U.S. Department of Justice
Office of Justice Programs
Office of Juvenile Justice and Delinquency Prevention

Evaluation of the Impact of Boot Camps for Juvenile Offenders

Denver Interim Report

OJJDP

A Publication of the
Office of Juvenile Justice and Delinquency Prevention

Evaluation of the Impact of Boot Camps for Juvenile Offenders

Denver Interim Report

NCJ 160927

Michael Peters

with the assistance of

Kathleen Albright, Cynthia Gimbel, Ph.D., David Thomas, Georgia Laxton, Ph.D., Georgia Laxton, Ph.D., Margareth Opanga, and Michael Afflerbach

Caliber Associates

Shay Bilchik, Administrator
Office of Juvenile Justice and Delinquency Prevention

March 1996

This report was prepared under grant number OJP–91–C–011 from the Office of Juvenile Justice and Delinquency Prevention (OJJDP), Office of Justice Programs, U.S. Department of Justice.

The Office of Juvenile Justice and Delinquency Prevention is a component of the Office of Justice Programs, which also includes the Bureau of Justice Assistance, the Bureau of Justice Statistics, the National Institute of Justice, and the Office for Victims of Crime.

ACKNOWLEDGEMENTS

The Evaluation of the Impact of Boot Camps for Juvenile Offenders in Cleveland, Ohio, Denver, Colorado, and Mobile, Alabama, was funded by the Office of Juvenile Justice and Delinquency Prevention (OJJDP), Office of Justice Programs (OJP), U.S. Department of Justice.

Caliber gratefully acknowledges the contributions made by the staff of the Colorado Office of Youth Services, with whom Caliber worked in partnership to acquire the extensive data on which this report is based. Special thanks are due to Ms. Ceil Boyles, Director of Research and Evaluation for OYS, who coordinated data collection not only within OYS, but also with the Denver County Juvenile Court.

Valuable comments were provided by an expert team impaneled to review the research design and draft report. The panel was composed of Dr. David Altschuler, Principal Research Scientist at The Johns Hopkins University Institute for Policy Studies in Baltimore, Maryland; Dr. Doris MacKenzie, Research Scholar in the Department of Criminology and Criminal Justice at the University of Maryland at College Park; and Ms. Donna Hamparian of Columbus Ohio, a private consultant on juvenile justice issues. A significant improvement in the overall quality and presentation of the report can be attributed to their uniquely thoughtful critiques; any continuing shortcomings of the report are solely the responsibility of the authors.

We express a particular note of appreciation to Frank Smith and Eric Peterson of the Office of Juvenile Justice and Delinquency Prevention (OJJDP), who provided ongoing oversight of the evaluation and who helped shepherd the report through the review process in preparation for publication.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This report presents the findings of the Evaluation of the Impact of Boot Camps for Juvenile Offenders Demonstration project operating in Denver, Colorado, from April 1992 through March 1994. The executive summary highlights the key findings from the evaluation and is organized according to the full report.

1. INTRODUCTION

In July 1990, the Office of Juvenile Justice and Delinquency Prevention (OJJDP), in cooperation with the Bureau of Justice Assistance, announced and invited applications for an initiative to develop and test a juvenile boot camp program. The initiative would emphasize discipline, treatment, and work (DTW) and focus on a target population of adjudicated, nonviolent offenders under age 18. In September 1991, cooperative agreements were competitively awarded to three public-private partnerships representing Cleveland, Ohio, Denver, Colorado, and Mobile, Alabama; experimental boot camps became operational in each of the three sites approximately six months later in April 1992.

The experimental boot camps intended to provide constructive intervention and early support to a population of juvenile offenders at high risk of continuing delinquency. The boot camp programs included a highly-structured three-month residential program, followed by 6-9 months of community-based aftercare during which youth pursued academic and vocational training or employment while under intensive, but gradually reduced, supervision.

Under contract to provide evaluation services to OJJDP, Caliber Associates was tasked in the summer of 1993 to conduct an evaluation of the impact of the three boot camps for juvenile offenders. The cornerstone of the design, in accordance with OJJDP's original announcement of the juvenile boot camp demonstration project, is random assignment of eligible youth at each site to experimental and control groups.

In consideration of OJJDP's evaluation objectives, the following key questions were established to guide Caliber's evaluation of the impact of boot camps for juvenile offenders:

1. To what extent are the experimental and control groups similar?

2. What is the rate of successful completion of the boot camp intervention?

3. To what extent do experimental youth receive the services prescribed for them?

4. To what extent does each group (experimental and control) demonstrate positive signs of program impact?

   - Payment of restitution
   - Completion of community service
   - Return to school/completion of GED/vocational training
   - Employment.

5. What is the recidivism rate of the experimental group compared to that of the control group?

6. Is the boot camp intervention cost effective?

That the experimental and control groups are similar is a fundamental hypothesis of the study.

Information on experimental and control group youths has been collected over the course of the demonstration using procedures and instruments that were originally developed between April and September 1992 by a team from the American Institutes for Research (AIR) and the Institute for Criminological Research (ICR) at Rutgers University. In Denver, four data collection instruments were used to capture data for the evaluation, including: Intake Forms, Staff Rating Forms, Boot Camp Exit Forms, and Aftercare Tracking Forms.

In Denver, these instruments were not available in time for the implementation of the data collection process. In almost half of the cohorts, some data forms had to be reconstructed. The instruments were revised at least once over the course of the evaluation, with some instruments undergoing several revisions. Feedback from project staff indicated that data collection forms did not always use measurements that coincided with Denver's existing juvenile data system and that form completion was vulnerable to error based on the use of retrospective and subjective data.

Supplemental pre-demonstration criminal history and all post-placement offense and court involvement data required for this report were compiled by the research team of the Colorado Division of Youth Services. In addition, the Juvenile Court and DYS supplied movement data, consisting of a log of original facility entry and release dates and any subsequent facility entry and release dates for both experimental and control group youths, which was used to calculate the length of time each youth was not in a secure facility and, therefore, free in the community to recidivate. Project cost data required for the evaluation, including total two-year demonstration costs-to-date as well as parallel cost data for the placement of youths in DYS facilities or probation, were supplied by DYS and the Juvenile Court.

The body of this report includes a detailed description of project design, implementation, and operational issues over the project's history; analysis of service delivery and youth outcomes, including the critical recidivism results; and a comparative analysis of the relative costs of providing residential and aftercare services to experimental and control youth in alternate settings.

2. PROJECT DESIGN, IMPLEMENTATION, AND OPERATIONAL HISTORY

The information used to describe project design, implementation, and operational history is based primarily on site visits in February and November 1994.

2.1 Boot Camp Project Design

The Denver boot camp initiative was designed to provide a highly structured, intermediate sanction that would reduce crowding in long-term institutions and provide a constructive intervention for high risk juvenile offenders.

Project Objectives and Theoretical Framework

The model for the program is predicated on the notion that individual behavioral changes emphasized in the residential phase of the boot camp will become a foundation for improving educational and vocational skills in the aftercare phase and eventual reintegration into the community.

The project was designed to include four phases over a one-year period. Each phase is characterized by decreasing intensity and increased integration into the community. The first phase is assessment and intake into the program; the second, a 90-day Residential Intensive Training phase; the third, a six-month Community Preparedness phase; and the fourth, a three-month Accountability phase. Aftercare comprised phases three and four.

Screening and Selection

The intent of the screening and selection procedure was to screen all targeted youth to obtain an eligible pool. Youth from the eligible pool would then be randomly assigned to either the experimental or control group. Experimental youth were to be transferred to detention to await the formation of the next cohort to enter the Intensive Residential Treatment phase. Control youth were to receive the services regularly provided by DYS.

Residential Intensive Treatment Phase

The boot camp design follows the military model which posits that acceptable behavior can be substituted for deviant behavior by creating a context where individual needs are subordinated to community needs, and sanctions for unacceptable behavior are clearly defined and unequivocally enforced. There are three distinct phases during the 90-day residential treatment. Each phase builds on the previous one, and cohorts graduate to the next succeeding phase only after they have attained the goals of the previous phase.

Phase I emphasizes total control by the Drill Instructors and is marked by a total immersion in military-style training and regimentation. Phase II emphasizes leadership and responsibility, and recruits' actions are monitored as a whole platoon. Phase III reinforces personal values and respect for authority and culminates in a graduation ceremony in front of family and friends.

Aftercare

In order to maintain the positive behavioral changes achieved during the residential phase, group reinforcement of norms is necessary and is a design feature of the aftercare phase of the program. Each group that graduated from boot camp was to remain intact during the aftercare phase. This aspect of the aftercare phase is critical since it is believed that the permanence of changes achieved in the camp setting are threatened by the transition to the community.

The objectives of the community **preparedness phase** are continued discipline, educational/work experience, and individual skill building. Individual workplans were to be utilized to tailor services to each youth's needs. The overall emphasis is placed on academic and employment goals and community/home integration. Residential options for the aftercare phase include return to home or to Proctor Care.

The final phase of the program was to continue the services provided in the community preparedness phase. The distinguishing feature of the **accountability phase** was the youth's increased self-sufficiency and integration into the community. Key to the program design was an integrated case management structure that would help coordinate each youth's transition across this and all four phases. The case worker was to have contact with the youth across all four phases of the program.

Placement Of and Services Provided To Control Group Youths

Committed control group youth were held to their original sentences and were placed in a setting according to DYS procedures. In the summer of 1992, probation youth were added to the Denver demonstration. Control group probation youth were placed on regular probation.

2.2 Boot Camp Project Implementation and Operations

The Denver boot camp initiative selected and processed its first cohort of 12 youths into Foxfire Boot Camp in April 1992. The residential phase graduated its last class in March 1994, when the aftercare program was also discontinued, save for case manager supervision of youth until November 1994. Key events and difficulties encountered during the implementation and operational history of the demonstration project are summarized here.

Project Management

The Denver boot camp was conceived as a public-private partnership between DYS and New Pride, both headquartered in Denver. DYS was responsible for administering the grant, serving largely as a project monitoring and oversight body. New Pride, Inc. had operational responsibility for the boot camp and aftercare facilities. The relationship created a series of problems and difficulties that undermined project management effectiveness. Two of the most visible manifestations were the lack of consensus on staff hiring/firing, and changes in the management of the aftercare program that were never officially instituted by the management team.

Organization and Staffing

Turnover or loss of staff occurred in four key positions and the project suffered from never filling other positions. In December 1993, the untimely death of the President of New Pride left the project without its head. New Pride was forced to go out of business, and the boot camp project was closed in March 1994.

Facilities and Infrastructure

For two years, the residential phase of the boot camp project operated without major disturbance at Camp Foxfire. The aftercare facility of the project also remained stable, although less than adequate. Consequently, youth did not take full advantage of drug/alcohol, vocational,

and counseling services, or the physical training that were intended to complement the academic portion of the aftercare experience.

Changes in Screening and Selection

The original intent of the Denver project was that a cohort of 12 to 15 boys would enter the residential phase of the program each month. With the control group, this would require the availability of 24 to 30 eligible boys each month. Those numbers proved impossible to sustain. Three major changes were made in the screening and selection criteria: probation youth were added, participation was no longer voluntary, and the selection criteria were adjusted with respect to age and criminal history. Finally, in the last months of the project, boys were assigned to the boot camp without going through the random assignment process specified by the research design for the evaluation.

The evolution of the screening procedure caused some variation in cohort make-up, which then impacts their comparability. Cohort size did remain relatively stable yet never approached the camp limit. The last four cohorts contained youth who had been screened and selected according to the aforementioned processes, but also contained youth who did not enter the study. Twenty-six youth entered cohorts 11 through 14 but were not included in the random assignment pool. Further complicating the selection process were reassessments of security, judicial overrides, inability to obtain resources for probation youth, and mistakes regarding assignment.

Issues in Aftercare

Program components of the aftercare phase outlined in the original grant were comprehensive but only one, the educational component at Wyatt Academy, was fully implemented. The aftercare coordinator found it difficult to arrange community service projects because of a lack of community responsiveness. Case management was difficult due to the large caseloads of the DYS and probation staff, a lack of clearly defined responsibilities, and differing degrees of authority.

The majority of youth did not complete the program at Wyatt Academy. However, many attended the program for several months before they left or were dismissed. Issues with the implementation of the aftercare program voiced by DYS, probation, and boot camp staff included:

- **Uniforms.** Children had mixed feelings over uniforms and did not have access or resources to properly launder them.

- **Educational program.** Some felt instructors could not relate to youth in the program and lacked experience with juveniles. It was thought that youths of differing abilities were lumped together.

- **Sanctions.** Termination was felt to be premature in some cases. A reward system was thought to be lacking.

- **Limited access.** Many were frustrated with limited access to youth during the school day for case management needs or visiting.

The root of these issues was lack of coordination and information sharing.

2.3 Implications for Research

The operational difficulties experienced by the Denver project create three issues for conducting the impact evaluation: the overall number of youth in the research sample, contamination of the sample, and the confounding of aftercare treatment.

To be able to report statistically significant differences at the standard level of confidence (.05), the desirable sample size for this experiment was determined to be 155 experimental and 155 control youth. The Denver sample of 122 youth, each randomly assigned to the experimental and control groups, was much less then the desired size. The small sample size was exacerbated by the fact that 19 experimental youth never entered boot camp and 25 more did not complete the residential phase, leaving a very small sample size, indeed, on which to perform impact analysis.

The last four cohorts to enter Camp Foxfire contained 20 randomly assigned experimental youth but also 26 youths who were not part of the study. Some of those 26 youths were known to be 19 years old, but otherwise they were, in all likelihood, similar to the experimental groups with respect to social and criminal histories. The difficulty of mixing non-experimental youth with experimental youth, from a research perspective, is that we do not have data on the non-experimental youth and thus have no way of measuring whatever effect they may have had on the treatment environment or the experimental youth.

Another problem of measurement occurs with respect to the aftercare program, where a substantial number of young men who did not complete the formal program at Wyatt Academy received the same aftercare treatment as the control group. The mixture of treatment makes it difficult, if not impossible, to attribute any treatment effect to the formal aftercare program.

3. YOUTH CHARACTERISTICS AND PROGRAM OUTCOMES

The analyses presented in this chapter are based on data compiled from a variety of sources, including data collection forms used over the course of the project, criminal history and recidivism databases compiled and supplied by Denver Division of Youth Services, and program records obtained from program staff during field visits.

3.1 Experimental and Control Group Comparability

A total of 244 youths was screened and randomly assigned to the experimental (122) and control (122) groups between March 1992 and December 1993, but assignments were subverted in several instances, leaving a sample of 124 experimental and 116 control youth for comparison. A detailed comparison of critical youth characteristics across the two groups includes: demographic and family characteristics, education experiences, drug and alcohol involvement, criminal offense history, and committing offense and risk assessment. Comparability between the two groups, of course, is an assumption of random assignment, and constitutes a precondition for analyses and findings presented throughout the evaluation.

Results of the comparability assessment demonstrate resemblance between experimental and control groups across a wide array of background, parental, and committing offense characteristics. Relatively modest differences were observed in level of youth gang involvement and alcohol use by youth, illicit drug use by youth, and level of drug/alcohol services required. The control youths were more likely to have major gang involvement and alcohol use than the experimental youths. These differences, however, would not be expected to have an independent effect on the key questions and analyses constituting the evaluation. No other differences were found to be significant.

3.2 Residential Phase Outcomes

Information describing the detention and residential experiences includes:

- Pre-transfer detention experiences—Control youths experienced an average period of detention of approximately 18 days while experimental youths experienced 19 days. The major impact of this time in detention is the cost incurred.

- Residential phase youth dispositions—Eighty of the 124 total experimental youths selected in cohorts 1-14 successfully graduated from boot camp. Of the 116 control youths who entered the study, 69 of the 76 sentenced to DYS completed their term of residential confinement at the established reporting cut-off point.

- Duration of residential term of confinement—Youths successfully graduating from boot camp and transitioning to aftercare served an average term of 96 days. Among the control youths sentenced to DYS, the average term of confinement was 118 days.

- Behavioral infractions in boot camp—Of the 80 youths who successfully completed the residential phase through cohort 14, a total of 151 total behavior infractions were recorded.

3.3 Aftercare Phase Outcomes

A total of 80 youths graduated from the boot camp and entered aftercare programs. Most of these youths transitioned to the Wyatt Academy aftercare program, which was closed in March 1994. Due to limitations in the study design, no parallel aftercare information for control group youths is available for analysis.

The data that is available has been analyzed concerning:

- Transitional living arrangements—Of the 62 youths for whom information is available, 61% lived at home with some combination of natural / step-parent(s), while 29% lived in a foster home.

- Aftercare phase youth dispositions—Of the 80 youths who successfully completed the residential phase and were released into the community to fulfill the required aftercare commitments, only 15 (18.8%) were graduated from Wyatt Academy.

- Duration of aftercare services—Of the 69 experimental youths who graduated from boot camp and were transitioned to Wyatt Academy, 61% experienced attrition within 90 days. For the 69 youths who entered Wyatt, the average stay was only 130 days.

- Positive outcomes during aftercare—Based on 62 youths for whom data is available, 20% secured some sort of employment, almost 15% obtained counseling from proctor care or specialist care providers, 8% received counseling with their families, about 33% received New Pride drug and alcohol treatment, 5% were reported to have performed any community service, and 8% were reported to pay some restitution to the courts.

4. ANALYSIS OF RECIDIVISM FACTORS

4.1 Data for Recidivism Analyses

Follow-up information for the juvenile offenders assigned to the Denver Juvenile Boot Camp demonstration project was accessed from the Colorado State Judicial Department data base by the DYS Planning and Evaluation team. Information related to recidivism, defined as the first juvenile adjudication or adult conviction for a criminal offense after release from confinement, was gathered for both juveniles assigned to boot camp and control subjects.

4.2 Residual Samples

A total of 240 youths were selected and assigned to the experimental (124) and the control (116) groups, through cohort 14. Of the 124 experimental group youths, twenty-five failed to complete the residential phase, while nineteen were selected and randomly assigned but never entered the residential phase. All 44 were excluded from the recidivism analyses. These youths were considered special cases whose lack of sufficient exposure to the experimental treatment confounded measurement of a boot camp "treatment effect" and, thus, warranted exclusion from the analyses.

Of the 116 assigned control group youths, 76 were committed to DYS. Of these 76 youths, seven remained in confinement and were therefore not free in the community prior to the reporting cut-off point (November 15, 1994) and not at risk for recidivism. These seven youth were also excluded from the recidivism analyses. Forty of the control youths were released to probation and served no term of confinement. Of these 40, two were excluded from the analyses because their dates of probation were not available.

Thus, the residual samples on which the following recidivism analyses are based include an experimental group of 80 youths, and a control group of 107 youths.

4.3 Methods for Recidivism Analyses

A two-step process was used to examine recidivism differences between the two groups. First, the cross-tabulation between recidivism and group membership was examined. Then Cox proportional hazards regression was used to make recidivism comparisons between the experimental and control groups removing the effects of any group differences in background or demographic factors.

