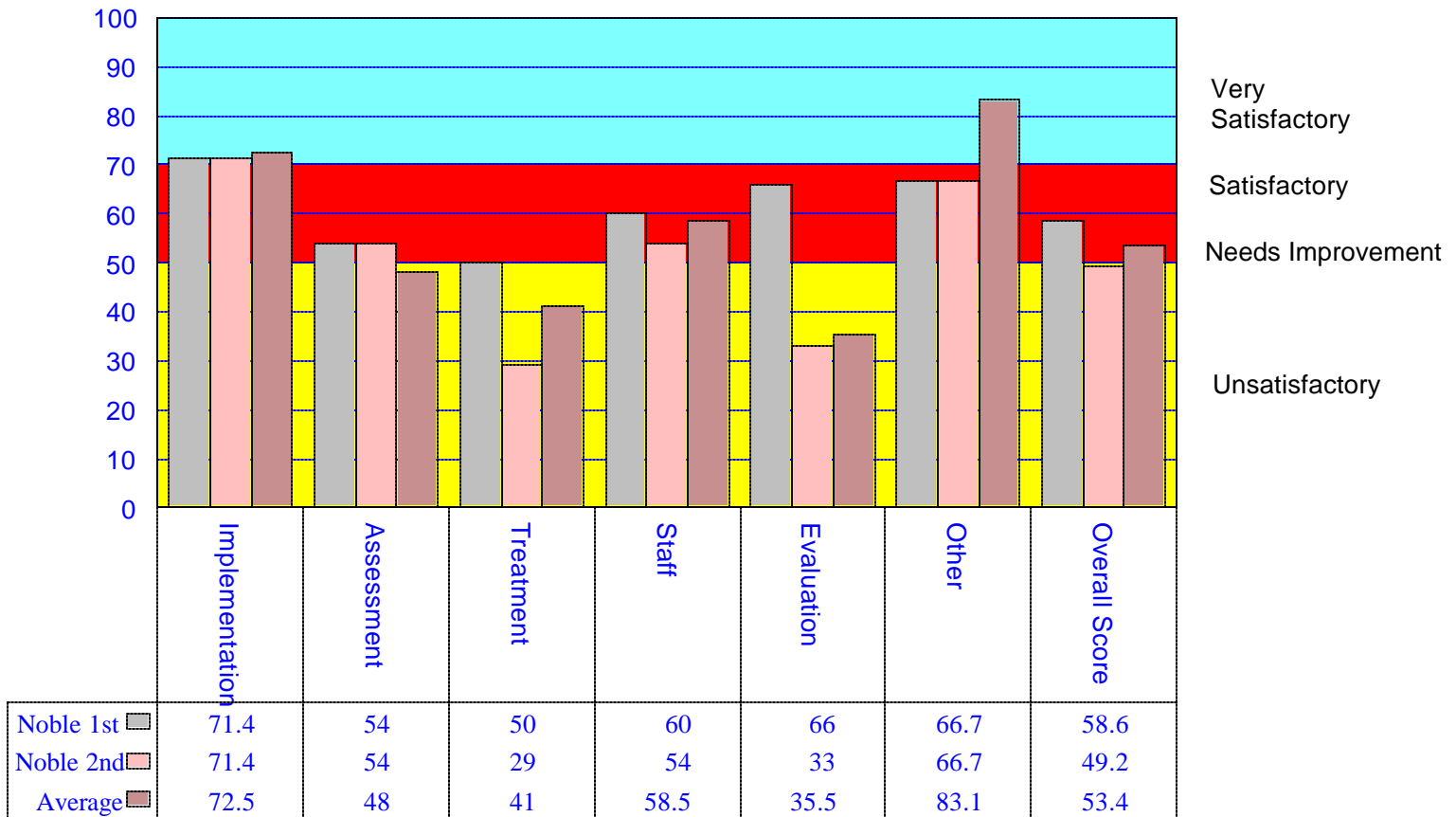
General Services Provided. Noble Choices is a six to nine month therapeutic community consisting of three phases. In addition to the three phases of advancement,

program participants participate in education groups including Rational Emotive Therapy, Free Your Mind, Commitment to Change, Manifesting Excellence, and Relapse Prevention. Finally, inmates also participate in ongoing TC activities including a weekly TC caseload group that focuses on feelings and problem-solving, TC family meetings, encounter groups, crew meetings, seminars and didactics, and individual sessions with their TC counselor. The Correctional Program Assessment Inventory (CPAI) was used to examine the quality of services being delivered by Noble Choices. As indicated earlier in this report, the CPAI is a tool designed to ascertain how well a program is meeting certain principles of effective intervention.

Programs receive an overall score and a score for each of the six sections of the CPAI with less than 50 percent considered “unsatisfactory,” 50 to 59 percent considered “needs improvement,” 60 to 69 percent considered “satisfactory,” and 70 to 100 percent considered “very satisfactory.” The average overall CPAI score for over 240 programs across the United States is 53.4 percent; Noble Choices therapeutic community program was assessed two times throughout this evaluation using the CPAI tool. The first assessment was conducted in March 1998 (scored 69.1%) and the second in April 2001 (scored 49.2%) (See Figure 4).

The most recent CPAI score for Noble Choices reveals that there were changes within three components of the assessment. Noble’s score decreased in the treatment, staff, and evaluation section. The scores in the implementation, assessment, and other section did not change. In addition, the overall score decreased from 58.6 percent to 49.2

Figure 4. Noble Choices CPAI Scores Compared to Average Scores*



*The average scores are based on 245 CPAI results across a wide range of programs. Very Satisfactory=70% or higher; Satisfactory=60-69%; Needs Improvement=50-59%; Unsatisfactory=less than 50%.

percent. While the change in the score was partly the result of changes to the scoring criteria of the CPAI¹¹, the overall program integrity appeared to decline over time.

The following are areas in which improvement opportunities were identified during the first administration of the CPAI:

- Leadership stability and lack of program input or hiring of staff by Program Director.
- Assessment or no overall measure of risk of recidivism was conducted to use in treatment planning or case classification within the treatment program.
- Treatment matching - Noble Choices does not systematically vary the intensity and duration of the program according to offenders' risk of recidivism, nor do they assign clients to treatment components and staff that match their interests, style of learning, and personality characteristics.
- Ineffective use of punishment or progressive discipline including: (1) the program did not achieve the recommended ratio to 4 rewards to 1 punishment, (2) ineffective forms of discipline were used, (3) it did not appear that staff monitored the potential negative effects of progressive discipline such as escalation of behavior, aggression, or avoidance.
- Decisions regarding program termination are constrained by parole decisions. That is, offenders may be released regardless of whether or not they achieved their treatment goals or they may be retained in the program upon denial of parole despite considerable progress in the program.

The following areas were identified as needing improvement during the second CPAI assessment:

- The program needed to do a better job of screening out offenders not appropriate for the program. Also, the program does not screen for psychopathy.
- The assessment process required improvement. Risk, needs and responsibility factors should be assessed prior to program intake and this information should be used to develop case and treatment plans.
- Develop detailed treatment manuals to facilitate staff training, quality assurance and consistency in the delivery of services.

¹¹ The previous version of the CPAI was based on 65 items, whereas the current version has 77 items.

- Match treatment intensity to the offender based upon results of standardized assessment instruments.
- Expand and improve use of rewards and punishers as part of overall strategy of modeling and reinforcement.

Rates of Phase Advancement. As mentioned previously, there are three phases that individuals can progress through while at Noble Choices. During Phase I, or the induction phase, new residents learn about the structure of the program and what is expected of them as members of a therapeutic community. This phase lasts for 30 days. During Phase I, inmates are also provided with basic drug and alcohol education. In order to progress to Phase II, participants must be able to recite the Noble Choices philosophy, pass three induction tests, and complete an eight-page autobiography. Phase II focuses on primary intervention and the resident begins a focused examination of his behavior. This phase lasts seven to twelve months. During Phase III, the individual focuses on completing treatment goals, improving personal skills, and developing aftercare programming and support networks to ensure ongoing recovery.