The assessment of treatment group differences in recidivism in Denver was limited by the high attrition rate out of the original sample. The overall numbers for each group were sufficient to test for general group differences, but multivariate testing controlling for relevant group differences was limited because breakdowns of the treatment groups by several other variables would lead to subgroups that were too small to be adequately analyzed.

4.4 Results of Recidivism Analysis

Baseline Group Comparisons

Experimental youth appear to recidivate faster in the first year. Then the control youth rapidly catch up for a total of 38.8 % of the experimentals recidivating and 35.5% of the controls recidivating. Re-offending experimental youths demonstrated a shorter survival period than the control group: the 31 re-offending experimental youths averaged 248 days from the point of release from confinement to the date of a new adjudicated offense, while the control youth averaged 275 days from point of release to date of new adjudicated offense.

Using Cox regression to examine the risk of recidivism across time for the two treatment groups, there was no indication of a significant overall difference between the groups in risk of recidivism, nor was there any indication of a significant difference between the two groups in timing of recidivism.

Multivariate Comparisons of Experimental and Control Group Recidivism

Multivariate analyses were conducted to ensure that group differences in background factors, criminal or social history, or demographics were not masking or suppressing indications of actual treatment group differences in recidivism and to ensure that these same group differences were not responsible for the appearance of no timing differences in recidivism between the two groups.

No subsample group differences were found in prior alcohol use or prior gang involvement. There was no indication of any differences in probability of recidivism for the two groups when controlling for prior drug use. In addition, there was no indication that the relative risk of recidivating for the two groups varied over time, i.e., the rate of recidivism was not significantly different between the treatment groups at <u>any</u> point in time.

Separate analyses comparing recidivism in the experimental and control groups were run for youth whose original disposition was probation and youth whose original disposition was

DYS. No differences were found in recidivism between experimental and control youth in either subgroup.

In summary, the analyses indicate:

- There was no significant difference in recidivism between the experimental youth and control youth
- Treatment group differences in selected background, criminal history, social history, or demographic characteristics were not masking a treatment group difference in recidivism
- Rate of recidivism between the treatment groups did not vary over time even when controlling for group differences on selected background, criminal history, social history, or demographics characteristics.

4.5 Subsequent Offenses

An analysis was performed of the types and levels of offenses committed subsequent to treatment to determine if, while not preventing subsequent new offenses, treatment was related to later offenses of lesser severity, lesser number, or differing type. This form of analysis requires extensive information on recidivism including multiple subsequent offenses--information which was not always available. Likewise, the important issue of a "monitoring" effect (i.e., whether one group of youth was at greater risk of being detected for new offenses because of more intensive scrutiny and observation during aftercare) could not be explored because of insufficient data.

Description of Severity and Type of New Offense

Of those youths in both groups who re-offended, the distributions of offenses by type or class (felony/misdemeanor), or severity (combined type and class) were found to be similar. There were no differences in the proportion committing person and public order/drug crimes for the two groups. However, experimental youth were much more likely to commit property offenses and control youth were less likely to commit property offenses.

Results of Analyses of Patterns in Type and Severity of Offenses over Time

In looking at patterns in type and severity of offense over time, these analyses examined the possibility of a suppression effect of either type of offense or severity as a result of the boot

camp experience among youth who committed new offenses as their recidivating incident. The analyses indicated that:

- Type of offense—No statistically significant relationships between type of committing offense and type of recidivating offense were found for the entire group or for either treatment group.

- Level of offense—There was no significant relationship between level of committing offense and recidivating offense for the entire group or for either treatment group.

- Indices of severity of offense—No evidence of a systematic relationship either reflecting similar severity for both offenses or a suppression of severity of the recidivating offense for the entire study group or for either treatment group was found.

These initial analyses indicated no relationship between committing offense and recidivating offense and thus provide no support for the idea that treatment systematically suppressed the level or type of the first subsequent offense. These analyses, however, were severely limited by our inability to track trajectories of offense.

5. DEMONSTRATION COST ANALYSIS

A documentation and analysis of costs associated with the Denver boot camp initiative was conducted as a preliminary step to presenting cost-effectiveness measures of the boot camp intervention, compared with alternative sentencing options in Denver. The objective is to document demonstration costs on the basis of available cost and resource data over the course of the project to date, from October 1991 through the project's end in December 1994. The analysis includes unit cost calculations and a comparative cost analysis--based on data compiled and supplied by the Colorado Department of Human Services, Office of Youth Services.

5.1 Unit Cost Calculations

Using costs available to this point, two critical unit cost measures can be calculated: cost per youth per day and cost per offender. The **cost per day** can be defined as the total cost of providing services to an individual youth on a daily basis, and can be calculated to reflect residential and aftercare services separately. The cost per day is a function of the average total number of youth being served over the measured period. The **cost per offender** can be defined as the total cost of providing services to an individual youth over the full program duration, or his entire length of stay.

5.2 Comparative Cost Analysis

The **cost per day** of providing residential services was significantly lower for boot camp youth ($53.51) than for the subset of control youth who were confined ($138.97). The theoretical cost of providing aftercare services per youth per day was also considerably lower ($16.69) than the actual cost per youth per day for control youth ($28.22), though this comparison is of limited value. The average cost per day from entry into confinement through release from aftercare for experimental youth ($29.50) is less than half the average cost for the subset of confined control youth ($63.83).

For control youth sentenced to probation, however, the total average per day cost of $1.99 is considerably lower than the average daily cost of boot camp plus aftercare ($29.50). The combined weighted average daily cost of providing treatment services to control youth (including youth confined and youth released on probation as a whole) was $42.51, or nearly 45 percent higher than the average daily cost of providing treatment services to experimental youth ($29.50).

Using length of stay, or duration of services, **cost per offender** measures can be calculated and compared. Based on an average term of confinement in boot camp of 96 days and an average length of aftercare of 180 days, the cumulative total treatment cost for experimental youth is approximately $8,141 per youth. Among control group youth who were confined, based on a 118-day average term of confinement followed by a 249-day aftercare period, the cumulative total treatment cost is approximately $23,425, or nearly three times the total treatment cost for experimental youth. Among control group youth who were released immediately to probation, based on an average probationary period of 475 days, the total treatment cost is approximately $944. The weighted average total treatment cost among control group youth as a whole is $15,673, or nearly twice the total treatment cost for experimental youth.

Thus, the total cost of treating experimental youth is considerably lower than the total cost of treating control youth. This is primarily a function of the fact that the majority of control youth were confined in an institutional facility where residential and aftercare costs are significantly higher than for experimental youth participating in the boot camp.

6. KEY FINDINGS AND LESSONS LEARNED

6.1 Key Findings

The following key findings are based on the two years of operations of the demonstration boot camp program in Denver:

- The boot camp model prescribed by OJJDP was not fully implemented in Denver. The residential phase was relatively stable for two years of operations, but the instructional component of the program was diluted by the loss of and inability to replace one of two educational staff. The aftercare component enjoyed some relative success with the first six cohorts, but produced no graduates after that. The aftercare program was understaffed, provision of services was limited, and coordination of services was poor.

- The recidivism rate was comparable for experimental (38.8%) and control (35.5%) groups.

- The cost per day and cost per offender were less for the boot camp residential phase than for DYS confinement. Aftercare costs for the boot camp program also appear to be less, but are calculated on the basis of prescribed rather than actual days of participation and full capacity rather than actual attendance.

6.2 Lessons Learned

Management

Coordination of a multi-phase program requires formal procedures at all levels of staff for disseminating information, resolving program issues, and making program adjustments that are sensitive to interphase and intraphase impacts. Specific lessons learned included:

- Staff lack of knowledge of program phases can lead to misinformed youth and misconceptions of the program

- Division of program responsibility needs to be accompanied by a system for accountability

- Clearly defined roles and responsibilities must be established for case management, and consensus on these roles achieved

- Coordination between the program staff and ancillary organizations (e.g. probation, public schools, proctor care) requires planning; many linkages with ancillary organizations were neglected in Denver's program design.

Selection and Screening

Medical and psychological screening is a vital part of the selection process. Assignment to the study should not occur until a formal/standardized screening has been completed, coordination with the court and with third party payees has been accomplished, and arrangements to detain or track youth until study entry have been implemented.

Case Management

Case management should be consistent for each youth throughout the program. Probation officers do not have adequate time or resources to serve as effective case managers. Switching case managers for each phase is also not an adequate solution.

Improved tracking procedures for youth not in detention prior to boot camp entry or after community release are required. Additionally, responsibility and procedures for engaging youths who are absent from the program must be defined.

Youth should be fully informed of all stages of the project at intake, including aftercare and accountability phases. This will prevent misunderstanding about program expectations for the youth and family.

Aftercare

Aftercare services must be dynamic in order to adjust for diverse youth experiences, social/home environments, and needs. Transition from the residential to the aftercare phase is an important stage in the program and requires coordination and commitment from all staff to ensure that youth are not "dropped." Specific lessons learned include:

- Transition planning needs to begin early in the youth's residential stay.
- Transition planning should capitalize on experience with youth gained by drill instructors, teachers, and case managers. Family buy-in is a critical component of transition planning. Ideally, aftercare planning would involve all staff who are influential in the youth's boot camp experience and all who will be involved in the aftercare experience.
- The feasibility of a structured living arrangement prior to community release should be evaluated. This type of setting would allow the youth to gradually integrate positive behavioral changes attained in the boot camp experience into their environment.
- Aftercare services require the flexibility to meet each youth's needs. Vocational skills and employment placement are critical components of an aftercare program.

Program Implementation

Failure to make community linkages and utilize existing resources contributed to overloading staff at each phase with multiple roles. Early and continuing staff training will

facilitate the flow of communication, foster creative solutions, and strengthen commitment to program goals and objectives.

Lack of an accountability phase leads to a lack of closure for youth. Since one of the guiding principals throughout the project is shared experience and positive peer group formation, the inability to implement an accountability phase where youth as independents are able to occasionally reunite with their cohort and relive/remember the program, diminishes the chances of the experience having a continuing impact.

6.3 Further Evaluation

Because the demonstration project was closed in March 1994, and because of the data limitations that have been discussed in this report, further evaluation of the project in Denver is not recommended.

I. INTRODUCTION

I. INTRODUCTION

This Interim Report presents the preliminary findings of the Evaluation of the Impact of Boot Camps for Juvenile Offenders Demonstration project operating in Denver, Colorado since April 1992. This introductory chapter is organized in the following sections:

- Demonstration project in three sites
- Overview of the three site projects
- History of the evaluation
- Summary of the evaluation objectives and methodology
- Data collection roles and responsibilities
- The Interim Report sample.

The chapter concludes by outlining the organization and objectives of the chapters that follow.

1. DEMONSTRATION PROJECT IN THREE SITES

In July 1990, the Office of Juvenile Justice and Delinquency Prevention (OJJDP), in cooperation with the Bureau of Justice Assistance, announced and invited applications for an initiative to develop and test a juvenile boot camp program intended to emphasize discipline, treatment and work (DTW) and to focus on a target population of adjudicated, non-violent, juvenile offenders under age 18.[1] The strategy for development of the prototype consisted of three stages, during which successful applicants were to conceptualize the program model based on the announcement design, to develop training and technical assistance materials to operationalize the model, and to test the experimental prototype. Performance during these three pilot stages was to be monitored by OJJDP and used to affirm each partnership's status as a demonstration site through continued funding.

In September 1991, cooperative agreements were competitively awarded to three public-private partnerships representing Cleveland, Ohio, Denver, Colorado, and Mobile, Alabama. Completion of pilot activities was funded by an 18-month initial award to each, followed by a second non-competitive continuation award. Each of the three experimental boot camps became operational in April 1992.

---

[1] Office of Juvenile Justice and Delinquency Prevention (OJJDP), U.S. Department of Justice. *Federal Register* program announcement, Vol. 55, No. 134, July 1990.

2. OVERVIEW OF THE THREE SITE PROJECTS

In its program announcement, OJJDP established several criteria for the demonstration. The juvenile boot camps were intended to provide "constructive intervention and early support," and to be an intermediate sanction program that would serve as a criminal sanction, promote basic, traditional, and moral values inherent in our national heritage, increase academic achievement, provide discipline through physical conditioning and teamwork, include activities and resources to reduce drug and alcohol abuse among juvenile offenders, encourage participants to become productive, law-abiding citizens, promote literacy by using intensive, systematic phonics, and instill a work ethic among juvenile offenders.

The target population was to be non-violent juvenile offenders who were at high risk of continuing involvement in delinquency and/or drug and alcohol abuse, adjudicated delinquent and awaiting implementation of court disposition, under 18 years of age, with no history of mental illness, not be considered violent or have a history of involvement in violent crimes, not be an escape risk, demonstrate motivation to participate in the program, and not include serious habitual offenders who ordinarily would be assigned to a correctional institution.

OJJDP also specified that the intervention was to consist of four phases over twelve months:

1. **Selection**, in accordance with the established criteria
2. **Intensive Training** in a highly structured residential program of no less than 90 days
3. **Preparedness**, consisting of intensive supervision while pursuing academic and vocational training or employment, and lasting six months
4. **Accountability**, during which program staff were to guide services provided by community public agencies and private organizations; this phase was also to include payment of restitution, and was to last three months.

The preparedness and accountability phases constitute the aftercare portion of the intervention, the nine months of which, in comparison to the three-month residential phase, belie the popular notion of a "boot camp" as a period of confinement under intense military discipline. The cornerstone of the OJJDP program design rests in the selection phase, when eligible participants were to be randomly assigned to experimental and control groups.

Within the parameters established by OJJDP, the three participating sites were guided by distinct philosophies, approaches, and specific objectives in developing and operationalizing their respective experimental boot camps. The three experimental projects were initiated within unique judicial and institutional settings and under organizational and operational conditions peculiar to each. In addition, there are critical cross-site differences in the type of youth targeted and served by each program, particularly with respect to the extent and severity of prior criminal history.

In Cleveland, program development and design followed a treatment approach in accordance with the theoretical underpinnings of the normative model. Rather than emphasizing the punitive aspects of incarceration, the conceptual core of the initiative was centered on learning and skill building within a positive culture. Blending military features and characteristics (e.g., techniques for indoctrination, training and regimentation) into the program concept only insofar as to complement and buttress the normative treatment model represented a considerable developmental challenge. Youths selected for the experimental and control groups in Cleveland were drawn from a pool of youths destined, at adjudication, for confinement in state or county institutional facilities; they constituted the most serious group of offenders of any of the three project sites. In addition, youths in Cleveland were given an opportunity to "select" boot camp by signing a voluntary statement, whereas youths in Denver and Mobile were required to participate.

In Denver, the program was conceived as a military-style boot camp from the beginning, with traditional treatment components de-emphasized and relegated to a secondary position. The boot camp was envisioned as a considerable mental as well as physical challenge for participating youths, and to "remain standing" or complete the boot camp was to be regarded as a significant personal victory. Thus, the objective was to first instill ethics, values and discipline and to promote self-esteem in preparation for approaching other life challenges, such as the commitments of school and work following the boot camp experience. Denver differs from the other two sites in that its aftercare program did not remain operational for the entire project duration. Representing another important departure, Denver drew its sample of participating youths in part from committed youths, but also from youths who otherwise would have been placed on probation.

In Mobile, the program concept philosophically resembled its Denver counterpart in emphasizing traditional military skill building, but also devoted more than 50 percent of each day to life skills and educational development. An emphasis on environmental awareness and outdoor activities—the program is called the "Environmental Youth Corps"—distinguishes the Mobile program from the operations in Cleveland and Denver. Youths participating in the

Mobile initiative were, as a whole, the least serious offenders of any of the three project sites; while some would have been confined, the majority would have been released on probation.

These major differences in treatment modalities and operational experiences, as well as differences in the criminal backgrounds of selected youths across the three sites, preclude data aggregation across sites and call for separate analyses for Cleveland, Denver, and Mobile.

3. HISTORY OF THE EVALUATION

Under contract to provide evaluation services to the Office of Juvenile Justice and Delinquency Prevention (OJJDP), Caliber Associates was tasked in the summer of 1993 to conduct an evaluation of the impact of the three boot camps for juvenile offenders. Research to evaluate the impact of the three experimental boot camps had been initiated by a team from the American Institutes for Research (AIR) and the Institute for Criminological Research (ICR) at Rutgers University. Data from the first 17 months of boot camp operations had been collected under the AIR/ICR research design. In order not to lose that data, Caliber's research design incorporates key features of the earlier design, but also builds upon it to accommodate changes that had occurred in the three programs.

The research design for the impact evaluation as conceived by the AIR/ICR team went through several iterations in response to changes in scope made by agencies in the Office of Justice Programs and simultaneous budget constraints. The initial design, submitted in June 1992, called for a 24-month impact evaluation to begin in October 1992 and culminate in a final report to be submitted in September 1994. Data analysis was to be done on a sample of as many as 260 but at least 160 youths in both the experimental and control groups in each site, and include recidivism data for a period of 6-21 months. The sample was intended to include youths from the April-September 1992 cohorts, but with the flexibility to drop some cohorts to allow for "shakedown" of boot camp operations and finalization of data collection instruments.

A revised design submitted in September 1992 called for case studies of the three boot camps to be conducted from October 1992 through September 1993. The reduction of the study from two years to one meant cutting a year off data collection, thereby restricting data to be analyzed to the projected 120 experimental and control youths who were to be selected in the first 12 months of operations in each site, i.e., April 1992 through March 1993. The restricted time frame would also necessarily severely restrict the analysis of any recidivism data.

Another revised design was submitted in December 1992, and additional revisions were proposed in March 1993, but the one-year time frame and the sample size of the September 1992

design remained in effect, as did the data collection instruments that had been proposed in September. A final research design for an impact evaluation, including analysis of recidivism data, was never formally implemented, but for all practical purposes the evaluation went forward using procedures and instruments that were developed between April and September 1992.

The cornerstone of the design, in accordance with OJJDP's original announcement of the juvenile boot camp demonstration project, is random assignment of eligible youths at each site to experimental and control groups. Each site has its own set of eligibility criteria. As pairs of youths are determined to be eligible for the experiment, they are identified to the research team, which randomly assigns one to the experimental group and the other to the control group. ICR performed this function from April 1992 through August 1993; Caliber Associates officially took over the assignment process on September 1, 1993.

At that time, Caliber requested that the juvenile boot camp sites continue using the AIR/ICR data collection instruments for purposes of the impact evaluation. The evaluation research design promulgated by Caliber in draft form in May 1994 and in final form in September 1994 incorporated key features of the earlier design, but also supplemented data collected via the original data collection instruments with additional data that were determined to be available from other sources.

4. SUMMARY OF THE EVALUATION OBJECTIVES AND METHODOLOGY

OJJDP's program announcement of boot camps for juvenile offenders states that the evaluation "will be designed to determine the extent to which adjudicated juvenile offenders as program participants:

- Receive punishment and are held accountable for their adjudicated criminal behaviors
- Continue their education and improve their academic performance
- Acquire work skills and experience, as well as a work ethic
- Are motivated to become productive law-abiding citizens
- Receive treatment that serves to reduce their involvement in drug and alcohol abuse."

In addition, program costs are to be documented; one of the basic premises of using boot camps as an intermediate sanction is that they will be cost effective. All of these evaluation objectives are to be determined within the framework of random assignment to experimental and control groups.

In consideration of OJJDP's evaluation objectives, the following key questions were established to guide Caliber's evaluation of the impact of boot camps for juvenile offenders:

1. To what extent are the experimental and control groups similar?

2. What is the rate of successful completion of the boot camp intervention?

3. To what extent do experimental youth receive the services prescribed for them?

4. To what extent does each group (experimental and control) demonstrate positive signs of program impact?

   - Payment of restitution
   - Completion of community service
   - Return to school/completion of GED/vocational training
   - Employment.

5. What is the recidivism rate of the experimental group compared to that of the control group?

6. Is the boot camp intervention cost effective?

That the experimental and control groups are similar is a fundamental hypothesis of the study.

5. DATA COLLECTION ROLES AND RESPONSIBILITIES

Information on experimental and control group youths has been collected over the course of the demonstration using procedures and instruments that were originally developed by the AIR/ICR team between April and September 1992. In Denver, four data collection instruments were used to capture data for the evaluation, including:

- **Intake Form**, completed at intake for both experimental and control group youths, based on criminal and social histories in court records. The form was completed by the DYS researcher hired for the project with the assistance of DYS client managers and probation officers. Thus, the intake form was completed by a third party.

- **Staff Rating Form**, completed by Drill Instructors at the beginning and in the final week of the boot camp residential phase, used to rate bootcamp youth's behavior in terms of respect for authority, self discipline/control, responsibility, integrity, teamwork, personal appearance/bearing, social behavior, and work ethic.

- **Boot Camp Exit Form**, completed upon graduation from the three-month residential phase, or expulsion, or dropout; indicates distinctions and discipline problems and, if exit was premature, the reason why and the new sentence imposed.

- **Aftercare Tracking Form**, completed at the end of the fifth month of aftercare or upon premature exit; includes information on program participation and services received during aftercare, or reason for premature exit and subsequent disposition. This form was filled out by the Aftercare Coordinator.

In Denver, these instruments were not available in time for the implementation of the data collection process. In almost half of the cohorts, some data forms had to be reconstructed. The instruments were revised at least once over the course of the evaluation, with some instruments undergoing several revisions. Feedback from project staff indicated that data collection forms did not always use measurements that coincided with Denver's existing juvenile data system and that form completion was vulnerable to error based on the use of retrospective and subjective data.

Supplemental pre-demonstration criminal history and all post-placement offense and court involvement data required for this Interim Report were compiled by the research team of the Division of Youth Services. Data management screens on each youth involved in the study were printed from the Juvenile Court management information system. After hard copy reports were printed for each youth, the forms were assessed and several key data elements were extracted from the screen print-outs for post-placement offense data and entered into a database file in preparation for its transfer to Caliber for analysis.

In addition, the Juvenile Court and DYS supplied critical movement data, consisting of a log of original facility entry and release dates and any subsequent facility entry and release dates for both experimental and control group youths, which was used to calculate the length of time each youth was not in a secure facility and, therefore, free in the community to recidivate. Project cost data required of the evaluation, including total two-year demonstration costs-to-date as well as parallel cost data for the placement of youths in DYS facilities or probation, were supplied by DYS and the Juvenile Court.

6. THE INTERIM REPORT SAMPLE

Since the inception of the demonstration project in 1991, boot camps have proliferated across the country and have acquired high visibility in the national media, Congress, and the Executive Branch of the Federal government. As a consequence, OJJDP is under pressure to report results before the demonstration can run its full course. In response to that pressure, the technical conditions required to conduct preliminary analyses were assessed, including sufficient sample size and time free to recidivate, in order to establish a schedule for issuing an Interim Report of the evaluation results.

The sample size desirable for the experiment was determined by power analysis to be 155 for both the experimental and control groups in each site.[2] However, all three sites went through a "shakedown" period in the first months of operation, making it desirable to oversample in order to be able to drop the first two cohorts from the analysis if they should prove to be outliers. Despite efforts to expand the eligible pool of youth, Denver was not able to meet the desired sample size. The cessation of the formal residential phase of the project occurred after the fourteenth cohort completed the residential phase in March of 1994. Thus, analyses contained in this interim report are based on the experiences of the experimental and control youths in cohorts 1-14 and represent a sample size of 124 and 116 for the experimental and control groups respectively. A full discussion of the sample size is presented in Chapter 3.

7. ORGANIZATION OF THE REPORT

The purpose of this report is to summarize the key interim findings from the operation of the boot camp for juvenile offenders demonstration project in Denver, Colorado based on the experiences of experimental and control group youths in cohorts 1-14. These findings have been developed on the basis of the evaluation methods and analyses promulgated in the Evaluation Research Design, issued in draft form in May 1994, and finalized and approved by OJJDP in September 1994.

Following this introductory chapter, Chapter II presents a detailed account of the boot camp project design, implementation and operational issues in Denver, including discussions of

---

[2] Sample size was determined using Cohen's d. Cohen's d is a measure of the difference between population means in standard deviation units. Cohen defines small, medium, and large effect sizes as .2, .5, and .8, respectively. A small effect of a treatment can be detected with power of .80 and alpha (Type I error rate) of .05 using a sample size of 155 ($n=(Z_\alpha-Z_\beta)^2/d^2=155$). In other words, this study is a standard design in which there is a 5 percent chance of rejecting the null hypothesis when it is true (Type I error) and a 20 percent chance of accepting it when it is false (Type II error) if the sample size is at least 155.

project objectives and philosophy and the mechanics of the evaluation, as well as descriptions of the operational environment, funding sources, organization and staffing, and facilities and services. The description of the project design and implementation is based on the process data collection site visits, conducted in February and November 1994, as well as on a comprehensive review of project documents and materials supplied to the project team by staff in Denver.

Chapter III presents a documentation and description of key project interim outcomes, including critical design, service delivery, and youth outcomes. In addition to assessing experimental and control group comparability, the chapter examines client flow and service delivery outcomes as well as youth performance and accountability outcomes.

Based on outcome data presented in descriptive and statistical format in Chapter III, Chapter IV presents an analysis of recidivism data and testing of key success and recidivism hypotheses which can be supported on the basis of data available to date. The focus of the chapter is on the comparative rates of re-offending among experimental and control youth following release, as well as the factors affecting the comparative rates.

Findings on demonstration project costs and resource requirements, as well as interim estimates of the cost-effectiveness of the boot camp treatment, juxtaposed with parallel measures for other placement options in Denver, are presented in Chapter V. These findings are based on cost and youth case data provided by the State of Colorado Department of Institutions and the Denver County Juvenile Court, supplemented by information obtained during process interviews.

Conclusions that can be drawn and recommendations that can be made based on the interim findings of the boot camp demonstration project in Denver are presented in Chapter VI.

II. PROJECT DESIGN, IMPLEMENTATION, AND OPERATIONAL HISTORY

II. PROJECT DESIGN, IMPLEMENTATION, AND OPERATIONAL HISTORY

This chapter describes the design, implementation and operational history of the boot camp for juvenile offenders demonstration in Denver, Colorado. The information contained in this chapter is based primarily on site visits to meet with the residential and aftercare facilities' staff and staff of the Division of Youth Services and the Denver County Juvenile Court, conducted in both February and November 1994, but also on the body of documents compiled over the course of the initiative, beginning with the original and supplemental grant applications submitted to OJJDP. The purpose of this chapter is to establish a context for the findings presented in subsequent chapters.

1. BOOT CAMP PROJECT DESIGN

The Denver boot camp initiative is a four-phase program designed to provide a highly structured, intermediate sanction that would reduce crowding in long-term institutions and provide a constructive intervention for high risk juvenile offenders. The following sections identify the objectives of the Denver initiative and the theoretical framework on which the initiative is based, briefly describe the experimental design specific to Denver, and provide descriptions of the placement destinations of comparison group youths in Denver.

1.1 Project Objectives and Theoretical Framework

The trend to "get tough" on juveniles has resulted in overcrowding in Colorado institutions. Consequently, resources tend to be driven by the need to increase bed capacity and maintain safety in crowded facilities rather than by the need to provide rehabilitative services to juveniles and diminish juvenile recidivism. The boot camp initiative was seen as a promising solution to Colorado's situation. The initiative would satisfy public sentiment for sanctioning youths by removing them from the community and using a strict military model to modify their behavior. Secondly, the initiative was conceptualized as providing rehabilitative services with a focus on developing the skills that were needed for community integration. Lastly, the initiative had the potential for cost savings.

The seven broad goals of the project, as described in the original October 1990 grant to OJJDP, proposed that the boot camp initiative would:

- Reduce recidivism
- Cost less than current services

- Reduce overcrowding in DYS facilities
- Be an acceptable sanction for delinquent behavior
- Serve as a model for structuring public/private partnerships
- Be suitable for replication elsewhere
- Contribute to the body of knowledge of what "works" in juvenile corrections.

Objectives outlined to reach these goals constitute the primary components of the program. These include the following items:

- Identify target youths from DYS assessment, randomly assign to experimental or control groups, and assure that control youth receive DYS services and experimental youth receive boot camp services
- Design a residential component that emphasizes discipline and teamwork while providing educational and vocational services
- Design a community preparedness phase that emphasizes vocational and work skills and education
- Design an accountability phase that supports continued school or job placement, family/community integration, and physical conditioning
- Provide family services and provide support for families to create a positive living environment for youths who can be returned to their homes
- Provide drug and alcohol assessment, intervention, and if necessary treatment
- Require restitution through community service or monetary payment
- Provide intensive case management, including individual performance workplans.

Other objectives included assisting in research and evaluation sponsored by OJJDP, developing a policy and procedures manual for the program, and developing and disseminating information on public/private partnerships for serving juveniles.

The project was designed to include four phases over a one-year period. Each phase is characterized by decreasing intensity and increased integration into the community. The first phase is assessment and intake into the program, the second a 90-day Residential Intensive

Training phase, the third a six-month Community Preparedness phase, and the fourth a three-month Accountability phase. The aftercare component was comprised of phases three and four.

The model for the program is predicated on the notion that individual behavioral changes emphasized in the residential phase of the boot camp will become a foundation for improving educational and vocational skills in the aftercare phase and eventual reintegration into the community. Each phase and its philosophical and operational design are described in the sections that follow.

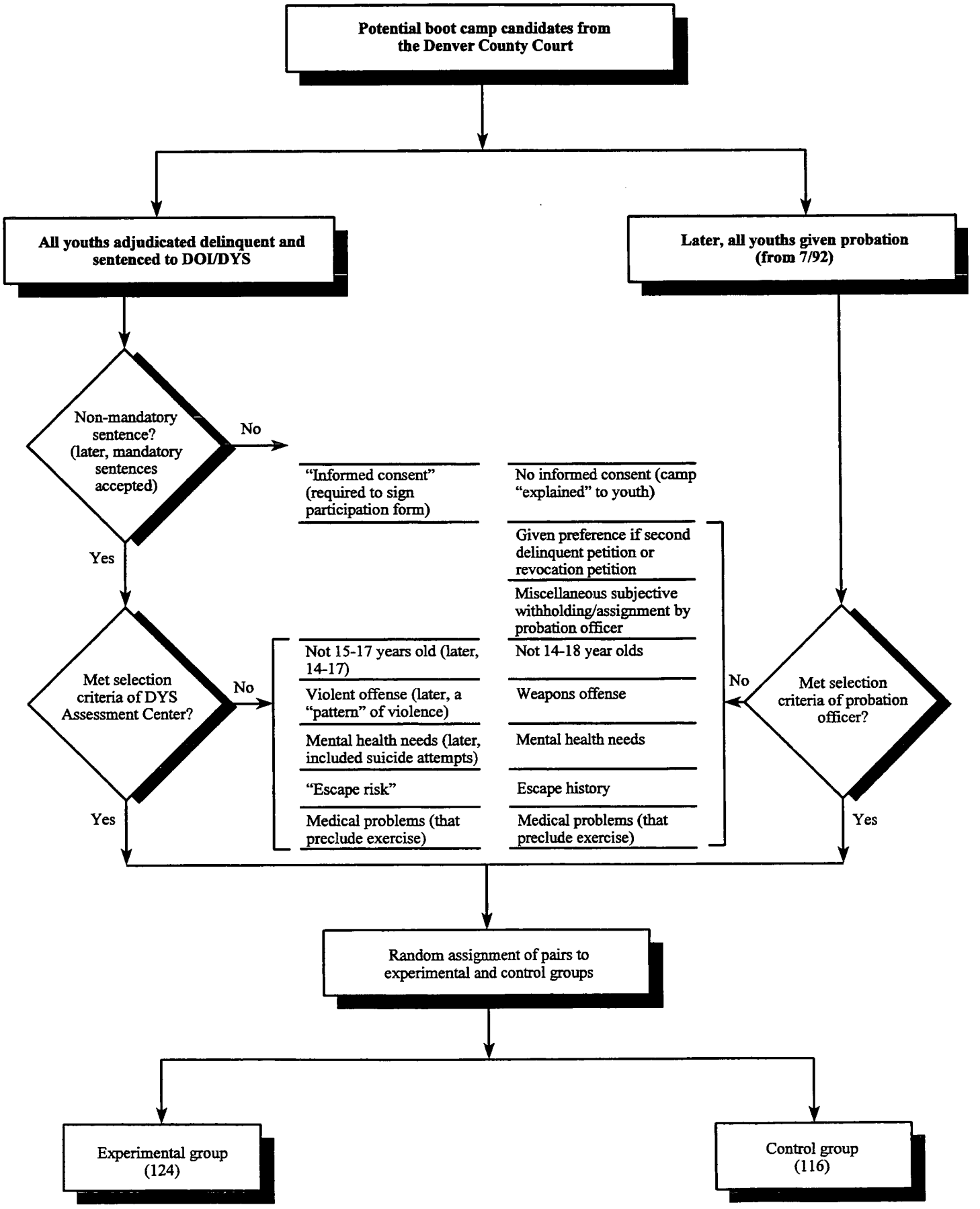
1.2 Screening and Selection

The intent of the screening and selection procedure was to screen all targeted youth to obtain an eligible pool. The eligible pool would then be randomly assigned to either the experimental or control group. Maintaining consistency in screening criteria and selection procedures would ensure the rigor of the experimental design. The original grant specified the following screening criteria for target youths: 15-17 years of age, non-violent offense histories, no known mental health needs, no histories of runaway from secure settings, no medical problems that would preclude them from participating in the physical conditioning regimen, voluntary agreement to participate in the project, and residence in the Denver metropolitan area. Originally, all youth assigned to the study were to have been committed to the Department of Institutions, Division of Youth Services under non-mandatory sentencing guidelines. Exhibit II-1 summarizes the screening process.

All youths adjudicated delinquent and committed to the Division of Youth Services are immediately transferred to a diagnostic/assessment unit where they receive in-depth assessment services. The Denver Metro Assessment Center (DMAC) is a 26-bed facility that services the Denver region. Juvenile offenders with mandatory sentences must be retained by DYS in an out-of-home placement for the specified term. Juvenile offenders with non-mandatory sentences are placed by DYS into a variety of settings ranging from community placements to secure settings, with the length of out-of-home placement determined by DYS. During assessment, youths are tested on drug and alcohol screening, educational needs, physical and psychological health evaluations, and vocational and employment history information. Assessment instruments include both informal measurement and standardized tests, such as the Woodcock Johnson Tests of Achievement and the WISC-R test, which are used to assess educational needs.

Following assessment, all project-eligible youth were to be assigned to the experimental or control group of the demonstration project. Assignment was to be performed by an off-site evaluation contractor who would receive notification of pairs of youth and randomly designate

EXHIBIT II-1
PROJECT SCREENING PROCESS



one as control and the other experimental. Upon assignment to the experimental group, youths were to be interviewed and presented with the choice to participate in the project or not. Youths would give their consent to participate in the project by signing a voluntary participation form. Experimental youth were to be transferred to detention to await the formation of the next cohort to enter the Intensive Residential Treatment phase.

Control youth were to receive the services regularly provided by DYS. They were to be placed in community or secure settings and might be transferred to orientation or detention prior to actual placement. Those youth who failed to meet project criteria or declined to participate in the program were to be withdrawn from the study and in no other way monitored or tracked.

1.3 Residential Intensive Treatment Phase

The boot camp design follows the military model which posits that acceptable behavior can be substituted for deviant behavior by creating a context where individual needs are subordinated to community needs, and sanctions for unacceptable behavior are clearly defined and unequivocally enforced. The theoretical approach is normative: youth were expected to live within the socially accepted norms of the boot camp. The physically demanding regimen, group exercises, peer review panels, and group sanctions for individual infractions reinforce the notion that individuals impact the group. Group viability is to be achieved through group pressure on those who do not conform and group assistance for individuals unable to keep up. Beyond replacing deviant behavior with behavior that receives community approval, the boot camp phase emphasizes the value of work and education.

The primary responsibility for youth in the Residential Intensive Treatment is the Group Leader. Boot camp staff serve as role models to youth, direct their daily activities, enforce sanctions, and instruct youth in their physical conditioning, drill, and other activities.

There are three distinct phases during the 90-day residential treatment. Each phase builds on the previous one, and cohorts graduate to the next succeeding phase only after they have attained the goals of the previous phase. Movement to phases is marked with a change in colored cap. Recruits are expected to improve their physical fitness, drill and ceremony, and military training skills in addition to gaining positive behavioral skills.

Phase I: Total Control

The first month of a recruit's stay is a total immersion in military-style training and regimentation. Intake day is physically and mentally challenging. In keeping with military

tradition, a crewcut is given to each new recruit and uniforms are issued. These actions are intended to symbolically strip each recruit of his past identity in order that a new identity can be built based on the values of self-discipline and achievement promoted during the boot camp experience. Recruits are introduced to Standards of Conduct and informed of sanctions for unauthorized behavior. Guidelines for personal area inspections and hygiene inspections are given. During the first phase, a message is sent to youths that they are under the total control of the drill instructors. All of a recruit's actions are monitored, they are expected to maintain a commitment to excellence, and participate as part of their group. The Total Control Phase is dedicated to indoctrinating youths, and establishing expectations for responsibility, self-discipline, teamwork, physical fitness, and drill and ceremony.

Phase II: Leadership and Responsibility

During this phase, recruits' actions are monitored as a whole platoon. Each platoon is given its own leadership structure, with recruits rotating among leadership positions. Privileges are earned and maintained in accordance with platoon performance. Likewise, unacceptable performance or behavior can decrease or delete privileges. The platoon is the central focus of Phase II and platoons compete against one another in sports and military drill. Leadership is emphasized in classes and in practice within the platoon. Leaders are held responsible for the decisions they make. Each aspect of the training is more challenging as recruits become aware that their individual actions impact the platoon.

Phase III: Reinforcing Personal Values and Respect for Authority

In the last month of training recruits are encouraged to focus on their individual decision-making skills and behavior. They are given incentives to maximize their potential in physical and educational activities. Teamwork is still emphasized yet individual merit is recognized through specialized awards and recognition. The culmination of Phase III is a graduation ceremony in front of family and friends.