Due to missing information, rates of phase advancement were available for only 188 individuals at Phase I, 97 individuals at Phase II, and 23 individuals at Phase III (see Table 7). The average length of time spent during Phase I, or induction, was 49.27 days. For Phase II, the average number of days spent was 116 days and the average time in Phase III was 84.78 days.

Table 7: Rates of Phase Advancement

Phase	Number	Minimum Days in Phase	Maximum Days in Phase	Average Time in Phase
Phase 1	188	5.00	198.00	49.28
Phase 2	97	2.00	625.00	116.00
Phase 3	23	14.00	245.00	84.78

Rates of Individual Counseling. Information on the number of individual counseling sessions was available for 114 cases. The number of sessions ranged from one to seventeen individual sessions. Of these sessions the minimum amount of time spent with each individual was ten minutes and the maximum amount of time spent was ninety minutes. In total, RSAT participants received an average of 113.03 minutes of individual counseling across all session. Complete statistics are available in Table B4 in Appendix B.

Drug Testing. One hundred seventy-three individuals were drug tested 802 times while in the Noble Choices program. With the exception of three drug tests, the results of all others were negative.

Program Violations. Noble Choices utilizes three different types of violations: house violations, major violations, and cardinal violations. House violations are the least serious and may include such behavior as: refusing to participate in activities, being late to activities, inappropriate clothing, and being loud. Major violations may include such behavior as: being disrespectful, horse-playing, gambling, and making racial slurs or using profanity. Any major violation requires that a written pull-up be administered. A

cardinal violation is the most serious and may include the following types of behavior: physical violence, stealing, drug use, gang representation, and destruction of property.

It is uncertain how complete the reported program violation data are. However, program violation data were available for 154 (56.4%) program participants (see Table 8). The average number of house violations was 13.18 violations. The average number of cardinal violations was 0.64 and the average number of major violations was 0.13. All three types of violations were added to obtain the total number of violations. Data were computed for 154 program participants. The mean number of total violations was 13.94 per program participant.

Table 8: Program Violations

Violation Type	N	Minimum	Maximum	Mean	SD
House	154	0	56	13.18	11.46
Cardinal	154	0	7	0.64	1.11
Major	154	0	7	0.13	0.63
Total	154	0	58	13.94	11.73

Intermediate Outcomes

Intermediate objectives are the direct effects that are attained through receiving the treatment such as reducing the participant’s level of psychological and social functioning, and cognitive distortions. The specific research questions addressed included:

- **What are the changes in the participants’ level of psychological and social functioning?**
- **What are the changes in the cognitive distortions?**
- **What are the completion rates among RSAT participants?**

Psychological and Social Functioning. The Client Self-Rating form, designed to measure psychological and social factors such as depression, anxiety, risk-taking, antisocial values, and hostility, was administered at intake and termination. The instrument was administered to 246 individuals at intake and 127 individuals at termination. Some termination assessments were not conducted depending on the time and the manner in which the participant left the institution. For example, individuals leaving the program voluntarily or for other reasons prior to termination were not usually cooperative in completing termination information. Psychological and social functioning data were only available for the treatment group.

According to Simpson and Knight (1998), treatment should reduce anxiety, depression, risk-taking, and hostility and increase self-esteem, self-efficacy, decision-making, desire for help, and treatment readiness. Paired sample t -tests¹² between time 1 and time 2 scores on the Client Self-Rating revealed that participation in treatment significantly reduced the offenders' anxiety, depression, risk-taking, and hostility levels (see Table 9). Treatment also increased the offenders' levels of self-esteem, decision-making. Interestingly, participation decreased the offenders' desire for help and treatment readiness. There was virtually no change in the self-efficacy rating for the program participants.

¹² It should be noted that the Client Self-rating questionnaire changed during the evaluation period. The anti-social attitudes scale was only available to those individuals entering the program at its earliest stages. Also, the desire for help and treatment scales were added to the second version of the questionnaire. These scales were not available to those individuals who were the earliest participants. All other scales were the same from time 1 to time 2.

Noble's Choices program is a nine-month program. Therefore, there should have been 270 days between the time 1 and time 2 measures on the Client Self-Rating. However the length of time between the different measures varied between 18 days to

Table 9: Paired Sample t-tests on Client Self-Rating Time 1 - Time 2*

Scale	No. of Pairs	Time 1 Mean	Time 2 Mean	t-value	Sig
Anxiety (range 7-35)	120	19.77	18.08	3.491	.001
Depression (range 6-30)	122	16.76	15.27	4.567	.001
Self-esteem (range 6-30)	123	18.65	20.27	-3.532	.001
Decision-making (range 9-45)	120	30.01	32.32	-4.373	.000
Risk-taking (range 7-35)	125	21.78	20.73	2.171	.032
Hostility (range 8-40)	123	22.31	20.08	4.094	.000
Self-efficacy (range 7-35)	122	25.10	25.72	-1.460	.147
Desire for Help (range 7-35)	69	26.81	24.61	3.151	.002
Treatment Readiness (range 8-40)	66	29.65	27.20	2.679	.009
Antisocial Attitudes (range 6-30)	38	11.21	10.44	1.087	.284

* includes all time

697 days, with an average of 186.85 days between the administration of the instrument. This average should be viewed with caution, as there were only time 1 and time 2 dates available for 42 of the 122 time 1 and time 2 Client Self-Rating surveys. Regression analysis revealed that time in program did not significantly impact any of the scales for the Client Self-Rating survey.

Cognitive Distortions. Cognitive distortions such as self-centered, blaming others, minimizing behavior, and assuming the worst were measured by the *How I Think* questionnaire. The questionnaire was administered by the Noble Choices program staff to 179 individuals at intake and 74 individuals at termination. The invalid cases for the time 1 and time 2 scores were not included. Therefore, only 56 valid pairs were included in the analysis. The questionnaire was not administered to the comparison group.

According to Barriga et al. (1999), higher scores on the scales indicate higher levels of cognitive distortions, which in turn have been associated with criminogenic behavior. A comparison of means tests between all (i.e. including suspect cases – anomalous response scores greater than 4.0 but less than 4.26) time 1 and time 2 scores on the *How I Think* questionnaire revealed significant change in the minimizing scale (Table 10); participation in treatment decreased the offenders' ability to minimize situations. Regression analyses were conducted on the group with suspect scores to determine if length of time between scores affected the outcome¹³. It is theorized that time spent in treatment would reduce cognitive distortions. Length of time was a significant predictor for assuming the worst, physical aggression, and the overt summary

¹³ Correlations were conducted between the amount of time and the difference between the time 1 and time 2 scores for all scales. There were no statistically significant correlations between time and the differences between scores.

Table 10: Paired Sample t-tests on How I Think Questionnaire, Time 1- Time 2*

Scale	No. of Pairs	Time 1 Mean	Time 2 Mean	t-value	Sig
<u>Cognitive Distortions</u>					
Self-centered (range 0-6)	48	3.17	3.06	-0.991	.302
Blaming Others (range 0-6)	48	3.22	3.07	1.043	.172
Minimizing/Mislabeling (range 0-6)	52	4.36	4.06	1.387	.002
Assuming the Worst (range 0-6)	54	2.58	2.59	3.215	.920
<u>Behavioral Referents</u>					
Opposition-Defiance (range 0-6)	47	3.23	3.05	1.767	.084
Physical Aggression (range 0-6)	47	3.30	3.17	1.443	.156
Lying (range 0-6)	54	3.38	3.35	0.356	.723
Stealing (range 0-6)	55	3.25	3.13	1.382	.173
<u>Summary Scores</u>					
Covert (range 1-6)	54	3.32	3.24	0.900	.372
Overt (range 1-6)	46	3.23	3.11	1.684	.099
How I Think (range 1-6)	46	3.31	3.18	1.504	.140

*Includes the scores that may be considered “suspect” because the AR scale is greater than 4.0 but less than 4.25.

scale. The results indicated the greater the time spent in treatment, the less the time 2 cognitive distortion scores for these scales.