1.4 Aftercare

In order to maintain the positive behavioral changes achieved during the residential phase, group reinforcement of norms is necessary and is a design feature of the aftercare phase of the program. Each group that graduated from boot camp was to remain intact during the aftercare phase. This aspect of the aftercare phase is critical since it is believed that the permanence of changes achieved in the camp setting are threatened by the transition to the community.

The objectives of the **preparedness phase** are continued discipline, educational/work experience, and individual skill building. Increased focus on the individual occurs during the community preparedness phase. Individual workplans were to be utilized to tailor services to each youth's needs. Supervision of youth was to be accomplished using a structured daily schedule, curfew, and possibly monitoring systems. The overall emphasis is placed on academic and employment goals and community/home integration. Residential options for the aftercare phase include return to home or to Proctor Care. Family support was to be provided to ensure the environment is supportive of the youth. Youth in the community preparedness phase would work closely with a case manager, the group leader, and a staff of professionals providing specific services (educational, drug/alcohol, vocational, etc.).

The final phase of the program was to continue the services provided in the community preparedness phase. The distinguishing feature of the **accountability phase** was the youth's increased self-sufficiency and integration into the community. Restitution was to be a priority during this phase. The group function becomes more supportive and the group was to meet on a monthly basis at the boot camp for retreats. Youth would be in contact with their case manager during the accountability phase and might come into contact with boot camp or aftercare staff on occasion.

Key to the program design is an integrated case management structure that would help coordinate each youth's transition across the four phases. The case worker is the only individual that has contact with the youth across all four phases of the program. The program design and implementation is dynamic. In order to incorporate best practices and lessons learned, a five-member advisory committee was proposed to guide the development and implementation of the demonstration project.

1.5 Placement Of and Services Provided To Control Group Youths

In the absence of the boot camp intervention, experimental committed group youth would have been held to their original sentences and would be placed in a setting according to DYS procedures. Experimental probation youth would be placed on regular probation. In their respective treatment philosophies and programming, service delivery mechanisms, and facility capabilities, there are similarities and differences between the boot camp program and these alternative placement facilities which provide useful context for understanding outcome data presented in later chapters. The following sections provide general descriptions of the range of programs and services provided to control group youth.

Colorado Division of Youth Services

The Colorado Division of Youth Services has four categories of programs for committed youth. Six facilities fall under the Intensive Secure heading. The largest intensive secure setting is Lookout Mountain School with 132 beds. There are 13 beds at Grand Mesa. The remaining facilities are privately operated and DYS contracts a fixed number of beds from each: High Plains Youth Services Center, Colorado Boys Ranch, Excelsior (females), and Glen Mills (located in Pennsylvania). Youths who are lower risk than those targeted for intensive secure programs are placed in one of five Medium Care settings. Two of the settings are state operated: Grand Mesa and Lathrop Park Youth Camp. The remaining three are private settings: DAYS (Denver Area Youth Services) reflections unit, Colorado West, and Foothills. The third category of placements, Minimum Secure Programs, consist of contracted community based programs including residential homes and foster care programs.

There are three types of commitment to DYS: mandatory, non-mandatory, and aggravated juvenile offenders. Aggravated juvenile offenders are a small proportion of all DYS clients. Their sentences range from three to five years or until the youth reaches the age of 21. Mandatory sentences are up to two years, with mandatory out-of-home placement. Non-mandatory sentences are those in which the court does not specify a minimum sentence length and the maximum sentence cannot exceed two years. Average length of stay for mandatory sentences is 16 months. Non-mandatory sentences, which can result in a number of placements, have a wide variation in length of stay. Whereas the total residential length of stay is 12.1 months, medium and minimum secure settings have an average closer to three months, intensive secure 11 months, and community placements average five months.

Clients of ages 10-21 come to DYS through the courts in accordance with the Colorado Children's Code. Once the court disposes a youth to DYS, they immediately enter a secure, short-term assessment center. As described in a previous section, a battery of tests and assessments are conducted with each youth. Youth with mandatory sentences are immediately placed in an intensive secure facility. Non-mandatory sentences are determined in part using a 4x5 classification grid that classifies each youth according to a recidivism risk score and an offense severity score. The offense severity score is highest for youth with a serious person felony, next highest for those with major property or lesser person felonies, followed by those with minor property, and finally other, less serious misdemeanors.

After determination of the appropriate placement, non-mandatory youth can go to detention awaiting placement, go to an orientation if they will have a community placement, or go directly to their placement. During their first 30 days, each youth is assigned to a DYS client

manager who formulates an individual care plan that maps out the youth's commitment and aftercare arrangements. The DYS client manager continues to monitor and meet with the youth throughout their commitment stay.

The services that are available to youth while they are committed to DYS institutions or to community placements may include:

- Drug/alcohol prevention and intervention
- Individual, group, and family counseling
- Psychological/psychiatric services
- Academic/vocational education
- Recreation
- Social development
- Offense-specific treatment
- Medical and dental care
- Spiritual life and pastoral care
- Community re-entry
- Parole services.

The individual care plan devised by the DYS case manager will impact the services received by each youth. Prior to release date, the same DYS case manager develops an aftercare or parole plan. The activities required for paroled youth are educational enrollment and/or employment. Other components of the plan include drug/alcohol services, including random urine analyses, vocational rehabilitation, and other available services. Youth may also be subject to tracking. Part of the aftercare plan is placement whereby a youth can be paroled home, to relatives, or to a group home or foster care. Youth who are not paroled meet with their case manager up to the point of the expiration of their commitment. They receive no formal aftercare services.

Probation Youth

During the summer of 1992, negotiations were conducted with the Denver County Court to allow probation youth into the boot camp project. Although specifics of the selection and screening criteria as administered by the court will be discussed later, it is important at this point to discuss the services that control youth who came from the probation pool would receive. Probation youth can receive basic or intensive probation services. Basic services consist of at least one contact per week with a probation officer. Intensive services consist of daily visits with a probation officer. All probation youth are required to attend school. If a youth has a problem, the probation officer will serve as a broker for services that a youth may need, including alcohol/drug treatment, anger management, behavioral counseling, and out-of-home placement, among others. Access to services is limited due to funding constraints. Additionally, when

obtained the services are predominantly non-residential. Probation officers are also required to make home visits and establish contact with the family. Aftercare is not applicable to the probation system. Control youth would continue to receive the same visits with their probation officers until a new offense is committed or the probation period is completed.

2. BOOT CAMP PROJECT IMPLEMENTATION AND OPERATIONS

The Denver boot camp initiative selected and processed its first cohort of 12 youths into Foxfire Boot Camp in April 1992, following several months of planning, negotiations, and arrangements. The residential phase graduated its last class in March 1994, when the aftercare program was also discontinued, save for case manager supervision of youth until November 1994. This section briefly describes the implementation and operational history of the Denver project, in accordance with the following framework:

- Project management
- Organization and staffing
- Facilities and infrastructure
- Changes in screening and selection
- Issues in aftercare.

These sections highlight key events, problems, and adjustments from the project's inception to its completion. Exhibit II-2 summarizes the key events chronologically.

2.1 Project Management

The Denver boot camp for juvenile offenders demonstration was conceived as a public-private partnership between the Colorado Division of Youth Services (DYS), in Denver, in cooperation with the New Pride, Inc., also headquartered in Denver. DYS is the original grant applicant and during the course of the project was responsible for administering the grant, serving largely as a project monitoring and oversight body. New Pride, Inc. had operational responsibility for both the boot camp and aftercare facilities, including hiring, training and supervision of all staff, program planning and service delivery, technical assistance, and budget management of local resources employed in the project. A Project Management Team consisting of the DYS Executive Director, Director of DYS Treatment Services, and the President and Vice President of New Pride, Inc. was conceptualized as the vehicle through which program monitoring and problem resolution would be achieved. In addition, a five-member Advisory Committee was envisioned as a means for guiding program design and providing feedback on project implementation. A DYS Project Director was assigned to administer the grant and

EXHIBIT II-2
CHRONOLOGY OF KEY PROJECT EVENTS

First cohort enters Foxfire Boot Camp	APR	1992
	MAY	
	JUN	
First cohort enters aftercare at Wyatt Academy Probation youth formally enter project	JUL	
	AUG	
	SEP	
	OCT	
Data collection forms received	NOV	
	DEC	
First cohort exits aftercare	JAN	1993
	FEB	
	MAR	
DYS Project Director leaves	APR	
	MAY	
	JUN	
Life Skills Coordinator terminated and never replaced (lack of funding)	JUL	
	AUG	
	SEP	
	OCT	
Boot camp Commander fired—replaced by Senior Drill Instructor	NOV	
Death of New Pride President Last cohort enters boot camp	DEC	
DYS takes over aftercare	JAN	1994
	FEB	
	MAR	
Last cohort is graduated from boot camp Boot camp & Wyatt Academy close	APR	
	MAY	
	JUN	
	JUL	
	AUG	
Last cohort exits aftercare	SEP	

coordinate with OJJDP. Data collection and supply to the evaluation contractor were coordinated through a DYS-hired Researcher.

While the division of responsibility between DYS and New Pride was maintained over the course of the project, the relationship created a series of problems and difficulties that undermined project management effectiveness. Initially, during the project design, coordination was reported to be excellent, and the project management team was able to hire staff and resolve several issues surrounding the Juvenile Court sentencing and boot camp placement. As the project was implemented, however, integrated management over the residential phase of the project and the aftercare phase was difficult to obtain. The issues in each phase were handled separately and eventually developed into two distinct services. Staff from the residential phase were frustrated by their inability to communicate with New Pride and jointly resolve issues. The Group Commander for the residential phase was not part of the management team, yet was considered by the DYS Project Manager to have "good control over the residential portion." Issue resolution became divided between the two phases, and coordinated program oversight was not efficient in making inter-phase program adjustments. The proposed Advisory Committee was never fully implemented and thus the project did not benefit from some form of objective feedback.

Two of the most visible manifestations of the management difficulties were the lack of consensus on staff hiring/firing, and program changes. In the fall of 1993 the Group Commander was fired by the President of New Pride, Inc. This decision was not coordinated through DYS and only served to further separate the residential and aftercare phases of the project. Additionally, teachers hired for the Wyatt Academy were criticized by some DYS and boot camp staff as inappropriate. With regard to program changes, difficulties retaining youth in the aftercare program resulted in decisions made by probation officers and case managers to find alternative aftercare placements. The aftercare issue was never resolved and the program changes instituted by case managers were never officially instituted or sanctioned by the project management team. Overwhelmingly, staff in all phases of the project expressed frustration over the disjoint phases of the project and the impact on youth in terms of their continuity of care plans.

2.2 Organization and Staffing

On the one hand, the organization and staffing of the Denver project were remarkably stable. On the other hand, turnover occurred in key positions, and the project suffered from never filling other positions.

As shown in Exhibit II-3, turnover or loss of staff occurred in four key positions. In April 1993, one year after project operations had started and when the sixth cohort had graduated from the residential phase, the DYS Project Director was reassigned to another position in DYS. No replacement was hired for this position; instead, the Deputy Director of DYS added the function to his list of responsibilities. In the summer of 1993 the Life Skills Coordinator at Foxfire resigned, and because of funding cuts the position was not filled. This left only the teacher of academic subjects to conduct the educational program. In November of 1993 the Group Commander was fired, and was replaced by the Senior Drill Instructor; this affected only the last three cohorts. Finally, in December 1993 the untimely death of the President of New Pride left the project without its head. New Pride was forced to go out of business, and the boot camp project was closed in March 1994.

Denver's main staffing issue was the lack of staff. Within the residential phase, only 12 staff originally operated the boot camp. The number of drill instructors increased from five to seven in order to cover all shifts and to be able to have shorter gaps between cohorts. One drill instructor was replaced due to inappropriate behavior.

At Wyatt Academy, the staffing plan that accompanied the original grant included three group leaders, three teachers, an employment/community services instructor, a vocational instructor, and a tracker. Staff hired at Wyatt consisted of a principal, three teachers, and one "coordinator" position responsible for transition to aftercare, discipline/tracking, physical education, and community service among other activities. The staff was supplemented with a certified addictions counselor.

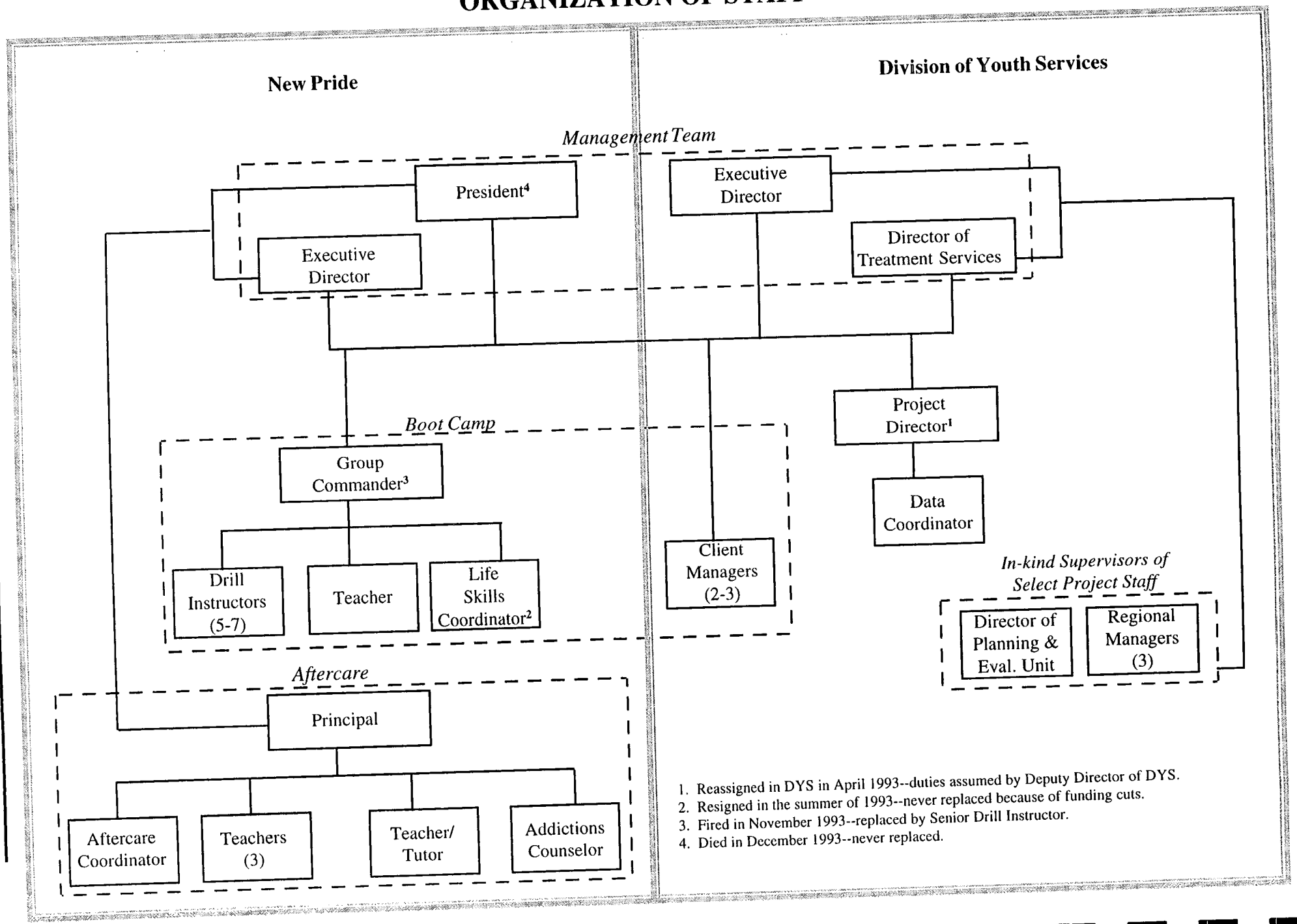
The low turnover in both the residential phase and the aftercare phase is a testimony to the commitment of the staff working in these positions. After the termination of the project, many of the boot camp staff attained equivalent positions at a newly established state-funded boot camp.

2.3 Facilities and Infrastructure

For two years, the residential phase of the boot camp project operated without major disturbance in a stable environment at Camp Foxfire, on the campus of the Mountview facility, a private facility contracted by DYS for medium care placements. Staff report that the co-location of boot camp facilities in a medium secure campus alongside other juvenile facilities created several challenges:

- Antagonism and provocation of boot camp youths by DYS youths during dining and drill and march because of the use of shared dining and gymnasium facilities

EXHIBIT II-3
ORGANIZATION OF STAFF



1. Reassigned in DYS in April 1993--duties assumed by Deputy Director of DYS.
2. Resigned in the summer of 1993--never replaced because of funding cuts.
3. Fired in November 1993--replaced by Senior Drill Instructor.
4. Died in December 1993--never replaced.

- Increased risk of escapes because of the age and security of the building; some activities were conducted in unfenced portions of the camp
- Limited space for physical training; a shared gymnasium was available when scheduling permitted
- Inability to perform certain military customs (e.g., 0530 reveille).

Staff adapted to facility limitations but agreed that an isolated facility was the best location for a juvenile boot camp. The facility did possess an upper body development (UBD) course on the Mountview grounds, which was considered an asset.

The aftercare facility of the project also remained stable, although less than adequate. Despite its location on one floor of a metropolitan office building near New Pride's main offices was considered temporary, Wyatt Academy never moved from this location. The facility was not intended to be used for educational purposes and subsequently did not possess many of the amenities that contribute to the educational experience. One of the key limitations of the space was its separation from other New Pride services and programs. Despite a philosophy of the aftercare design which emphasized academics as separate from ancillary services, the end result was that youth did not take full advantage of drug/alcohol, vocational, and counselling services that were intended to complement the academic portion of the aftercare experience. Another drawback to the aftercare location was its lack of space for physical education. Physical education was intended to be the one activity that was a constant in all phases of the project.

During project design and implementation, improved facilities for both the boot camp and the aftercare component were envisioned. Negotiations were attempted with the objective of moving the boot camp to Lowry Air Force Base after this Denver military installation was closed. The move never happened. Wyatt Academy was intended to be permanently housed in the refurbished Wyatt elementary school. Although renovations to the school were ongoing during the course of the project, they were not completed in time.

2.4 Changes in Screening and Selection

The original intent of the Denver project was that a cohort of 12 to 15 boys would enter the residential phase of the program each month; with the control group, this would require the availability of 24 to 30 eligible boys each month. Those numbers proved impossible to sustain. Three major changes were made in the screening and selection criteria: probation youth were added, participation was no longer voluntary, and the selection criteria were adjusted with respect to age and criminal history. Finally, in the last months of the project, boys were assigned to the

boot camp without going through the random assignment process specified by the research design for the evaluation.

Probation youth were formally added to the boot camp target population as early as July 1992. According to the Chief Probation Officer, probation youth were intended to be included in the target group from the outset, despite their exclusion from the original grant proposal. The continuation grant did include probation youth who were considered at-risk for out-of-home placement in the target group. Starting in July 1992, probation youth were allotted half the spaces (12 per cohort: 6 experimental and 6 control) in the boot camp program. Screening criteria for probation youths included: males age 14 to 18, no weapon offenses, no prior escapes from secure facility, no medical problems, and no mental health needs outside of drug/alcohol treatment. Probation youth were given preference if they were coming before the court with a second delinquency petition or any revocation petition.

As shown in Exhibit II- 1, a comparison of DYS and Probation screening criteria with the original grant shows that differences existed. Age criteria differed for DYS (14-17) and probation youth (14-18); criteria were adjusted to include youth who were under 15 and over 17 in order to more accurately reflect the age of jurisdiction for youths encountered in Denver's juvenile justice system. DYS and probation criteria also differed in their definition of violent offense. No prior runaways from secure settings were included in probation criteria but were expressed more generally as an "escape risk" for DYS youth. Although some of these variations are not critical in light of the fundamental differences between the two populations, they are symptomatic of an inability to maintain a standardized screening process, the ramifications of which were noted by boot camp staff, DYS case managers, and probation officers.

Voluntary agreement to participate in the program was not consistently applied. Although DYS did employ a signed participation form, the participation was not voluntary because of the need to fill the camp. Youth committed to DYS did have a meeting where the boot camp program was explained and they were required to sign off on a participation form. Thus, even though participation was not voluntary some degree of informed consent was reached with DYS youth. Probation youths' experience varied depending on the probation officer and the circumstances. The program was explained to the probationer and family but was not a voluntary participation or informed consent situation. Overall, it is not clear how well or how consistently youth were informed of the entire scope of the boot camp program.

Selection criteria were modified over the course of the grant primarily because of a concern over the size of the eligible pool. Youths with mandatory sentences were allowed in the project. This adjustment created some difficulties as it required client managers to seek parole

for youth in order that they could attend the aftercare portion of the program. Additionally, violent offenders were considered on a case-by-case basis. For example, youths who were committed on a person offense, which would be considered a violent offense, were considered eligible if their criminal history showed no pattern of similar crimes. Selection criteria were also amended to include screening for suicide attempts due to several attempts that occurred in the residential phase.

When adjustments were made to selection criteria they were not necessarily implemented simultaneously for the two target populations. In addition, boot camp staff and aftercare staff were not always satisfied with selection criteria and screening procedures. Committed youth were perceived as more assaultive, and youth with little family support were perceived of as less likely to complete the program. Failure to properly screen each youth physically and mentally resulted in physical and mental conditions that showed up in boot camp and precluded youth from completing the program.

Screening Procedures for Probation Youth

The procedure for screening and selection of probation youth was straightforward. Referrals were filled out by probation officers and sent to the DYS case manager. Assignment to control or experimental groups was accomplished via the contracted evaluator. Information was relayed to the probation officer from the DYS case manager and the probation officer would include the random assignment as the recommendation for the probationer's sentencing report.

The availability of information and the variability in making judgement calls impacted the selection criteria. The effectiveness of screening procedures was questionable in situations where youth were asked questions regarding their physical and mental health status rather than relying on records. Youth could falsify health information in order to avoid boot camp or, conversely, to attend boot camp. Also, if information was not available in criminal history or other client files, probation officers would rely on their own knowledge of the youth or contacts with the family. A subjective assessment of probation youth also occurred whereby a probation officer's assessment of a youth's ability to benefit from the program became a component of selection criteria. Not all eligible probation youth were referred to the program. Probation officers expressed hesitation and did not fully accept the experimental design. They indicated frustration at having a program and not being able to take advantage of it for all youth. In addition, probation officers were led to believe that probation youths assigned to the control group would receive services from New Pride which never materialized.

Effectiveness of Screening and Selection Process

The evolution of the screening procedure caused some variation in cohort make-up, which consequently impacts their comparability. Probation youth were expected to enter the program in cohort 3, yet a few probationers appeared in cohorts 1 and 2. Despite attempts to increase cohort size by including probation youth, and by changing selection criteria, the cohort size ranged from 1 to 15. Exhibit II-4 shows the 14 cohorts that entered the Foxfire boot camp. Cohort size did remain relatively stable yet never approached the camp limit. It is important to note that the last four cohorts contained youth who had been screened and selected according to the aforementioned processes, but also contained youth who did not enter the study. Twenty-six youth entered cohorts 11 through 14 but were not included in the random assignment pool.

Further complicating the selection process were reassessments of security, judicial overrides, inability to obtain resources for probation youth, and mistakes regarding assignment. As shown in Exhibit II-5, 19 youths who were randomly assigned to the experimental group never entered boot camp for various reasons. Four DYS youths were excluded from the program after assignment based on a reassessment of their security risk. Three judicial overrides did not allow youth to enter boot camp. Some probation youth would have received assistance from social services during their stay at the residential boot camp; two youths were refused support from social services and could not enter the program. Finally, several youth re-entered the program a second time or failed to enter because of case mismanagement.

2.5 Issues in Aftercare

Program components of the aftercare phase outlined in the original grant were comprehensive but were not fully implemented. Wyatt Academy, the one formal aftercare program that was implemented, had as its foundation an intense academic experience. Students attended school from 8:30 a.m. to 3:00 p.m. Major subject areas—English, math, science, and social studies—formed the core curriculum. Any complementary activities were performed after school hours. Limited staff and limited access to programs, however, precluded youth from experiencing a comprehensive treatment approach. Physical conditioning and athletics were provided by the aftercare transition coordinator, who used creativity and resourcefulness to locate space and develop activities despite the limited facilities of the building. The work skills and vocational component was never fully implemented, and no staff were hired specifically to provide these services to boot camp youth. The only vocational skills were the leadership and life skills session taught by the aftercare coordinator. Contacts in the local community regarding employment were usually unfruitful and linkages were not developed.

EXHIBIT II-4
DYS/PROBATION ASSIGNMENTS BY COHORTS

COHORT#	BOOTCAMP INTAKE DATE	EXPERIMENTAL		CONTROL	
		# DYS	# PROB	# DYS	# PROB
1	04/15/92	11	1	10	1
2	05/27/92	9	2	7	1
3	07/23/92	5	8	10	1
4	08/27/92	6	3	4	6
5	10/29/92	2	11	4	7
6	01/05/93	4	11	9	4
7	02/25/93	6	4	5	4
8	04/08/93	4	4	3	5
9	05/27/93	3	3	3	3
10	07/29/93	8	1	11	1
11	08/12/93	5	1	2	2
12	08/26/93	1	-	1	-
13	11/17/93	2	6	4	5
14	12/16/93	5	-	3	-
SUBTOTALS		71	55	76	40
TOTALS		126		116	

This exhibit displays actual distribution, which was not consistent with random assignment; the inconsistency in random assignment is explained in chapter III.

EXHIBIT II-5
YOUTHS ASSIGNED TO BOOT CAMP WHO DID NOT ENTER

REASON DID NOT ENTER	FREQUENCY
Security Level Reassessed	4
AWOL Before Placement	3
Judicial Override	3
New Charges/Charges Dismissed	2
Social Services Refusal	2
Medical Disqualification	2
Other Disqualifications	3
TOTAL	19

Educational instruction was provided by a principal and three teachers and was designed to strengthen basic skills. Many of the staff outside Wyatt, however, misperceived the school as offering college-prep courses, unsuitable for the youth. This misconception was most likely due to the uniform requirements of a blazer, shirt and tie. In general, staff outside Wyatt seemed relatively uninformed of the structure and design of the educational component. Several probation officers were not aware that credits obtained at Wyatt were transferrable to the public school system. Lack of information and misconceptions may have been increased by restrictions on visiting the school and the poor coordination among program phases.

Drug and alcohol services were provided through New Pride, with education/prevention classes integrated into Wyatt's curriculum. Community service projects were organized by the aftercare coordinator. In general the aftercare coordinator found it difficult to arrange these projects because of a lack of community responsiveness.

Counselling, family support, and case management involved three parties: the aftercare transition coordinator, probation officers, and DYS client managers. Coordination among these parties was difficult to obtain due to the large caseloads of the DYS and probation staff, a lack of clearly defined responsibilities, and differing degrees of authority. Additionally, DYS client managers and probation officers were not allowed in-school time with youth and had to rely on home visits or after-school meetings.

Handling youth infractions was not a smooth process. Group leaders, who would have taken on some of this responsibility, were not employed. There were no established procedures

for the most frequent program infraction, missing school. Tracking services and curfews, originally proposed in the program design, were never implemented. Instead, the responsibility of reengaging youth was assigned to the aftercare transition coordinator. Depending on the relationship of the aftercare coordinator and client manager, either one would initially contact and reengage youth who did not show up for school. Some probation officers expressed a desire for Wyatt to take the lead on case management and merely keep the probation officer informed. They were satisfied with the information they received and felt that the aftercare coordinator was most effective in managing the youths. Other probation officers and a DYS client manager wanted more contact with the youth and more involvement in resolving infractions. This group was frustrated and voiced an opinion that no-shows and AWOL youth could have been prevented had they been given better access to youth in the program.

The majority of youth did not complete the program at Wyatt Academy. However, many attended the program for several months before they left or were dismissed. As noted by the aftercare coordinator, a gradual decline in a youth's attendance would signal impending failure to complete the program. Client managers and probation officers unanimously agreed that the program did not work for all youth. Issues with the implementation of the aftercare program voiced by DYS, probation, and boot camp staff included:

- **Uniforms**. Children had mixed feelings over uniforms and did not have access or resources to properly launder them.
- **Educational program**. Some felt instructors could not relate to youth in the program and lacked experience with juveniles. It was thought that kids of differing abilities were lumped together.
- **Sanctions**. Termination was felt to be premature in some cases. A reward system was thought to be lacking.
- **Limited access**. Many were frustrated with limited access to youth during the school day for case management needs or visiting.

Several of these issues related to a lack of information. As noted before, coordination among program staff did not exist. In general, staff outside Wyatt did not have much information on the program's structure or design. Rewards did exist and included lunches out or time off. Educational instruction was provided at multiple levels. Wyatt's philosophy of maintaining an education-only school did preclude case management visits but did not prohibit meetings before or after the school day.

Over the course of time, as the program at Wyatt Academy became less effective, an individualized treatment approach was informally instituted by probation officers and DYS case managers who attempted to engage youth in vocational, educational, and drug/alcohol treatment as needed. Some case managers and probation officers set up alternative aftercare arrangements prior to a youth's entry into Wyatt, whereas others waited to institute an individualized plan until a youth was AWOL or was not performing well at Wyatt. The Individualized Aftercare Program (IAP) was also used after Wyatt Academy closed.

3. IMPLICATIONS FOR RESEARCH

The operational difficulties experienced by the Denver project create three issues for conducting the impact evaluation: the overall number of youth in the research sample, contamination of the sample, and the confounding of aftercare treatment.

To be able to report statistically significant differences at the standard level of confidence (.05), the desirable sample size for this experiment was determined to be 155 experimental and 155 control youth. Because of the known "shakedown" period in the first months of operation, an even larger sample size was more desirable, which would make it possible to drop at least the first two cohorts from the analysis if they should prove to be appreciably different from the rest of the sample. The Denver sample of 122 youth, each randomly assigned to the experimental and control groups, was much less then the desired size. The effect of the small sample size is to make it more difficult to detect and report statistically significant differences. The small sample size was exacerbated by the fact that 19 experimental youth never entered boot camp and 25 more did not complete the residential phase, leaving a very small sample size, indeed, on which to perform impact analysis.

The last four cohorts to enter Camp Foxfire, from August through December 1993, contained 20 randomly assigned experimental youth, but also 26 youths who were not part of the study. Some of those 26 youths were known to be 19 years old, but otherwise they were, in all likelihood, similar to the experimental groups with respect to social and criminal histories. The difficulty of mixing non-experimental youth with experimental youth, from a research perspective, is that we do not have data on the non-experimental youth and thus have no way of measuring whatever effect they may have had on the treatment environment or the experimental youth.

Another problem of measurement occurs with respect to the aftercare program, where a substantial number of young men who did not complete the formal program at Wyatt Academy—through AWOLS, expulsions, displacement, and other factors—received treatment

through regular probation or DYS case management programs. In other words, they received the same aftercare treatment as the control group. The mixture of treatment makes it difficult, if not impossible, to attribute any treatment effect to the formal aftercare program.

Each of the three factors discussed here imposes limitations on the study. The findings that are presented in the following chapters must be considered in the context of those limitations.

III. YOUTH CHARACTERISTICS AND PROGRAM OUTCOMES

III. YOUTH CHARACTERISTICS AND PROGRAM OUTCOMES

This chapter presents a description of the characteristics of the youth selected for the project and the outcomes of the various phases of the boot camp demonstration in Denver, Colorado. The chapter is organized in the following sections:

- Experimental and control group comparability
- Residential phase outcomes
- Aftercare phase outcomes.

Descriptive information contained in the chapter was compiled from interviews conducted in Denver among the project management and operations staff in November 1994. The analyses are based on data compiled from a variety of sources, including data collection forms used over the course of the project, criminal history data bases compiled and supplied by the Denver Division of Youth Services, and program records obtained from program staff during field visits.

1. EXPERIMENTAL AND CONTROL GROUP COMPARABILITY

A total of 244 youths was screened and randomly assigned to the experimental (122) and control (122) groups between March 1992 and December 1993. This section presents a detailed comparison of critical youth background, psychological, behavioral and criminal history characteristics across the two groups. The assessment of group comparability is presented in the following framework:

- Random assignment and sample size evolution
- Data collection and cleaning methodology
- Demographic and family characteristics
- Education experiences
- Drug and alcohol involvement
- Criminal offense history
- Committing offense and risk assessment.

Comparability between the two groups, of course, is an assumption of random assignment, and constitutes a precondition for analyses and findings presented in this and the next chapter. An analysis of control group and experimental group differences is necessary to identify any factors that must be controlled for in outcome analyses. In order to determine areas of significant difference between the two groups, Chi Square tests were run on the descriptive variables. Methodology for running the tests is as follows:

- Unknown and missing cases are not included in test cases.

- Variables that gave ordinal measures were dichotomized when possible and tests were run first on the dichotomous variable and then on the ordinal version of the variable. This was done because several of the ordinal variables were based on subjective criteria (e.g. determining major or minor alcohol use) and a dichotomous variable removes the error.

- Differences are considered significant at the .05 level of confidence or higher. The actual significance levels are presented in the charts.

In addition to determining areas of difference between the control and experimental groups, the data presented in this chapter also serve to quantitatively describe the boot camp demonstration project at Denver.

1.1 Random Assignment and Sample Size Evolution

While the random assignment process was established to give unique and random placements to qualified youths, there were many instances where the assignments were subverted. Ideally, the sample was to include one experimental youth to attend boot camp for each control youth, leaving an equal size for each group. Instead, changes in Denver's assignment pool caused a difference in control and experimental group size. This situation represents a departure from the original research methodology. Exhibit III-1 shows the evolution of the Denver sample size, including incidents that undermined the assignment process. The initial random assignments stood at 122 experimental and 122 control youths. An extra experimental youth admitted to the boot camp in Cohort 2 and included in the study, but who was not randomly assigned, increased the experimental group size to 123. One youth was assigned to the control group twice; only his first stay in the control group has been counted, leaving 121 control youths. Three youths who were originally assigned to the control group were later overruled by judicial order and attended the boot camp, raising the experimental sample to 126. Two youths have been deleted entirely from the sample, having been in both the control and experimental groups. These youths were assigned first to the control group, later re-entered the assignment pool on subsequent offenses, and were assigned to the experimental cohorts. Deletion of those two youths altogether leaves a final sample of 124 experimental and 116 youth; the following studies in group comparability reflect this total.

There were other instances of double assignments that remain in the valid sample. One youth was assigned to boot camp, did not enter, was re-assigned to boot camp and entered boot camp treatment in a later cohort. He is counted only for his actual entry to the boot camp. In all cases where the assignment process was undermined, decisions regarding the youth's assignment

EXHIBIT III-1
SAMPLE SIZE EVOLUTION

EVENT	EXPERIMENTAL GROUP	CONTROL GROUP
Initial Random Assignments	122	122
Non-Random Assignment	+1	---
One Control Youth Assigned Twice (Counted Only Once)	---	-1
Three Control Youths Transfer to Experimental Group (Judicial Override)	+3	-3
Two Youths Doubly Assigned to Both Control/ Exp Groups (Removed from both groups)	-2	-2
NET CHANGE	+2	-6
FINAL SAMPLE SIZE	124	116

for purposes of the study were made with consideration to maintaining as large a sample size as possible and avoiding instances where youth were exposed to both treatments. Another complication in the assignment process occurred with youths' classification as DYS or probation. Eight youths had their original sentences changed from probation to DYS, and five youths received lessened sentences from DYS to probation. These status changes complicated case management and affected the extent of services a youth could obtain. In these cases, the final classification was kept in order to simplify the analyses.

1.2 Data Collection and Cleaning Methodology

Data for the analyses have been collected from a variety of sources and instruments throughout the duration of the evaluation. Until the summer of 1994, the Planning and Evaluation unit employed a part-time research assistant to collect and manage the data collection forms which were intended to be the basis for the analysis. Despite her efforts to obtain complete forms on each youth, several variables were not routinely collected or available in the manner the form requested. As a consequence, supplementary data needed to be collected to fill in data gaps. Unfortunately, attempts to improve the quality and quantity of data collected occurred after the Foxfire Boot Camp and Wyatt Academy had terminated, thereby limiting opportunities to go back to the staff who had originally filled out the forms. All opportunities were taken to obtain as much missing and additional data as possible under these circumstances.

The Director of Research and another research assistant from DYS' Planning and Evaluation Unit provided much support and information by extracting variables and screen prints from the central DYS databases and contacting DYS caseworkers for other missing data. They also compiled recidivism data from the Colorado State Judicial Department database as well as supplemental intake and movement data from the DYS assessment intake, admission history, and placement/status databases. Anecdotal research on the control probation youth was also compiled by the probation officers of the Denver City Court and submitted to the evaluation team. Records from Wyatt Academy were used, where possible, as supplementary data sources.

Upon receiving supplemental data, extensive cleaning was performed by reconciling differences between data collected from evaluation forms and other sources. All decisions were made in conjunction with DYS staff. Changes to data in the original forms were made only when more reliable data were available. The resultant data have been analyzed and are presented in the following sections of this chapter.

1.3 Demographic and Family Characteristics

Exhibit III-2 presents a comparison of demographic and residence characteristics across the experimental and control groups. As the exhibit demonstrates, no differences were found to be significant between the two groups. The modal age at the time of transfer to boot camp or to the control group was 16, with 16-year-olds accounting for 36 percent of the experimental group and almost one-third (31%) of the control group. The age distribution shows the relaxation of the initial selection criteria from 15-17 years to encompass 14 through 18 year old youths.

In addition, the groups closely resemble one another in racial/ethnic composition: approximately one of three experimental (36%) and control (32%) group youths are African-American, followed by Whites (approximately 31% of the experimental and 28% of the control groups), and Hispanics (approximately 27% of the experimental and 31% of the control groups).