There were 22 cases remaining in the sample when suspect cases were removed. A difference of means test revealed no significant differences between these cases from time 1 to time 2.

Termination Information

As shown in Table 11, only 41.1 percent of the sample successfully completed the RSAT program. Of those who did not complete the RSAT program, 30.2 percent were removed from the program for disciplinary reasons, 14.9 percent voluntarily withdrew from the program, and 13.9 percent were terminated because of early release, medical reasons, or being unable to participate. The majority of offenders (74.2%) were not scheduled to receive treatment after being discharged from Noble Choices. In addition, the majority of offenders (57.5%) were placed back in the general population upon discharge from the RSAT program, whereas 25 percent of the treatment group would be living with a family member or a relative upon discharge from the program.

Information regarding the number of days from program discharge to release was available for 153 individuals. The average number of days treatment group members spent in the Noble Choices program was 218.62. The average number of days from program discharge to release from prison was 247.66. T-tests revealed that there were significant differences between the treatment and the comparison group between the lengths of time spent in prison. The treatment group participants spent an average of 1,127.26 days in prison and comparison group members spent an average of 361.34 days in prison.

Table 11: Termination Information

Variable	Treatment (N = 273)	
	N	%
Case Status:		
Successful completion – goals achieved	69	34.2
Successful completion – time/not goals	14	6.9
Unsuccessful completion – disciplinary	61	30.2
Voluntary withdrawal	30	14.9
Unable to participate	3	1.5
Other	25	12.4
Continued Treatment at Discharge		
Yes	41	25.8
No	118	74.2
Living Arrangements Upon Discharge		
Family/relative	43	25.0
Friends	3	1.7
Self	2	.7
Halfway House	16	9.3
Other	108	62.8

N's may not equal total due to missing data

Performance After Termination from Treatment

Performance after termination was examined for comparison and treatment group participants. Since some of the treatment group had just been released from prison, it was decided to limit the follow-up period to those offenders who had been at risk for at least 6 months. Even with this calculation, the time “at risk” was significantly less for the treatment group. The minimum number of days at risk for treatment group participants was 182 and the maximum days at risk was 1,131 days (\bar{x} = 532 days). The minimum number of days at risk for comparison group participants was 200 and the maximum days at risk was 1,407 days (\bar{x} = 1000 days).

The outcome information was categorized by length of time the offender had been “at risk” in the community. There were four different time categories examined – 6

months to 1 year, 1 to 2 years, 2 to 3 years, and 3 or more years. Presenting the data in this fashion allows for a more precise comparison of the two groups.

Arrest Information. Table 12 reports the percentage arrested within each group for the specific time period. Of those who had been “at risk” for a period of 6 months to a year, thirteen percent of the treatment group and 66.7 percent of the comparison group had been rearrested. When examining the time period of one to two years “at risk” in the community, 35 percent of the treatment group and 50 percent of the comparison group were rearrested. Even though the comparison group was rearrested at lower percentages during every time period, there were no significant differences between the groups on the percentages of rearrests.

Table 12: Percentage Arrested During Follow-up Period by Time At Risk

Time Period	Treatment Group		Comparison Group		Significance Level
	%	N	%	N	
6 months to 1 year	13.0%	(N=46)	66.7%	(N=3)	.065
1 to 2 years	35.0%	(N=60)	50.0%	(N=36)	.198
2 to 3 years	43.8%	(N=32)	48.2%	(N=114)	.693
3 years or more	0.0%	(N=3)	61.0%	(N=105)	.065

Incarceration Information. As shown in Table 13, the percentage of offenders being re-incarcerated was lower for the treatment group than for the comparison group. For example, of those who had been “at risk” in the community for a period of 6 months to a year, only 6.5 percent of the treatment group and 33.3 percent of the comparison group had been incarcerated. When examining the time period of one to two years “at risk”, 20 percent of the treatment group and 27.8 percent of the comparison group had been incarcerated. Again, the comparison group was less likely to be incarcerated than

the comparison group for all time periods; however, these differences were not statistically significant.

Table 13: Percentage Incarcerated During Follow-up Period by Time At Risk

Time Period	Treatment Group		Comparison Group		Significance Level
	%	N	%	N	
6 months to 1 year	6.5%	(N=46)	33.3%	(N=3)	.230
1 to 2 years	20.0%	(N=60)	27.8%	(N=36)	.454
2 to 3 years	21.9%	(N=32)	36.0%	(N=114)	.201
3 years or more	0.0%	(N=3)	41.0%	(N=105)	.274

Model Predicting Successful Completion

A logistic regression model was computed to determine what factors predict successful completion of the Noble Choices therapeutic community program. The beta coefficients of the logistic regression show the importance, or lack thereof, of that particular variable when all other variables are held constant. Five variables were entered into the model to predict successful completion of Noble Choices therapeutic communities program (0= unsuccessful completion, 1= successful completion) including: number of prior arrests, number of prior convictions, race, age at discharge, and highest grade completed. None of the variables were statistically significant predictors of program completion. These findings were not surprising considering that 57.5 percent of the treatment group, was placed in the general prison population upon discharge from the program. It is important to note that only 34.2 percent of the participants actually completed the program successfully through achievement of all program goals.

Factors Predicting Outcomes

The current study examines two different outcomes for the participants – any new arrest and any new commitment. There were significant differences between groups on a number of important factors not the least of which was time “at risk.” In order to control for these differences, a logistic regression analysis was conducted. Logistic regressions calculate beta coefficients for each predictor entered into the model, assuming all other factors in the model are being held constant. Doing this allows for the power and significance of each factor on its own to be revealed. In brief, the variables entered into the models included¹⁴: race, age at discharge, marital status, completion of grade 12, number of prior arrests (included in the arrest model), number of prior convictions (included in the commitment model), participation in previous treatment, days at risk in the community, and group.¹⁵ The actual coefficients with their significance levels for each regression calculated in these analyses are in Appendix B.¹⁶

Factors Predicting Arrest. The first model examined the likelihood of being re-arrested after termination. There were three statistically significant predictors of arrest – age, race, and prior arrests. More specifically, younger offenders, nonwhites, and offenders with a greater number of priors were more likely to be arrested after termination. It is important to note that the group variable (treatment or comparison) was not statistically significant.

¹⁴. There were missing cases on the independent variables. Thus, mean replacement was used based on the location of the offender in the groups.

¹⁵ Collinearity diagnostics were examined to make sure that the time at risk variable and the group variable was not too highly correlated. The results indicated that it was safe to include both of these variables in the same model. It was important to include time at risk in the analysis as a control variable due to the distribution of time at risk. The treatment group has been out of prison for 182 to 1131 days with a mean of 531.78 days. The comparison group has been out of prison for 200 to 1,407 days with a mean of 1000.57 days. These difference make it important to control for amount of time in the community.

¹⁶ The variables that were entered into the model and their codings are presented in Appendix B.

In order to present the logistic regression coefficients in a fashion that is easily understood, each beta was converted into log-odds probabilities, for each of the significant predictors in the model. Figure 5 shows the results for the model predicting arrest. Whites had a 50 percent chance of obtaining a new arrest compared to 63 percent for nonwhites. Offenders aged 25 had a 68 percent chance of being arrested versus 63 percent for offenders aged 32, and 57 percent for offenders aged 57. Offenders with one prior offense had a 57 percent chance of being arrested compared to a 63 percent chance for offenders with seven prior arrests, and a 68 percent chance for offenders with thirteen prior arrests. Although the group variable was not significant when all factors were controlled, offenders in the treatment group had a 49 percent chance of being arrested whereas offenders in the comparison group had a 63 percent chance.