At the time of the committing offense and their subsequent entry into the study, over one-third of the youths were living in single-parent homes (37% of experimental and 35% of control youths, respectively). Approximately one in every eight experimental (13%) and control (13%) group youths had been living in a home with a parent and stepparent; only 13 percent experimental and 21 percent control group youths had been living in a home with both natural parents at entry. Almost one-third of the youths in both groups were living in arrangements in which neither natural parent was a co-resident. These arrangements included grandparents, friends, and shelters or group homes.

EXHIBIT III-2
DEMOGRAPHIC AND RESIDENCE CHARACTERISTICS*

CHARACTERISTIC	EXPERIMENTAL N	EXPERIMENTAL %	CONTROL N	CONTROL %
AGE AT TRANSFER				
≤ 14	9	7.3%	8	6.9%
15	34	27.4%	33	28.4%
16	44	35.5%	36	31.0%
17	32	25.8%	33	28.4%
≥ 18	5	4.0%	6	5.2%
TOTAL	124	100.0%	116	100.0%
ETHNIC BACKGROUND				
African-American	44	35.5%	37	31.9%
White	38	30.6%	32	27.6%
Hispanic	33	26.6%	36	31.0%
Other	6	5.6%	9	7.8%
Unknown	3	2.4%	2	1.7%
TOTAL	124	100.0%	116	100.0%
RUNAWAY FROM HOME				
Yes	64	51.6%	62	53.4%
Never	35	28.2%	40	34.5%
Unknown	25	20.2%	14	13.1%
TOTAL	124	100.0%	116	100.0%

CHARACTERISTIC	EXPERIMENTAL N	EXPERIMENTAL %	CONTROL N	CONTROL %
YOUTH RESIDENCE (At Committing Offense)				
Both Natural Parents	16	12.9%	24	20.7%
Single Parent Home	46	37.1%	40	34.5%
Parent and Step Parent	16	12.9%	15	12.9%
Other	39	31.5%	35	30.2%
Unknown	7	5.6%	2	1.7%
TOTAL	124	100.0%	116	100.0%
OUT-OF-HOME PLACEMENT				
Yes	65	52.4%	55	47.4%
None Reported	43	34.7%	51	44.0%
Unknown	16	12.9%	10	8.6%
TOTAL	124	100.0%	116	100.0%
NO. OF OUT-OF-HOME PLACEMENTS				
One	24	19.4%	14	12.1%
Two or More	41	33.1%	41	35.3%
None	43	34.7%	51	44.0%
Unknown	16	12.9%	10	8.6%
TOTAL	124	100.0%	116	100.0%

* No differences were found to be significant between the groups.

Court records were examined to determine the extent to which youths had been placed out of the home prior to the committing offense by a government agency (child welfare) or court, for example, as a result of a delinquency adjudication or a voluntary or involuntary change of custody. As the exhibit demonstrates, over one half of experimental (53%) and 47 percent of control group youths were found to have experienced at least one out-of-home placement prior to entry into the study. These placements excluded commitments to DYS or state school facilities, but included permanent or temporary removal of the youth by the court as a result of home conditions or parental inadequacies (involuntary), or voluntary custody transfers from the natural parents to other relatives or to proctor or foster homes; temporary detention experiences, as a consequence of an arrest or court filing, were not counted as a prior placement. A considerable proportion of youths (52 % of experimental and 53% of control) were reported as having run away from home at least once prior to entry into the study.

Evidence might suggest an intergenerational link between exposure to behavior problems of parents and subsequent problems exhibited by children. As Exhibit III-3 demonstrates, 23 percent of experimental youths and 22 percent of control youths have at least one parent with a criminal history, while 19 percent of experimental and one in every four of control youths have at least one parent against whom there is recorded evidence of past abuse or neglect of a child. More than one-fourth of the experimental (27%) and 41 percent of control youths were reported as having been diagnosed with psychological problems. At the same time, 42 percent of experimental and half of control youths were reported to be presenting discipline problems in the home. Twenty-eight percent of all experimental youths and more than one-third of all control youths (35%) were described as having some history of fighting (minor or major), while more than one-third of all experimental (41%) and control (53%) were described as having some history of gang involvement.

The history of gang involvement for those youths who had been involved with gangs and those with no involvement was found not to be statistically significant; however, gang involvement (when variable was broken into none, minor, and major) was found to be statistically significant ($p=0.00170$) with more control than experimental youths having gang involvement. No other differences in parent and youth behavior problems among the experimental and control groups were found to be significant.

1.4 Education Experiences

As Exhibit III-4 illustrates, no significant differences were found in the education experiences of experimental and control group youths. At the time of the committing offense, only 48 percent of experimental and 56 percent of control youths were reported as being enrolled

EXHIBIT III-3
PARENT AND YOUTH BEHAVIOR PROBLEMS

PARENT BEHAVIOR PROBLEMS...				
	EXPERIMENTAL		CONTROL	
PROBLEM	N	%	N	%
PARENT WITH CRIMINAL HISTORY				
Yes	28	22.6%	26	22.4%
None Reported	71	57.3%	67	57.8%
Unknown	25	20.2%	23	19.8%
TOTAL	124	100.0%	116	100.0%
PARENT WITH ABUSE/NEGLECT OF CHILD				
Yes	23	18.5%	29	25.0%
None Reported	72	58.1%	68	58.6%
Unknown	29	23.4%	19	16.4%
TOTAL	124	100.0%	116	100.0%
PSYCHOLOGICAL PROBLEMS DIAGNOSED				
Yes	33	26.6%	47	40.5%
None Reported	68	54.8%	57	49.1%
Unknown	23	18.5%	12	10.3%
TOTAL	124	100.0%	116	100.0%

YOUTH BEHAVIOR PROBLEMS...				
	EXPERIMENTAL		CONTROL	
PROBLEM	N	%	N	%
YOUTH DISCIPLINE PROBLEMS AT HOME				
Yes	52	41.9%	58	50.0%
Minor	(7)	(13.5%)	(4)	(6.9%)
Major	(45)	(86.5%)	(54)	(93.1%)
No	10	8.1%	4	3.4%
Unknown	62	50.0%	54	46.6%
TOTAL	124	100.0%	116	100.0%
YOUTH HISTORY OF FIGHTING				
Yes	35	28.2%	41	35.3%
Minor	(3)	(8.6%)	(6)	(14.6%)
Major	(32)	(91.4%)	(35)	(83.4%)
No	46	37.1%	34	29.3%
Unknown	43	34.7%	41	35.3%
TOTAL	124	100.0%	116	100.0%
YOUTH GANG INVOLVEMENT*				
Yes	51	41.1%	62	53.4%
Minor	(17)	(13.7%)	(5)	(4.3%)
Major	(34)	(27.4%)	(57)	(49.1%)
No	55	44.4%	49	42.2%
Unknown	18	14.5%	5	4.3%
TOTAL	124	100.0%	116	100.0%

* Statistically significant (p=0.00170)

EXHIBIT III-4
SCHOOL ATTENDANCE AND EDUCATION STATUS*

CHARACTERISTIC	EXPERIMENTAL N	EXPERIMENTAL %	CONTROL N	CONTROL %
SCHOOL ENROLLMENT AT ARREST				
Not Enrolled	27	21.8%	35	30.2%
Enrolled	59	47.7%	65	56.0%
Unknown	38	30.6%	16	13.8%
TOTAL	124	100.0%	116	100.0%
ATTENDANCE OF YOUTHS ENROLLED				
0-13 Days/Month	23	39.0%	21	32.3%
14-17 Days/Month	7	11.9%	8	12.3%
18-20 Days/Month	3	5.1%	5	7.7%
Attendance Unknown	26	44.1%	31	47.7%
TOTAL	59	100.0%	65	100.0%
TYPE OF EDUCATIONAL PROGRAM YOUTH WAS LAST ENROLLED				
Regular/Mainstream	62	50.0%	61	52.6%
Special Education	22	17.7%	28	24.1%
Vocational Education	0	0.0%	1	0.9%
Other**	28	22.6%	21	18.1%
Unknown	12	9.7%	5	4.3%
TOTAL	124	100.0%	116	100.0%

CHARACTERISTIC	EXPERIMENTAL N	EXPERIMENTAL %	CONTROL N	CONTROL %
LAST YEAR SCHOOL COMPLETED				
6th Grade or Below	4	3.2%	5	4.3%
7th-8th Grade	50	40.3%	59	50.9%
9th Grade	37	29.8%	23	19.8%
10th Grade or Higher	11	8.9%	19	16.4%
Unknown	22	17.7%	10	8.6%
TOTAL	124	100.0%	116	100.0%
DISCIPLINE PROBLEMS AT SCHOOL				
Minor	13	10.5%	16	13.8%
Major	70	56.5%	85	73.3%
None	6	4.8%	3	1.7%
Unknown	35	30.6%	12	2.6%
TOTAL	124	100.0%	116	100.0%
YOUTH HAS DELINQUENT FRIENDS				
One	17	13.7%	14	12.1%
Two or More	43	34.7%	45	38.8%
None	42	33.9%	49	42.2%
Unknown	22	17.7%	8	6.9%
TOTAL	124	100.0%	116	100.0%

* No differences were found to be significant between the two groups.

** Other includes home school, treatment center school, New Pride.

in school. In addition, those who were attending school were demonstrating a poor rate of attendance. Of those youths reported to be attending school at the time of the committing offense, 39 percent of experimental and 32 percent of control youths attended 13 or fewer days of the last full month of school.

Approximately 44 percent of all experimental and 55 percent of all control youths had completed the eighth grade or below at the point of entry into the study. A considerable majority of experimental and control youths were below the grade level appropriate for their age, by virtue of having repeated earlier grades due to failure or expulsion. One-half of experimental and 53 percent of control youths were reported as having been enrolled in regular educational programs while 18 percent of experimental and almost one-fourth of control youths were reported as having been last enrolled in special education programs.

Not surprisingly, more than two-thirds of experimental (67%) and control (87%) youths were reported to be demonstrating disciplinary problems at school, currently or when last enrolled. Almost one-half of all experimental (48%) and control (51%) youths had at least one delinquent friend. Overall, no differences were found to be significant between the two groups with regard to education experiences.

1.5 Drug and Alcohol Involvement

As Exhibit III-5 demonstrates, the vast majority of youths had used alcohol and drugs. Approximately 70 percent of experimental youths had reported alcohol use, compared with 80 percent of control youths, while 65 percent of experimental youths had reported use of illicit drugs compared with 82 percent of control youths. Control group youths were found to be more likely than experimental youths to have alcohol use ($p=0.0329$), and drug use ($p=0.0044$). One in every four experimental and 29 percent of the control youths required drug/alcohol intervention while 32 percent of experimental and 41 percent of control youths required or were recommended for drug/alcohol treatment services. The differences between the experimental and control groups were statistically significant ($p=0.0210$). Overall, control group youths were more likely to have drug/alcohol problems and to need treatment intervention.

1.6 Criminal Offense History

A profile of the criminal offense history of experimental and control group youths is presented in Exhibit III-6. As the exhibit demonstrates, 39 percent of experimental and 44 percent of control youths were filed against for delinquency charges prior to age 15. The great

EXHIBIT III-5
SUBSTANCE USE AND/OR ABUSE

VARIABLE	EXPERIMENTAL		CONTROL	
	NUMBER	PERCENT	NUMBER	PERCENT
ILLICIT DRUG USE BY YOUTH*				
Yes	81	65.3%	95	81.9%
Minimal/Some	(22)	(17.7%)	(21)	(18.1%)
Major	(59)	(47.6%)	(74)	(63.8%)
None	20	16.1%	7	6.0%
Unknown	23	18.5%	14	12.1%
TOTAL	124	100.0%	116	100.0%
ALCOHOL USE BY YOUTH				
Yes**	87	70.2%	93	80.2%
Minimal/Some	(29)	(23.4%)	(18)	(15.5%)
Major	(58)	(46.8%)	(75)	(64.7%)
No	16	12.9%	7	6.0%
Unknown	21	16.9%	16	13.8%
TOTAL	124	100.0%	116	100.0%
LEVEL OF DRUG/ALCOHOL SERVICES REQUIRED OR RECOMMENDED***				
Prevention	8	6.5%	12	10.3%
Intervention	31	25.0%	34	29.3%
Treatment	39	31.5%	48	41.4%
None	15	12.1%	3	2.6%
Unknown	31	25.0%	19	16.4%
TOTAL	124	100.0%	116	100.0%

* Significant (p = 0.0044)

** Significant (p = 0.0329)

*** Significant (p = 0.0210)

EXHIBIT III-6
CRIMINAL OFFENSE HISTORY*

CHARACTERISTIC	EXPERIMENTAL		CONTROL	
	N	%	N	%
AGE AT FIRST COURT REFERRAL				
≤ 12 Years	3	2.4%	5	4.3%
13-14 Years	45	36.3%	46	39.7%
15-16 Years	47	37.9%	49	42.2%
17-18 Years	10	8.1%	8	6.9%
Unknown	19	15.3%	8	6.9%
TOTAL	124	100.0%	116	100.0%
NUMBER OF PRIOR ADJUDICATED OFFENSES				
One	61	49.2%	60	51.7%
Two or More	44	35.5%	48	41.4%
Unknown	19	15.3%	8	6.9%
TOTAL	124	100.0%	116	100.0%

* No differences were found to be significant between the groups.

majority of youths (experimental 85% and control 93%) had at least one prior adjudicated offense on record prior to entry into the study.

Ideally, we would also examine the differences between the treatment group on most serious prior offense, if one was adjudicated, as well as the relationship between prior offense and the occurrence and type of recidivism for each of the treatment groups. These data were not available for the interim report because of a confusion in the reporting from the Denver courts. Rather than transmitting to Caliber the most serious *prior* offense, the most serious offense on the committing decree was transmitted. This offense is, in fact, the most serious offense that led to a commitment to DYS or the boot camp.

1.7 Committing Offense and Risk Assessment

Information describing the committing offense is presented for experimental and control group youths in Exhibit III-7. As the exhibit demonstrates, 35 percent of both experimental and control youths entered the study on a violation of a court order or parole violation stemming from a prior offense. The majority—65 percent of experimental and 66 percent of control youths—entered the study as a result of a new charge, most of which were offenses officially adjudicated by the court. Approximately one-fourth of experimental (28%) and control (24%) youths entered

EXHIBIT III-7
COMMITTING OFFENSES

CHARACTERISTIC	EXPERIMENTAL						CONTROL					
	DYS YOUTHS		PROBATION YOUTHS		TOTAL		DYS YOUTHS		PROBATION YOUTHS		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
NEW OFFENSE												
No (VCO or PV)	24	34.8%	20	36.4%	44	35.4%	28	36.8%	12	30.0%	40	34.5%
Yes	45	65.2%	35	63.6%	80	64.6%	48	63.1%	28	70.0%	76	65.5%
Adjudicated	(44)	(97.8%)	(27)	(77.1%)	(71)	(88.8%)	(46)	(95.8%)	(18)	(64.3%)	(64)	(84.2%)
Not Adjudicated	(1)	(2.2%)	(8)	(22.9%)	(9)	(11.2%)	(2)	(4.2%)	(10)	(35.7%)	(12)	(15.8%)
TOTAL	69	100.0%	55	100.0%	124	100.0%	76	100.0%	40	100.0%	116	100.0%
DEGREE OF OFFENSE*												
Felonies	51	73.9%	34	61.8%	85	68.5%	59	77.6%	27	67.5%	86	74.1%
Misdemeanors	18	26.1%	17	30.9%	35	28.2%	16	21.1%	12	30.0%	28	24.1%
Unknown	0	0.0%	4	7.3%	4	3.3%	1	1.3%	1	2.5%	2	1.8%
TOTAL	69	100.0%	55	100.0%	124	100.0%	76	100.0%	40	100.0%	116	100.0%

* For non-new offenses (VCO or PV) the variables: degree of offense, type of committing offense, and combined type/severity reflect the original prior adjudicated offense.

EXHIBIT III-7 (Continued)
COMMITTING OFFENSES

CHARACTERISTIC	EXPERIMENTAL						CONTROL					
	DYS YOUTHS		PROBATION YOUTHS		TOTAL		DYS YOUTHS		PROBATION YOUTHS		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
TYPE OF COMMITTING OFFENSE*												
Property Crimes	52	75.4%	31	56.4%	83	66.9%	58	76.3%	22	55.0%	80	69.0%
Person Crimes	6	8.7%	9	16.4%	15	12.1%	14	18.4%	7	17.5%	21	18.1%
Drug Crimes	4	5.8%	5	9.1%	9	7.3%	2	2.7%	5	12.5%	7	6.0%
Public Order	7	10.1%	6	10.9%	13	10.5%	1	1.3%	5	12.5%	6	5.2%
Unknown	0	0.0%	4	7.3%	4	3.2%	1	1.3%	1	2.5%	2	1.7%
TOTAL	69	100.0%	55	100.0%	124	100.0%	76	100.0%	40	100.0%	116	100.0%

* For non-new offenses (VCO or PV) the variables: degree of offense, type of committing offense, and combined type/severity reflect the original prior adjudicated offense.

EXHIBIT III-7 (Continued)
COMMITTING OFFENSES

CHARACTERISTIC	EXPERIMENTAL						CONTROL					
	DYS YOUTHS		PROBATION YOUTHS		TOTAL		DYS YOUTHS		PROBATION YOUTHS		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
COMBINED TYPE/DEGREE**												
Person, Felony	2	2.9%	5	9.1%	7	5.6%	6	7.9%	5	12.5%	11	9.5%
Property, Felony	44	63.8%	23	41.8%	67	54.0%	51	67.1%	17	42.5%	68	58.6%
Drugs, Felony	2	2.9%	5	9.1%	7	5.6%	2	2.6%	4	10.0%	6	5.2%
Public Order, Felony	3	4.3%	1	1.8%	4	3.2%	0	0.0%	1	2.5%	1	0.9%
Person, Misdemeanor	4	5.8%	4	7.3%	8	6.5%	8	10.5%	2	5.0%	10	8.6%
Property, Misdemeanor	8	11.6%	8	14.5%	16	12.9%	7	9.2%	5	12.5%	12	10.3%
Drugs, Misdemeanor	2	2.9%	0	0.0%	2	1.6%	0	0.0%	1	2.5%	1	0.9%
Public Order, Misdemeanor	4	5.8%	5	9.1%	9	7.3%	1	1.3%	4	10.0%	5	4.3%
Unknown	0	0.0%	4	7.3%	4	3.2%	1	1.3%	1	2.5%	2	1.7%
TOTAL	69	100.0%	55	100.0%	124	100.0%	76	100.0%	40	100.0%	116	100.0%

** Cross-tabulation of degree and type of committing offenses.

the study as a result of misdemeanor charges, while nearly 69 percent of experimental and 74 percent of control groups youth entered on felony offenses. Property offenses were the most common type of committing offense for both experimental (67%) and control (69%) youths, followed by person offenses and public order and drug offenses.

The severity and type of committing offenses were crosstabulated to identify the most frequently occurring permutations; the analysis results in the following order of offenses for experimental group youths, descending from more to less common:

- Felony property offenses (54%)
- Misdemeanor property offenses (13%)
- Misdemeanor public order offenses (7%)
- Misdemeanor person offenses (7%)
- Felony drug offenses (6%)
- Felony person offenses (6%).