Factors Predicting Incarceration. The last model calculated examined the probability of incarceration (ODRC institution). There were two statistically significant factors: marital status and time “at risk.” Offenders who were married were less likely to be committed to ODRC after termination and the longer at risk in the community the greater the chance of being committed to an institution. Again, group was not significant though the coefficient was negative (indicating that the treatment group was less likely to be placed in ODRC after termination).

Figure 6 shows the probabilities of being placed in an institution after termination. Offenders who were not married had a 36 percent chance of being re-incarcerated while offenders who were married had a 19 percent chance of being re-incarcerated. Offenders who were in the community for a period of approximately 499 days had a 29 percent chance of being committed to ODRC, whereas offenders who had been in the community

Figure 5. Significant Predictors and Probabilities of Arrest

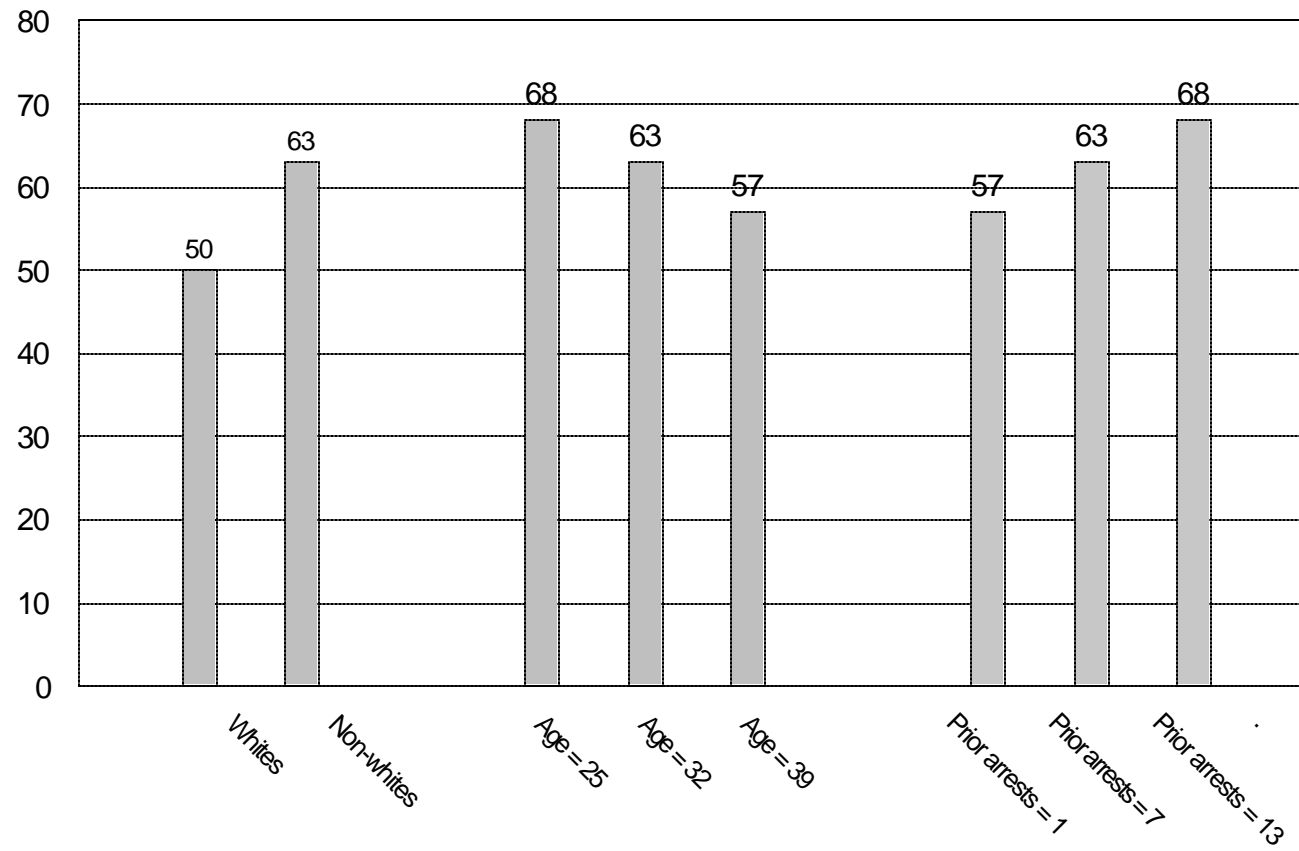
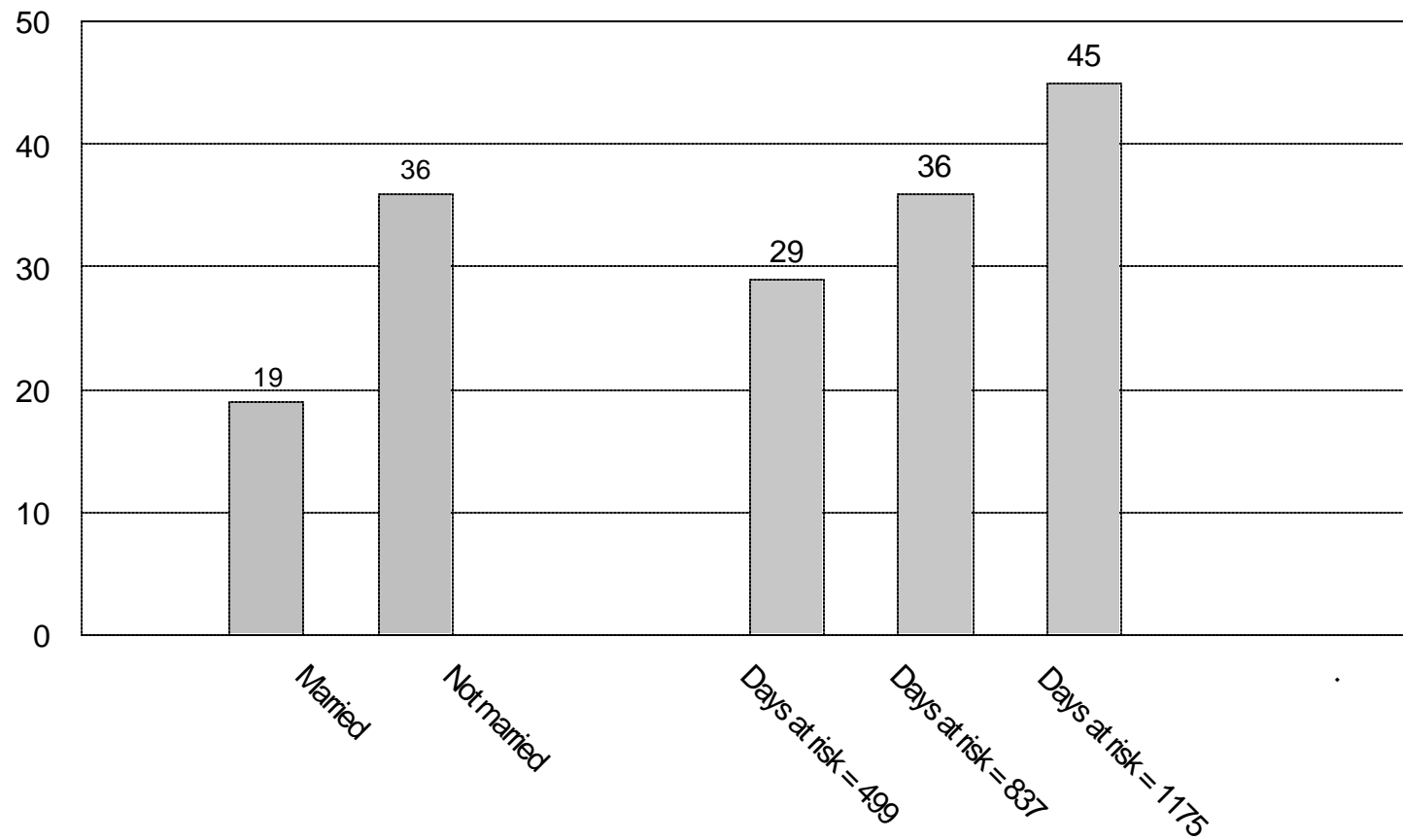


Figure 6. Significant Predictors and Probabilities of Incarceration



for 837 days had a 36 percent chance of being placed in prison. Offenders who had been out in the community for a period of three years or more (1175 days) had a 45 percent chance of being committed to ODRC. Again, while group was not significant, offenders in the treatment group had a 23 percent of being incarcerated whereas offenders in the comparison group had a 36 percent chance of being incarcerated.

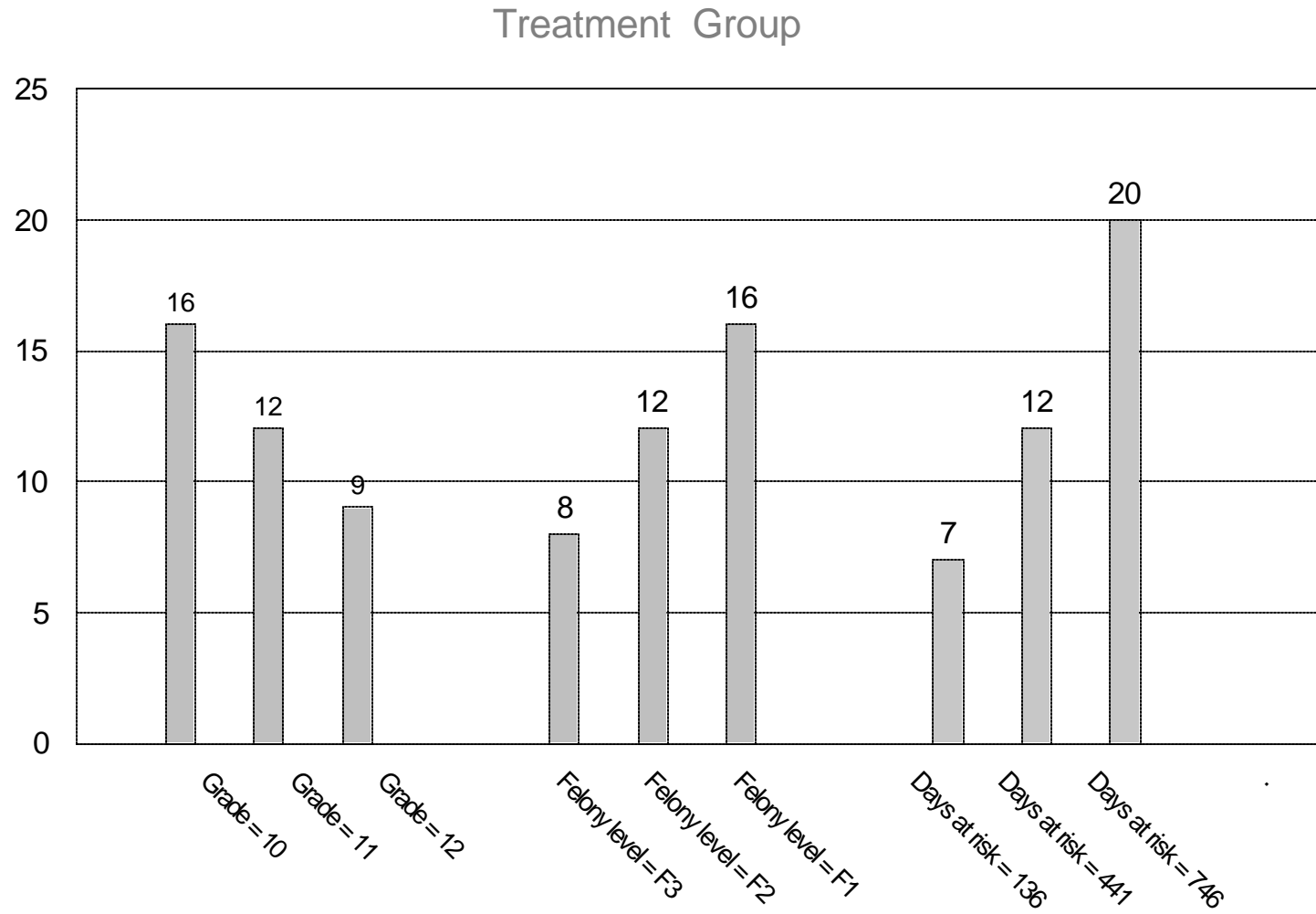
Factors Predicting Arrest for the Treatment Group Only. A logistic regression model¹⁷ was computed to determine what variables were significant predictors of arrest for the treatment group only. Ten variables were included in the model: race, age, marital status, highest grade completed, felony degree, participation in previous treatment, number of prior arrests, type of termination, length of time in treatment, and time at risk in the community¹⁸ (see Appendix B for complete statistics). There were three significant predictors of rearrest: highest grade completed, felony degree, and time at risk in the community. Offenders who did not complete higher grade levels, those with more serious offenses, and those who were in the community for a longer period of time were more likely to be arrested after termination.

Figure 7 reports the probabilities of being arrested for the treatment group. Those who completed the 12th grade had only a 9 percent chance of recidivating whereas offenders who have only completed the 10th grade had a 16 percent chance of being arrested. Offenders who were committed to the RSAT program with a felony 1 offense had a 16 percent chance of being arrested whereas offenders with a felony 3 had an 8

¹⁷ This model includes Treatment Group participants that were tracked from the time they left the institution until March 2002.

¹⁸ These variables were included because bivariate correlations revealed they were significantly correlated with arrest or previous research has shown them to be significant predictors. Correlations with the scales of the Client Self-Rating were also computed. There were no significant correlations between the scales and arrest. Thus, for a more parsimonious model, those scales were not included in the model.

Figure 7. Significant Predictors and Probabilities of Arrest



percent chance of being arrested. Last, offenders who had been in the community for a period of 441 days had a 12 percent chance of being arrested whereas offenders who had been in the community for approximately two years had a 20 percent chance of obtaining a new arrest.

Factors Predicting New Incarceration for the Treatment Group Only. The same variables were included in the model for incarceration (see Appendix B for complete statistics). There were two significant predictors of incarceration: felony degree and time at risk in the community. Offenders with more serious offenses and those who were in the community for a longer period of time were more likely to be arrested after termination.