The pattern was slightly different for control group youths. The analysis results show:

- Felony property offenses (59%)
- Misdemeanor property offenses (10%)
- Felony person offenses (10%)
- Misdemeanor person offenses (9%)
- Felony drug offenses (5%)
- Misdemeanor public order offenses (4%).

Exhibit III-8 shows the amount of losses associated with property offenses. Property damage or loss of more than $1,000 was caused by about the same proportion of both experimental (17%, n=83) and control (18%, n=80) youths who committed property crimes. Exhibit III-8 also shows that almost one-third of experimental and 37 percent of control youths received mandatory sentences while another one-third of both experimental and control youths received non-mandatory sentences. Restitution was ordered for almost 42 percent of experimental and for almost half of control (47%) youths. No significant differences between experimental and control youths were found with respect to committing offense characteristics.

A risk assessment instrument is administered to all youth entering DYS. Scoring on the risk assessment instrument is based on a cross-tabulation of two distinct factors, committing offense severity score and a recidivism risk score. The resultant cell number on the grid indicates the overall level of security deemed necessary for committing the youth. The three possible outcomes are community (the least level of security), medium, and intensive security. Cell numbers on the court-administered risk assessment screening instrument for DYS youth (n=145)

EXHIBIT III-8
COMMITTING OFFENSE AND RISK ASSESSMENT

CHARACTERISTIC	EXPERIMENTAL N	EXPERIMENTAL %	CONTROL N	CONTROL %
SENTENCE TYPE				
Non-mandatory	39	31.5%	38	32.8%
Mandatory	39	31.5%	43	37.1%
Not Applicable	46	37.1%	35	30.2%
TOTAL	124	100.0%	116	100.0%
ESTIMATED VALUE OF PROPERTY STOLEN OR PROPERTY DAMAGED				
No Theft or Damage	17	20.5%	13	16.3%
Under $300	7	8.4%	6	7.5%
$300 - $999	10	12.0%	10	12.5%
$1,000 or More	14	16.9%	14	17.5%
Unknown	35	42.2%	37	46.3%
TOTAL	83	100.0%	80	100.0%

CHARACTERISTIC	EXPERIMENTAL N	EXPERIMENTAL %	CONTROL N	CONTROL %
WAS RESTITUTION ORDERED?				
Yes	52	41.9%	55	47.4%
No	37	29.8%	37	31.9%
Unknown or Decision Deferred	35	28.2%	24	20.7%
TOTAL	124	100.0%	116	100.0%
RISK ASSESSMENT SCORES*				
Community (Low) Security	29	42.0%	31	40.8%
Medium Security	28	40.6%	40	52.6%
Intensive Security	2	2.9%	5	6.6%
Unknown	10	14.5%	0	0.0%
TOTAL	69	100.0%	76	100.0%

* Risk Assessment Scores are only reported for the DYS youth (n=145) for whom the assessment was conducted.

were obtained for comparison purposes. As Exhibit III-8 demonstrates, approximately two-fifths (42%) of experimental and (41%) control youths had scores which required only a community confinement level. Another 41 percent of experimental and 53 percent of control youth had scored in medium security level cells. Only very few (n=2 for experimental, n=5 for control) youth required the highest grade of confinement, intensive security.

1.8 Summary of Comparability Assessment

Results of the comparability assessment demonstrate resemblance between experimental and control groups across a wide array of background, parental, and committing offense characteristics. Relatively modest differences were observed in level of youth gang involvement and alcohol use by youth, illicit drug use by youth, and level of drug/alcohol services required. The control youths were more likely to have major gang involvement and alcohol use than the experimental youths. These differences, however, would not be expected to have an independent effect on the key questions and analyses constituting the evaluation. No other differences were found to be significant.

2. RESIDENTIAL PHASE

Information describing the detention and residential experiences of experimental and control group youths was compiled from the information supplied by DYS staff and from exit forms administered only to experimental group youths at the point of their release from the boot camp. The findings are presented within the following framework:

- Pre-transfer detention experiences
- Residential phase youth dispositions
- Duration of residential term of confinement
- Behavioral infractions in boot camp.

Due to limitations in the study design, information characterizing the extent of behavioral infractions committed by control group youths during confinement in DYS facilities were not available for reporting.

2.1 Pre-Transfer Detention Experiences

Exhibit III-9 presents measures of the average number of days from the date of random assignment to the study to the date of transfer to designated facilities for experimental youths who were detained and entered boot camp (n=69) and for control group youths who were sentenced to DYS and were detained (n=70). Control youths experienced an average period of

EXHIBIT III-9
AVERAGE DURATION OF PRE-TRANSFER DETENTION

TYPE OF DETENTION	EXPERIMENTAL GROUP			CONTROL GROUP		
	Number	Percent	Duration (In Days)	Number	Percent	Duration (In Days)
From Assignment Date to Transfer Date	69	66%	19	70	92%	18

[1] Excludes 19 experimental youths who never entered boot camp and those not detained. The probation control youths are also excluded.

detention of approximately 18 days while experimental youths experienced 19 days. The expectation was that experimental youths would experience a longer detention period than the control youths on average because of the need to hold experimental youths for the formation of the next boot camp cohort at the end of each month. The major impact of this time in detention is the cost incurred.

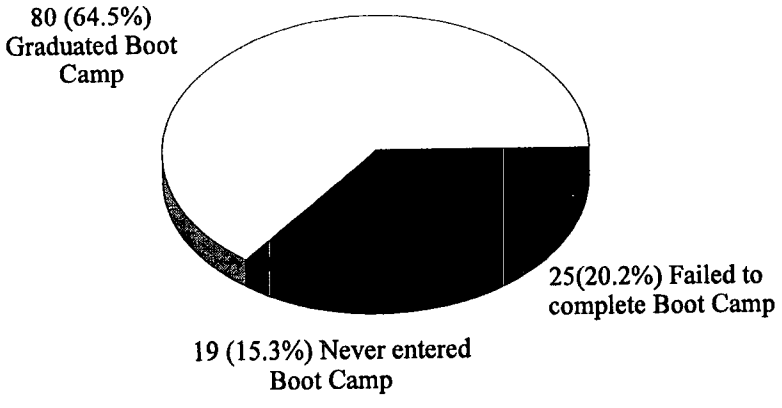
2.2 Residential Phase Youth Dispositions

Exhibit III-10 presents the distribution of youth dispositions from the experimental boot camp, juxtaposed with the residential status of control youths. As the exhibit demonstrates, 80 of the 124 total experimental youths selected in cohorts 1-14 successfully graduated from boot camp (65%), while 25 youths (20%) failed to complete boot camp as a result of an escape (n=9), or due to a medical termination (n=4) or a disciplinary dismissal (n=12). As explained in Chapter II, 19 youths (15%) were selected, but they never entered boot camp.

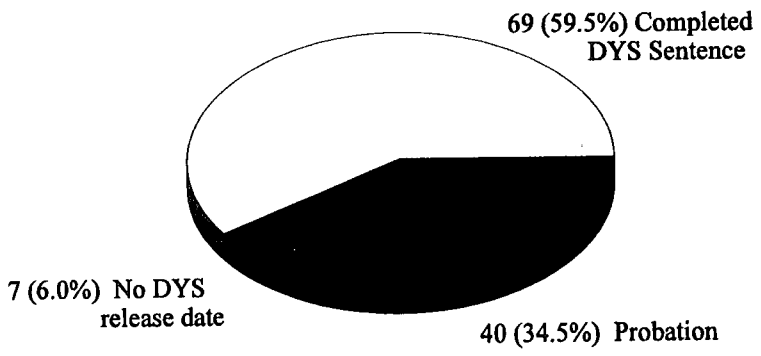
Parallel information on control group youths is also presented in Exhibit III-10. As the exhibit demonstrates, 116 youths entered the study and two-thirds (n=76) of this group were sentenced to DYS. The majority of the DYS youths (69, 91%) had completed their term of residential confinement at the established reporting cut-off point, while seven youths remained confined. In addition, one-third of the control youths (n=40) never experienced a term of confinement as a consequence of the committing offense and were sentenced directly to probation.

EXHIBIT III-10
DISTRIBUTION OF YOUTH
DISPOSITIONS FROM RESIDENTIAL PHASE

Experimental Group



Control Group



Experimental Group Status	Number	Percent
Completed Boot Camp	80	64.5%
Medical Termination from Boot Camp	4	3.2%
Other Termination from Boot Camp	12	9 .7%
Went AWOL from Boot Camp	9	7.3%
Never Entered Boot Camp	19	15.3%
TOTAL	**124**	**100.0%**

Control Group Status	Number	Percent
Committed to DYS	76	65.5%
Completed DYS Sentence	(69)	(59.5%)
No DYS Release Date	(7)	(6.0%)
Probation	40	34.5%
TOTAL	**116**	**100.0%**

2.3 Duration of Residential Term of Confinement

For experimental youths, the term of confinement at Foxfire Boot Camp was fixed by design at approximately 90 days. Control youths who were sentenced to DYS, on the other hand, served their original commitments in DYS facilities, where the minimum term of confinement is established by the court, but the actual term is determined by administrative decision based on youth performance and progress. In all cases, youths may be held in confinement until age 21 or until the sentence is completed, whichever comes first. Exhibit III-11 presents measures of the duration of confinement for experimental youth and for control youths who were committed to DYS.

EXHIBIT III-11
DURATION OF CONFINEMENT

MEAN RESIDENTIAL STAY	NUMBER	DURATION (IN DAYS)
EXPERIMENTAL GROUP		
All Youths Entering Boot Camp[1]	105	81.0
All Youths Graduated	80	96.0
All Youths Entering But Failing to Complete	25	34.0
CONTROL GROUP		
All Youths Released From Confinement[2]	69	118.0

[1] Includes 25 youths who entered, but failed to complete; excludes 19 youths who never entered boot camp.
[2] Excludes 7 youths whose DYS residential termination dates were not available.

As the exhibit demonstrates, in fact, youths successfully graduating from boot camp and transitioning to aftercare (n=80) served an average term of 96 days, or slightly over three months. Youths who entered boot camp but failed to complete (n=25), due to medical reasons, dismissal or having gone AWOL, lasted an average of 34 days. Among the control youths who were sentenced to DYS, the average term of confinement was 118 days (3.9 months), or nearly 1.2 times the mean length of stay of graduating experimental youths.

2.4 Behavioral Infractions in Boot Camp

Exhibit III-12 presents the extent of behavioral problems and infractions committed during boot camp by the 80 youths who successfully completed the residential phase through cohort 14.[1] Of the 151 total behavior infractions recorded over the period among this group, the most common were incidents of insubordination or defiance, followed by loss of bearing, fights with other youths, escape, and assault.

EXHIBIT III-12
INCIDENTS IN BOOT CAMP

INCIDENTS	EXPERIMENTAL	
	N	%
NUMBER OF INCIDENTS *		
None	24	30.0%
One	21	26.3%
Two	10	12.5%
Three or More	25	31.2%
TOTAL	80	100.0%

A total of 151 infractions were recorded and reported. Average infractions per cohort was 10.8.
* Data are only for the 80 youths who successfully completed the residential phase

While there were 151 recorded behavioral infractions, they were perpetrated by about 70 percent of the 80 youths entering and completing the residential term; 30 percent of all youths in cohorts 1-14 committed no infractions of any kind that warranted classification and recording. As Exhibit III-12 indicates, 21 youths had one incident, 10 youths had two incidents, and 25 of youths had three or more incidents reported and recorded.

3. AFTERCARE PHASE

A total of 80 youths graduated from the boot camp and entered aftercare programs. Most of these youths (n=69) transitioned to the Wyatt academy aftercare program, which was closed in March 1994. For those youths (n=11) who were displaced by the closing of the Wyatt

[1] Youths who were terminated from the residential phase (n=16), who absconded prior to completion and never returned to boot camp (n=9), and who never entered boot camp (n=19) are not included in this analysis.

academy there is limited information available. Information describing the dispositions and dates of entry and exit from the Wyatt academy were provided in a database from the research team at the DYS Planning and Evaluation Unit; information was also extracted from the Aftercare forms used as part of the research design.

Findings are presented within the following framework:

- Transitional living arrangements
- Aftercare phase youth dispositions
- Duration of aftercare services
- Positive outcomes during aftercare.

Due to limitations in the study design, no parallel aftercare information for control group youths is available for analysis. Descriptive information on control group aftercare is discussed in Chapter II.

3.1 Transitional Living Arrangements

Exhibit III-13 shows the youths' living arrangements during the aftercare phase of treatment. Of the 62 youths for whom information is available, more than six out of 10 (61%) lived at home with some combination of natural / step-parent(s). Interestingly, almost three out of 10 youths (29%) returned to a foster home situation. The remainder (10%) lived either with their grandparents or other family members.

EXHIBIT III-13
TRANSITIONAL LIVING ARRANGEMENTS

	NUMBER	PERCENT
Living with Natural / Step-Parent(s)	38	61.3%
Living at Foster Home	18	29.0%
Living with Grandparents or other family	6	9.6%
TOTAL	62	100.0%

3.2 Aftercare Phase Youth Dispositions

As was described in the previous chapter, no consensus was reached among project staff regarding acceptable aftercare options. Consequently, youth who did not complete the Wyatt

treatment program may have done so with consent of case managers and/or Wyatt staff. Unfortunately, failure to formally acknowledge and document alternative aftercare options leaves little opportunity for adequate analysis of program completion rates.

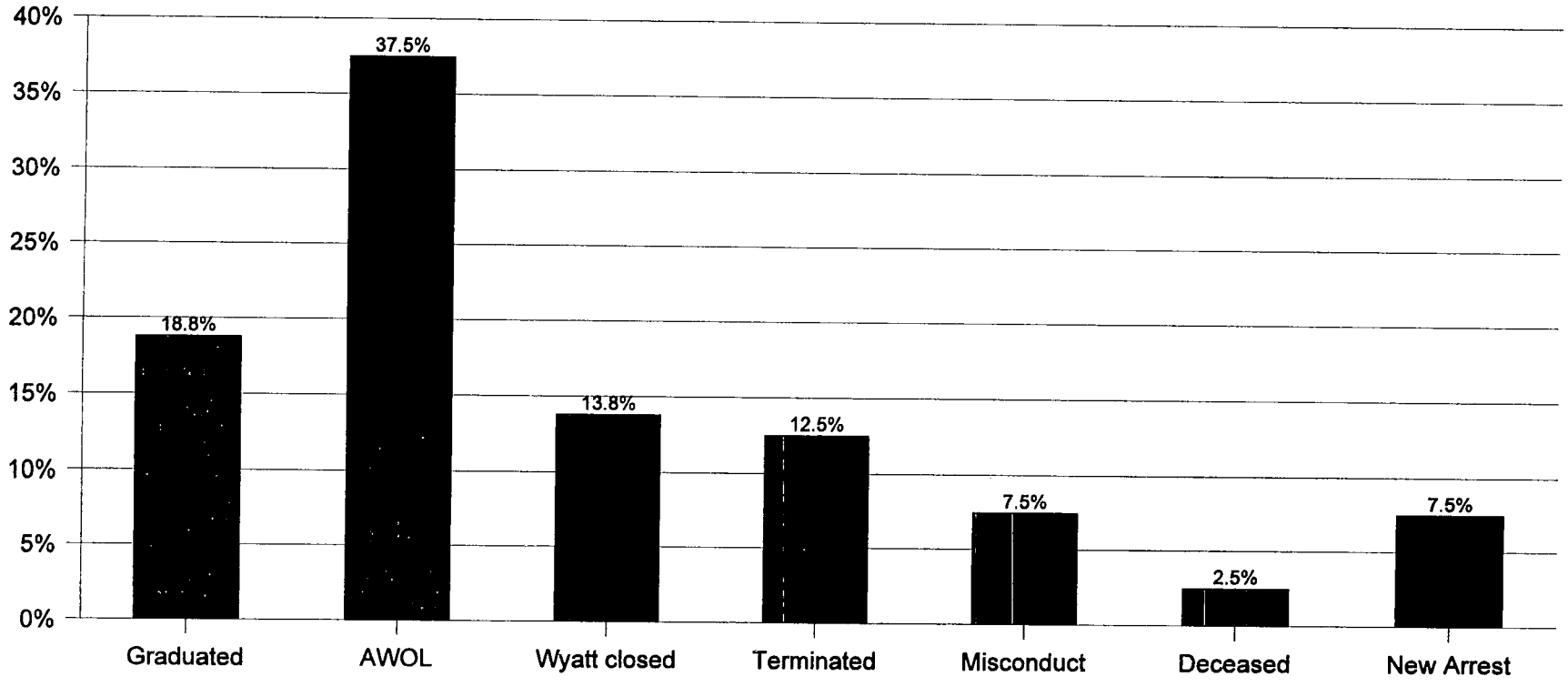
Exhibit III-14 presents the dispositions of the 80 youths who successfully completed the residential phase and were released into the community to fulfill the required aftercare commitments. As the exhibit demonstrates, only about one in five youths (18.8%) who transitioned to aftercare progressed satisfactorily and were graduated (n=15) from Wyatt Academy, while over one-third (37.5%) were terminated for going AWOL from the program. The closing of the Wyatt Academy displaced 11 youths (13.8%) who were considered active in the program at the time of the closing. An additional 10 youths (12.5%) were terminated due to unknown status despite numerous efforts by staff from Wyatt Academy to re-engage them in the aftercare program. Six youths (7.5%) were terminated from the aftercare program for misconduct or threatening behavior, and another six youths (7.5%) were arrested on new charges. Finally, two youths (2.5%) were killed before completing the aftercare phase.

Exhibit III-14 is based on the assumption that Wyatt Academy is the only valid aftercare option. In reality, most youths who went AWOL, who were dismissed, and who entered the aftercare phase after Wyatt had closed continued with the traditional case-management and services provided through DYS and the probation system. Some of these services included referral to the New Pride School (for youths whose level of academic functioning was substandard), enrollment in college or high school courses, and pursuing a full-time job. These options are consistent with the parole and probation requirements for schooling and/or employment. Exhibit III-15 summarizes the youth dispositions from the residential phase through the aftercare phase.