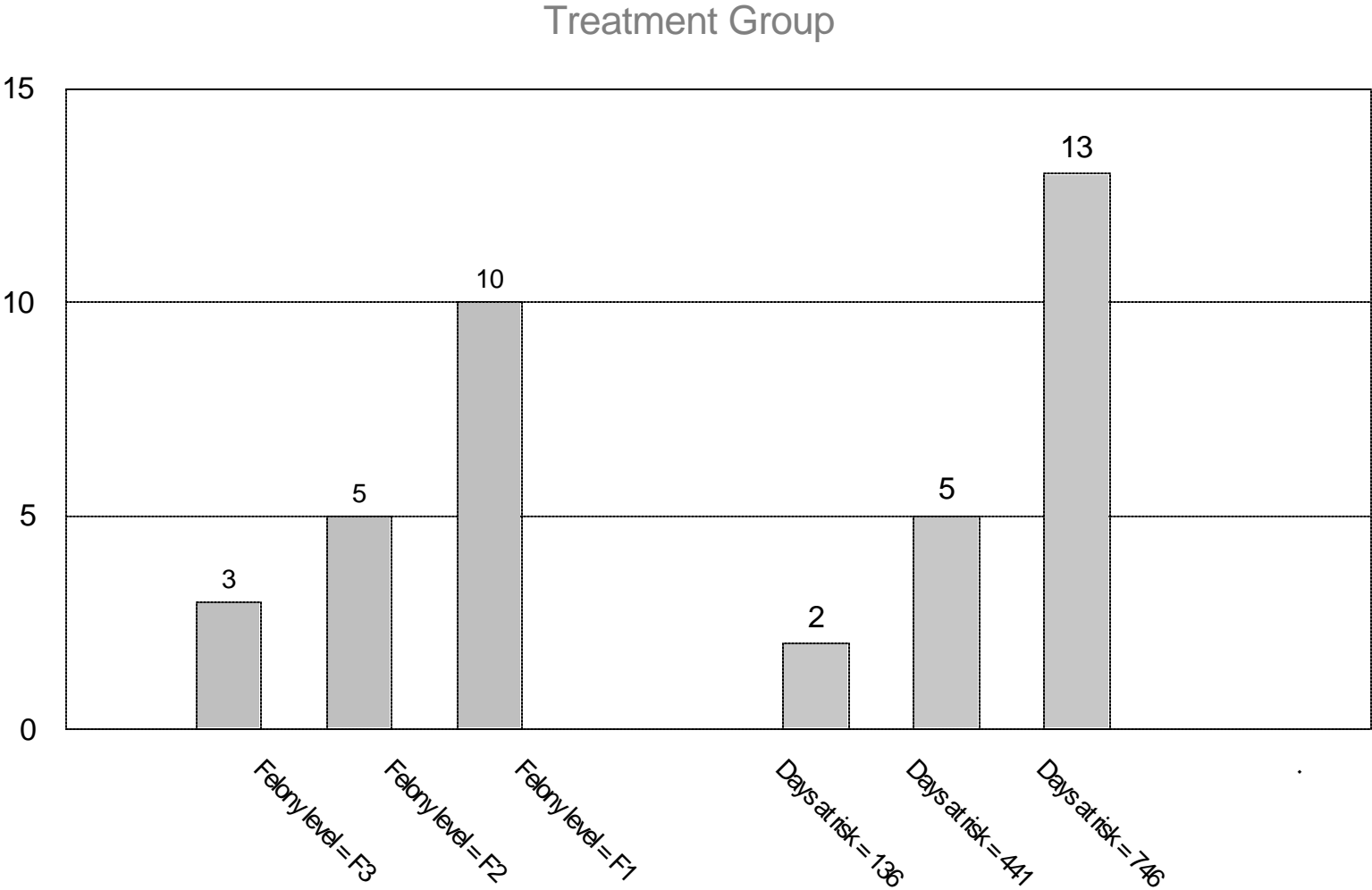
Figure 8 reports the probabilities of being arrested for the treatment group. Offenders who were committed to the RSAT program with a felony 1 offense had a 10 percent chance of incarceration whereas offenders with a felony 3 had a 3 percent chance of incarcerated. Last, offenders who had been in the community for a period of 441 days had a 5 percent chance of being arrested whereas offenders who had been in the community for approximately two years had a 13 percent chance of incarceration.

DISCUSSION

Limitations of the Data

There were several limitations to the study that should be noted. First, the quantity and quality of data made available through the data collection process was often lacking. Missing data makes it difficult to compare the groups on potentially important factors. Second, a majority of the offenders were placed back into the general population. This severely limited our ability to determine the effects of the program on recidivism. Placing

Figure 8. Significant Predictors and Probabilities of Incarceration



the offenders back into the general population can serve to “undo” any treatment effect since antisocial attitudes are often reinforced in the general population. Finally, non-random assignment of cases to the treatment and comparison groups resulted in comparisons between non-equivalent groups. This is a common problem in correctional research; nonetheless, it resulted in statistical rather than design control.

Conclusions

First, it appears that Noble is targeting an appropriate population for the type of intensive treatment provided by the institution. The data revealed that the majority of the offenders have extensive criminal histories and substance abuse histories. In addition, the majority of offenders were scoring as clinical (i.e., high risk) for the overt, covert, and overall *How I Think* scale, which examines cognitive distortions. Furthermore, the majority of offenders scored as “problem” risk or “severe problem” risk for the drug scale on the Ohio Prison Inmate Inventory. Scores in this range indicate that an established pattern of abuse is evident and there is a need for drug treatment.

Second, when examining the intermediate outcomes, participation in Noble’s RSAT program reduced offenders’ levels of anxiety, depression, risk-taking, hostility, desire for help, and treatment readiness while increasing offenders’ self-esteem and decision-making abilities. The only cognitive distortion that was significantly reduced due to participation in treatment was minimizing behavior. However, these factors were not related to likelihood of being arrested or incarcerated for the treatment group. This finding is not surprising for two reasons. First, anxiety, depression, and self-esteem have not been identified as strong predictors of recidivism. Rather, they may be responsivity factors that can impede the treatment process. Second, the majority of offenders were

released back into the general population where antisocial attitudes and behaviors are often reinforced, therefore, eroding any treatment effect that may have been evident by the reduction of risk-taking behavior and hostility.

Third, only 34.2 percent of the treatment group actually completed the treatment goals of the program. Prior research has shown that successful completion of the program is a significant predictor of successful outcome. Thus, steps should be taken to insure that participants successfully complete the program.

Last, even though the treatment group was less likely to be arrested or incarcerated after termination, the differences were not statistically significant. Thus, participation in Noble's RSAT program did not significantly reduce the probability of being arrested or incarcerated.

Recommendations

Based on the findings, and in order to increase the effectiveness of Noble's therapeutic community RSAT program, the following recommendations are offered:

- Noble Choices should screen out offenders that are not appropriate for the program. Likewise, criteria for screening individuals for participation in the program should be reviewed and revised to ensure that appropriate placement decisions are made. It is problematic that the majority of offenders who completed the Noble Choices program return to the general population. Placing an offender back into the population could result in an erosion of the treatment effect since antisocial attitudes and behaviors are more likely to be reinforced than positive ones.
- Noble needs to improve treatment as outlined in the Correctional Program Assessment Inventory. First, the program needs to develop a behavioral model that includes more positive reinforces and elimination of shaming and humiliation. There is little evidence that these punishers are effective in changing offender behavior. Second, the program needs to more consistently train offenders to monitor problem situations and rehearse alternative, prosocial responses. This process should be reinforced throughout the entire curriculum/program. Third, staff should receive formal training on the theory and practice of interventions

employed by the program. In addition, staff morale was extremely low, which can have a detrimental effect on program integrity. Steps need to be taken to increase staff input into the program. Furthermore, a change in administration resulted in the program not having the level of support it was initially given. Support for treatment efforts from the administration is vital for a program housed in a prison setting, and a lack of strong support can have a detrimental effect on program integrity.

- Noble Choices should continue to evaluate this program with a focus on better data collection and follow-up for program participants. Longer follow-up periods will allow us to determine the long-term effects of the RSAT program. In addition, it will be interesting to see how offenders who go from the RSAT program to general population to the community perform compared to those who go from RSAT to the community. Data were not available to address this issue.

REFERENCES

- Antonwicz, D.H. and Ross, R.R. (1994). "Essential components of successful rehabilitation programs for offenders." International Journal of Offender Therapy and Comparative Criminology, 38(2): 97-104.
- Barriga, A. Q., Gibbs, J. C., Potter, G., and Liau, A. K. (1999) How I Think Questionnaire.
- Behavior Data Systems, Ltd. (1998). Ohio Prison Inmate Inventory. Phoenix, AZ: Author.
- Brook, R. C., and Whitehead, P. C. (1980). "Treatment of Drug Abuse." In M. Tonry and J. Q. Wilson (Eds.), Drugs and Crime. Chicago: The University of Chicago Press.
- DeLeon, G. (1990a). "Treatment Strategies." In J. Inciardi (Ed.), Handbook of Drug Control in the United States (pp. 115-138). Westport: Greenwood Press.
- DeLeon, G. (1990b). "Effectiveness of Therapeutic Communities." In J. J. Platt, C. D. Kaplin, and P. J. McKim (Eds.), The Effectiveness of Drug Abuse Treatment: Dutch and American Perspectives (pp. 113-126). Malabar, FL: Robert E. Krieger Publishing.
- DeLeon, G. and Ziegenfuss, J. T. (1986). Therapeutic Communities for Addictions: Readings in Theory, Research and Practice. Springfield, IL: Charles C. Thomas Publisher.
- DeLeon, G. and Rosenthal, M. (1979). "Therapeutic Communities." In R. L. Dupont, A. Goldstein, and J. O'Donnell (Eds.), Handbook on Drug Abuse (pp. 39-48). Washington, D.C.: U.S. Government Printing Office.
- Faupel, C. E. (1981). "Drug Treatment and Criminality: Methodological and Theoretical Considerations." In J. A. Inciardi (Ed.), The Drugs Crime Connection (pp. 183-206). Beverly Hills: Sage.
- Gendreau, P. and Andrews, D. A. (1994). Correctional Program Assessment Inventory (4th ed.). St. John, New Brunswick: University of New Brunswick.
- Holsinger, A.M. (1999). Opening the Black Box : Assessing the Relationship between Program Integrity and Recidivism. (Dissertation). Ann Arbor, MI: UMI.
- Inciardi, J. A., Martin, S. S., Butzin, C. A., Hooper, R. M., and Harrison, L. D. (1997). "An Effective Model of Prison-Based Treatment for Drug-Involve Offenders." Journal of Drug Issues, 27(2): 261-278.
- Lipton, D. S. (1998). "Therapeutic Communities: History, Effectiveness and Prospects." Corrections Today (October): 106-109.

Sandhu, T. S. (1981). "The Effectiveness of Community-Based Correctional Programs." in S. Sandhu (Ed.), Community Corrections: New Horizons (pp. 296-351). Springfield: BannerStone House.

Simpson, D. D. (1984). "National Treatment System Based on the Drug Abuse Reporting Program (DARP) Follow-up Research." In F. Tims and J. Ludford (Eds.), Drug Abuse Treatment Evaluation: Strategies, Progress, and Prospects (pp. 29-41). National Institute on Drug Abuse Research Monograph No. 51. Rockville, MD: U.S. Department of Health and Human Services, National Institute on Drug Abuse.

Simpson, D. D. and Knight, K. (1998). TCU Data Collection Forms for Correctional Residential Treatment. Fort Worth: Texas Christian University, Institute of Behavioral Research [On-line]. Available: www.ibr.tcu.edu.

Wexler, H. K. (1995). "The Success of Therapeutic Communities for Substance Abusers in American Prisons." Journal of Psychoactive Drugs, 27(1): 57-66.

Yochelson, S. and Samenow, S. E. (1976). The Criminal Personality: A Profile for Change. New York, NY: Jason Aronson.

APPENDIX A

DATA COLLECTION INSTRUMENTS

APPENDIX B

DESCRIPTIVE STATISTICS

Table B1: Reliabilities for The Client Self Rating for the Treatment Group¹⁹

Scale	N	Pre-test	N	Post-test
Anxiety	196	.7871	68	.7531
Depression	197	.7648	69	.7906
Self-esteem	196	.7592	69	.7025
Decision Making	197	.7979	66	.7641
Risk Taking	198	.7088	69	.6415
Hostility	199	.7492	68	.7665
Self-efficacy	197	.6025	69	.7320
Desire for Help	199	.7049	70	.5906
Treatment Readiness	196	.7225	69	.5573

¹⁹ Reliabilities are for the new CSR Form

Table B2: Reliabilities for How I Think

Scale	N	Pre-test	N	Post-test
Self-centered	145	.6040	119	.7025
Blaming others	145	.6847	123	.7802
Minimizing	151	.5032	124	.6367
Assuming the worst	151	.7736	126	.8459
Oppositional defiance	148	.6986	120	.7644
Physical aggression	144	.6529	119	.7502
Lying	162	.4857	135	.5359
Stealing	151	.6524	127	.7523
Overt	142	.8081	116	.8654
Covert	151	.7496	126	.8209
How I Think	142	.8799	115	.9137

Table B3: Descriptive Statistics for How I Think Questionnaire – Time 1*

Scale	N	Minimum	Maximum	Mean	SD
<u>Cognitive Distortions</u>					
Self-centered (range 1-6)	119	1.89	4.78	3.08	.4886
Blaming Others (range 1-6)	120	2.10	4.50	3.07	.4779
Minimizing/Mislabeling (range 1-6)	123	3.00	5.33	4.27	.4730
Assuming the Worst (range 1-6)	123	1.64	3.73	2.49	.4340
<u>Behavioral Referents</u>					
Opposition-Defiance (range 1-6)	119	2.00	4.40	3.12	.4757
Physical Aggression (range 1-6)	119	1.90	4.60	3.17	.4843
Lying (range 1-6)	124	2.25	4.75	3.32	.4515
Stealing (range 1-6)	124	2.36	4.73	3.17	.4303
<u>Summary Scores</u>					
Covert (range 1-6)	124	2.53	4.60	3.24	.3869
Overt (range 1-6)	117	2.10	4.30	3.14	.4272
How I Think (range 1-6)	117	2.44	4.46	3.21	.3828

* Includes the scores that may be considered “suspect” because the AR scale is greater than 4.0 but less than 4.25.

Table B4: Individual Counseling

Session Number	N	Minimum Minutes	Maximum Minutes	Mean	SD
Session 1	114	15.00	90.00	32.85	17.17
Session 2	82	10.00	90.00	28.72	18.24
Session 3	56	15.00	90.00	30.00	16.86
Session 4	44	15.00	60.00	28.75	14.19
Session 5	33	15.00	75.00	28.64	15.17
Session 6	22	15.00	90.00	32.73	21.03
Session 7	15	15.00	75.00	33.00	16.23
Session 8	11	15.00	60.00	30.00	16.43
Session 9	10	15.00	90.00	51.00	23.66
Session 10	7	30.00	90.00	47.14	23.60
Session 11	4	15.00	60.00	33.75	18.87
Session 12	3	15.00	30.00	25.00	8.66
Session 13	3	30.00	60.00	50.00	17.32
Session 14	2	30.00	30.00	30.00	0.00
Session 15	1	30.00	30.00	30.00	--
Session 16	1	30.00	30.00	30.00	--
Session 17	1	30.00	30.00	30.00	--
Total	114	15.00	570.00	113.03	106.31

Table B5: The Effects of Time on Psychological and Social Functioning, With Controls for Pre-test Scores

	Anxiety			Depression			Self Esteem		
Independent Variables	<i>b</i>	SE	Beta	<i>b</i>	SE	Beta	<i>b</i>	SE	Beta
Time	.000	.000	.033	.004	.000	-.160*	.000	.000	-.074
Pre-test score	.517	.068	.581*	.533	.079	.540*	.352	.094	.334*
Constant	7.829	1.412*	---	6.470	1.366*	---	13.786	1.790*	---
F-value		29.039			22.825			6.989	
R ²		.334			.281			.106	

	Decision-making			Risk-taking			Hostility		
Independent Variables	<i>b</i>	SE	Beta	<i>b</i>	SE	Beta	<i>b</i>	SE	Beta
Time	.000	.000	.137	.000	.000	.155	.000	.000	.205
Pre-test score	.637	.076	.628*	.350	.077	.568*	.546	.076	.447*
Constant	13.024	2.359*	---	13.124	1.716*	---	8.000	1.755*	---
F-value		35.054			10.440			26.337	
R ²		.379			.148			.297	

* p = .05

Table B5: The Effects of Time on Psychological and Social Functioning, With Controls for Pre-test Scores

Independent Variables	Self-efficacy			Desire for Help			Treatment Readiness		
	<i>b</i>	SE	Beta	<i>b</i>	SE	Beta	<i>b</i>	SE	Beta
Time	.000	.000	-.088	.002	.005	.051	.001	.005	.257
Pre-test score	.690	.086	.600*	.269	.124	.252	.009	.116	.100*
Constant	8.238	2.198*	---	17.325	3.459*	---	22.593	3.661*	---
F-value		32.488			2.470			2.759	
R ²		.357			.067			.078	

* p = < .05

Table B6: The Effects of Time on How I Think Scales, With Controls for Pre-test Scores (with suspect cases)

	Self-Centered			Blaming Others			Minimizing/ Mislabeling		
Independent Variables	<i>b</i>	SE	Beta	<i>b</i>	SE	Beta	<i>B</i>	SE	Beta
Time	.001	.001	-.196	.001	.001	.131	.002	.000	-.047
Pre-test score	.428	.167	.355	.699	.184	.345*	.505	.599	.464*
Constant	1.917	.544*	---	1.048	.611	---	1.590	.752*	---
F-value		3.996			7.918			6.867	
R ²		.151			.260			.222	

	Assuming the Worst			Oppositional Defiance			Physical Aggression		
Independent Variables	<i>b</i>	SE	Beta	<i>b</i>	SE	Beta	<i>B</i>	SE	Beta
Time	.002	.001	-.279*	.001	.001	-.211	.001	.001	-.247*
Pre-test score	.262	.217	.162	.668	.189	.457*	.677	.167	.521
Constant	2.248	.592*	---	1.147	.645	---	1.208	.554*	---
F-value		2.904			7.836			19.110	
R ²		.104			.263			.293	

* p = < .05

Table B6: The Effects of Time on How I Think Scales, With Controls for Pre-test Scores (with suspect cases)

	Lying			Stealing			Overt		
Independent Variables	<i>b</i>	SE	Beta	<i>b</i>	SE	Beta	<i>B</i>	SE	Beta
Time	.000	.001	-.159	.001	.001	-.237	.003	.001	-.229*
Pre-test score	.284	.170	.227	.449	.154	.368*	.782	.185	.407*
Constant	2.536	.607*	---	1.881	.517*	---	.889	.616	---
F-value		2.239			5.802			11.081	
R ²		.802			.185			.340	

	Covert			How I Think		
Independent Variables	<i>b</i>	SE	Beta	<i>b</i>	SE	Beta
Time	.001	.001	-.207	.002	.001	-.304
Pre-test score	.443	.173	.333*	.682	.182	.480
Constant	1.954	.595*	---	1.238	.612*	---
F-value		4.664			9.047	
R ²		.157			.296	

* p = .05

Table B7: The Effects of Time on How I Think Scales, With Controls for Pre-test Scores (excludes suspect cases)

	Self-Centered			Blaming Others			Minimizing/ Mislabeling		
Independent Variables	<i>b</i>	SE	Beta	<i>b</i>	SE	Beta	<i>B</i>	SE	Beta
Time	.001	.002	-.215	.000	.002	.131	.002	.002	-.286
Pre-test score	.560	.299	.415	.586	.361	.345	.505	.329	.365
Constant	1.886	1.050	---	1.814	1.271	---	1.590	1.581	---
F-value		2.179			1.105			2.552	
R ²		.214			.115			.242	

	Assuming the Worst			Oppositional Defiance			Physical Aggression		
Independent Variables	<i>b</i>	SE	Beta	<i>b</i>	SE	Beta	<i>B</i>	SE	Beta
Time	.001	.002	-.152	.000	.002	-.053	.002	.002	-.266
Pre-test score	.258	.424	.144	.712	.329	.480*	.434	.290	.355
Constant	2.545	1.226*	---	1.030	1.229	---	2.377	1.034*	---
F-value		.416			2.567			1.552	
R ²		.047			.148			.171	

* p = < .05

Table B7: The Effects of Time on How I Think Scales, With Controls for Pre-test Scores (excludes suspect cases)

	Lying			Stealing			Overt		
Independent Variables	<i>b</i>	SE	Beta	<i>b</i>	SE	Beta	<i>B</i>	SE	Beta
Time	.001	.002	-.189	.000	.002	-.211	.003	.002	-.229
Pre-test score	.320	.338	.221	.397	.327	.269	.593	.332	.407
Constant	2.814	1.221*	---	2.350	1.162*	---	1.699	1.210	---
F-value		.720			11.70			2.150	
R ²		.078			.128			.223	

	Covert			How I Think		
Independent Variables	<i>b</i>	SE	Beta	<i>b</i>	SE	Beta
Time	.001	.002	-.229	.002	.002	-.287
Pre-test score	.382	.355	.246	.576	.353	.374
Constant	2.534	1.272	---	1.852	1.269	---
F-value		1.113			12.06	
R ²		.012			.213	

* p = .05

Table B8: List of Measures for the Independent and Dependent Variables in Regression Models

Independent Variables

Race: 0 = White; 1 = Nonwhite

Age: 20 to 57

Marital Status: 0 = not married; 1 = married

Completion of 12th Grade: 0 = no; 1 = yes

Number of Prior Arrest: 0 to 50

Number of Prior Incarcerations: 0 to 36

Participation in Previous Treatment: 0 = no; 1 = yes

Days at Risk: 31 to 1733

Felony Level²⁰: 1 = F1; 2 = F2; 3 = F3; 4 = F4; 5 = F5

Type of Termination: 0 = unsuccessful completion; 1 = successful completion

Group: 0 = comparison group; 1 = treatment group

Dependent Variables

Arrests: 0 = no; 1 = yes

Incarceration: 0 = no; 1 = yes

²⁰ Felony level and type of discharge were included only in the models predicting outcomes with the treatment group only

Table B9: Regression Coefficients Predicting Arrest = 1*

Factor	Beta	Significance Level
Race	.5185	.0385
Age	-.0334	.0502
Marital Status	-.5907	.0672
Complete Grade 12	-.4919	.0616
Prior Arrests	.0402	.0223
Previous Treatment	.3352	.2961
Days at Risk	.0008	.0861
Group	-.5566	.1217
Constant	-.5388	
-2 Log Likelihood	453.790	

*Treatment and comparison group

Table B10: Regression Coefficients Predicting Incarceration = 1*

Factor	Beta	Significance Level
Race	-.0669	.8065
Age	-.0090	.6123
Marital Status	-.8719	.0332
Complete Grade 12	-.1353	.6324
Prior Convictions	.0239	.4296
Previous Treatment	.4367	.2386
Days at Risk	.0010	.0319
Group	-.6656	.1049
Constant	-1.9618	
-2 Log Likelihood	412.190	

*Treatment and comparison group

Table B11: Factors Predicting Arrest For the Treatment Group

Variable	Beta	Sig.
Race	.703	.084
Age	-.017	.604
Marital Status	-.416	.416
Highest Grade	-.319	.006
Degree of Offense	.364	.046
Previous TX	.344	.433
Number of Prior Arrests	-.053	.067
Type of Termination	-.660	.088
Number of Days in TX	.000	.473
Number of Days at Risk	.002	.001
Constant	.967	
-2 Log Likelihood	172.742	

Table B12: Factors Predicting Incarceration For the Treatment Group

Variable	Beta	Sig.
Race	.031	.955
Age	-.022	.611
Marital Status	-.676	.357
Highest Grade	-.121	.406
Degree of Offense	.655	.006
Previous TX	.188	.748
Number of Prior Convictions	-.047	.316
Type of Termination	-.709	.161
Number of Days in TX	.000	.843
Number of Days at Risk	.003	.002
Constant	-2.710	
-2 Log Likelihood	109.527	