3.3 Duration of Aftercare Services

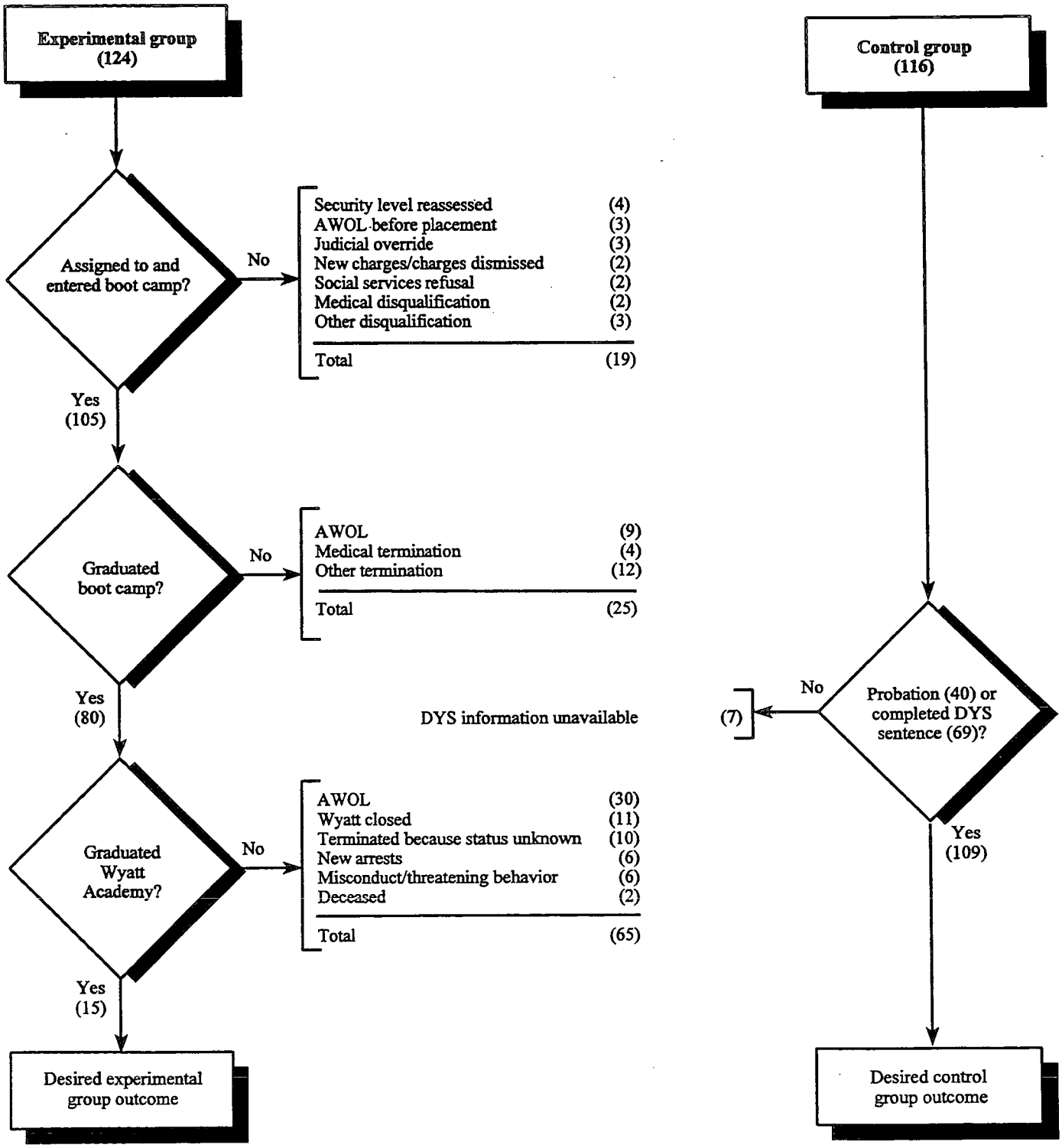
Exhibit III-16 presents an overview of the attrition and graduation from the aftercare phase, based only on the 69 youths who attended the Wyatt Academy. Of the 69 experimental youths who graduated from boot camp and were transitioned to Wyatt Academy, dates of entry and release on which to estimate a meaningful average duration of aftercare were available. More than six out of 10 of the youths (61%) who attrited did so within 90 days. This represents half of the minimum stay for successful graduation from the aftercare program. For the total 69 youths who entered Wyatt, the average stay is only 130 days, or slightly more than two-thirds (72.2%) the minimum requirement of 180 days. For the 15 youths who completed aftercare, the mean stay is 240 days, or eight months. Thus, youth who were able to complete the program

EXHIBIT III-14
DISTRIBUTION OF YOUTH DISPOSITIONS FROM WYATT AFTERCARE PHASE



Aftercare Dispositions	Number	Percent
Graduated	15	18.8%
Went AWOL	30	37.5%
Wyatt closed	11	13.8%
Terminated because of Status Unknown	10	12.5%
Misconduct/threatening behavior	6	7.5%
Deceased	2	2.5%
New Arrest	6	7.5%
TOTAL	**80**	**100%**

EXHIBIT III-15
PROJECT ATTRITION



were staying an average 33% longer than initially proposed in the program design, further reflecting weaknesses of program implementation.

EXHIBIT III-16
OVERALL AFTERCARE ATTRITION / COMPLETION

DURATION	ATTRITION	COMPLETION/GRADUATION (Minimum 180 days)
0-30 days	12	-
31-60 days	8	-
61-90 days	13	-
91-120 days	5	-
121-150 days	6	-
151-180 days	2	-
181-210 days	1	6
211-240 days	2	2
241-270 days	2	3
271-300 days	2	2
301-330 days	1	2
TOTAL	54	15

Exhibit III-17 further presents the attrition and completion data by cohort, with the number of days spent in the program. All the completions are found in the first six cohorts, and the average number of days spent in aftercare begins to decrease drastically in the subsequent cohorts, reflecting the accumulation of problems at the Wyatt Academy over time. (Cohorts 12 through 14 are not included in the exhibit because these youths could not have been expected to complete the program at Wyatt.)

3.4 Positive Outcomes during Aftercare

While there were serious problems surrounding the Wyatt aftercare, Exhibit III-18 provides an overview of positive outcomes from the treatment. Based on 62 youths for whom data is available, a brief summary of the findings includes:

EXHIBIT III-17
WYATT AFTERCARE COMPLETION/ATTRITION
IN DAYS (BY COHORT)

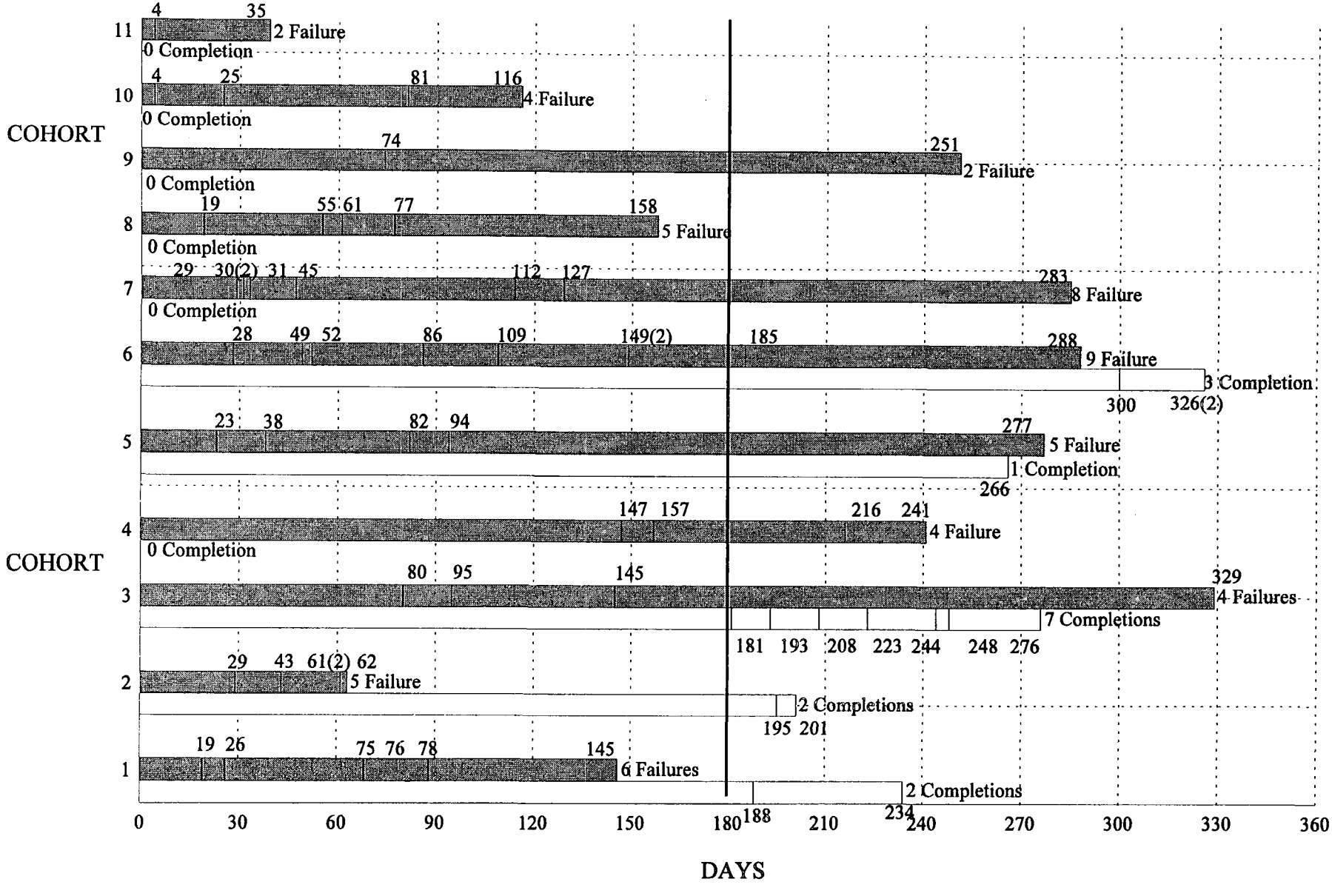


EXHIBIT III-18
SUMMARY OF POSITIVE OUTCOMES FROM AFTERCARE

OUTCOME	N	%	OUTCOME	N	%
EMPLOYMENT			**DRUG / ALCOHOL TREATMENT**		
Youth Employed Part-time	11	17.7%	Youth received New Pride treatment	20	32.3%
Youth Employed Full-time	1	1.6%	Youth received no Treatment	42	67.7%
No Employment Recorded	50	80.6%	TOTAL	62	100.0%
TOTAL	62	100.0%			
			COMMUNITY SERVICE		
YOUTH COUNSELING					
			Recorded Service by Youth	3	4.8%
Youth Participated in Counseling	9	14.5%	No Community Service Recorded	59	95.2%
No Recorded Participation	53	85.5%	TOTAL	62	100.0%
TOTAL	62	100.0%			
			RESTITUTION PAYMENTS		
YOUTH & FAMILY COUNSELING			Payment by Youth Recorded	5	8.1%
			No Restitution Recorded	57	91.9%
Recorded Family Participation	5	8.1%	TOTAL	62	100.0%
No Recorded Participation	57	91.9%			
TOTAL	62	100.0%			

- Nearly one in five youths (20%) secured some sort of employment
- Almost 15% of youths (n=9) obtained counseling from proctor care or specialist care providers
- Five youths (8%) and their families received counseling jointly
- Almost a third of the youths (n=20) received New Pride drug and alcohol treatment
- Three youths (5%) were reported to have performed any community service
- Five youths (8%) were reported to pay some restitution to the courts.

Ultimately, many of these findings are disappointing when compared with the goals of the aftercare program.

IV. ANALYSIS OF RECIDIVISM FACTORS

IV. ANALYSIS OF RECIDIVISM FACTORS

Recidivism differences between the experimental and control groups are the focus of this chapter. The chapter is structured in accordance with the following framework:

- **Data for recidivism analyses**, which discusses how the critical data were obtained as well as the parameters for defining recidivism for purposes of the analyses
- **Residual samples**, which discusses attrition from the experimental and control groups and the resulting final sample sizes on which analyses were conducted
- **Methods for recidivism analyses**, which presents the important issues involved in analyzing recidivism data and statistical procedures selected for analysis which accommodate the data conditions
- **Results of recidivism analyses**, which presents the comparative recidivism outcomes between boot camp youth and their control group counterparts
- **Analysis of subsequent offenses**, which explores patterns in the severity and type of offenses committed by experimental and control youth following release from confinement, and their relationship to offenses committed prior to study selection
- **Conclusions**, which presents the major preliminary conclusions that can be drawn at this point on the basis of available data.

For documentation purposes, endnotes appearing in the text refer the reader to statistical output from the various analyses, presented at the conclusion of this chapter.

1. DATA FOR RECIDIVISM ANALYSES

Follow-up information for the juvenile offenders assigned to the Denver Juvenile Boot Camp demonstration project was accessed from the Colorado State Judicial Department data base by the DYS Planning and Evaluation team. Information related to recidivism, defined as the first juvenile adjudication or adult conviction for a criminal offense after release from confinement (traffic offenses were excluded), was gathered for both juveniles assigned to boot camp and control subjects. Technical violations, if adjudicated, were also recorded, but were not counted as recidivism. In the event a filing was adjudicated, information was recorded with regard to date of offense, offense type, class of offense, disposition, and date of disposition. If no juvenile adjudications were found, the same process was repeated for the adult filing and adjudication information, also accessed through the Judicial Department data base. This

information was recorded on a data disk by the Denver team and forwarded to Caliber Associates. The date of censoring, or the point at which the system was searched for new adjudicated offenses, was November 15, 1994; this also represents the end date for calculating time free to recidivate following release for each youth. By this date the last cohort of boot camp youth had been "on the street" and free to recidivate for eight months. If a new adjudication was discovered, information describing only that offense was recorded; thus, data on offenses subsequent to the first adjudicated offense following release from confinement, if any, were not available for analysis in this report.

2. RESIDUAL SAMPLES

Exhibit IV-1 presents the residual experimental and control group samples on which the recidivism analyses were based. As the exhibit demonstrates, 240 youths were selected and assigned to the experimental (124) and the control (116) groups, through cohort 14.

Of the 124 assigned experimental group youths, twenty-five (20%) failed to complete the residential phase, while nineteen (15%) were selected and randomly assigned, but never entered the residential phase. Based on available information, of the twenty-five experimental youths who were dismissed from the study following selection, four youths were disqualified for medical or psychiatric reasons while twelve others were dismissed for disciplinary reasons, for example, for displaying a "non-participatory manner." Nine were determined to have absconded, or AWOLed, from the camp and were later apprehended and committed to DYS.

All 44 experimental youths were excluded from the recidivism analyses for never entering the experimental boot camp, or for having entered the experimental treatment, then for a variety of reasons, "failing" and later entering control-type treatments (e.g., DYS and Drug Treatment facilities). These youths were considered special cases whose lack of sufficient exposure to the experimental treatment (and, in fact, exposure to mixture of treatments) confounded measurement of a boot camp "treatment effect" and, thus, warranted exclusion from the analyses.

Of the 116 assigned control group youths, 76 (66%) were committed to DYS. Of these 76 youths, seven remained in confinement and were therefore not free in the community prior to the reporting cut-off point (November 15, 1994) and not at risk for recidivism. These seven youth were also excluded from the recidivism analyses.

Forty (34%) of the control youths were released to probation and, thus, served no term of confinement. Of these 40, two were excluded from the analyses because their dates of

probation were not available. The other 38 youths were included in the analyses because while not committed to a residential term, these youths were determined to have met the criteria for selection into the study from the beginning and received the "treatment" to which they were legitimately assigned.

EXHIBIT IV-1
RESIDUAL SAMPLE SIZES

SAMPLE	EXPERIMENTAL		CONTROL		TOTAL	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
SELECTED AND ASSIGNED	124	100.0%	116	100.0%	240	100.0%
Never Entered, Disqualified	19	15.3%	0	0.0%	19	7.9%
Failed to Complete Residential	25	20.2%	0	0.0%	25	10.4%
Still in Residential/Dates Unavailable	0	0.0%	7	6.3%	7	2.9%
COMPLETED RESIDENTIAL	80/124	64.5%	69/76	90.8%	149/200	74.5%
Probation, Community Corrections, Other	0	0.0%	40	34.5%	40	16.6%
Probation - Dates Unavailable	0	0.0%	2/40	5.0%	2/40	5.0%
TOTAL RESIDUAL SAMPLES	**80**	**64.5%**	**107**	**92.2%**	**187**	**77.9%**
Exclusion Rate	44	35.5%	9	7.8%	53	22.1%

Thus, a total of 53 experimental (n=44) and control (n=9) youths were considered to have attrited from the experiment (22%) and, as a consequence, were excluded from new offense data collection procedures. The residual samples on which the following recidivism analyses are based include an experimental group constituted of 80 youths (65% of those originally selected and assigned), and a control group constituted of 107 youths (92% of those originally selected and assigned). In order to ensure that the analysis closely matched the randomization process, basic tests for differences in recidivism between the treatment groups were conducted first on this sample and then repeated including those 25 youth who did not complete boot camp. Results of these pairs of tests are reported; inclusion or exclusion of the 25 youth do not change the findings.

3. METHODS FOR RECIDIVISM ANALYSES

A comparison of recidivism between youth in the experimental group and those in the control group poses the following four problems for data analysis:

- The data are censored. Information collection on recidivism was terminated on a researcher-imposed date, November 15, 1994, and it cannot be assumed that youth who did not recidivate by then will not recidivate in the future. Doing so would bias conclusions about factors that influence the risk and rate of recidivism.

- These youth had been free to recidivate for varying lengths of time, and time free in the community may be an important explanation for differences in recidivism.

- The risk of recidivating for experimental youth compared to the control youth may vary across time. It is important to know at what point in time the experimental youth and control group are the most alike in recidivism rates and at what point in time they are the most different.

- Differences between the two groups on important background factors, social history data, criminal history data, or demographics might either explain or mask differences in recidivism rates.

A two-step process was used to examine recidivism differences between the two groups taking these factors into consideration. First, the cross-tabulation between recidivism and group membership was examined. This provided a baseline indication of treatment group differences in recidivism. Then Cox proportional hazards regression was used to make recidivism comparisons between the experimental and control groups removing the effects of any group differences in background or demographic factors. Cox proportional hazards regression mathematically eliminates bias introduced through censoring of data, takes into account differing amounts of time at risk for the event, and compares the rate of recidivism between the two treatment groups while controlling for any confounding factors.

The assessment of treatment group differences in recidivism in Denver was limited by the high attrition rate out of the original sample (35.5% of the experimentals and 7.8% of the controls) that left a relatively small base sample. The overall numbers for each group were sufficient to test for general group differences, but multivariate testing for group differences controlling for relevant group differences was limited because breakdowns of the treatment groups by several other variables would lead to subgroups that were too small to be adequately analyzed. These analyses, therefore, focused on basic group differences and included multivariate controls for only a few variables identified as sources of important differences in earlier analyses. This tactic is supported by prior analyses of boot camp programs that suggest

that it is highly unlikely that other group differences would affect the relationship between group membership and recidivism.

4. RESULTS OF RECIDIVISM ANALYSIS

The recidivism analysis addressed the following questions:

- Is there a significant difference in recidivism between the experimental youth and control youth?
- Is any difference or lack of difference between the two groups explained, moderated, or masked by differences between the groups in background, criminal history, social history, or demographics?
- Does rate of recidivism between the groups vary over time controlling for differences in background, criminal history, social history, or demographics?

The answers to these questions are presented in the following sections.

4.1 Baseline Group Comparisons

Comparative rates of re-offending between the experimental and control groups are presented in Exhibit IV-2. As the exhibit demonstrates, from the point of release from confinement to the reporting cut-off point, a new adjudicated offense was recorded for 39 percent of experimental youths (31) and for 36 percent of control youths (38). Sixty-one percent of experimental youths and 64% of control youths survived the study period without committing a new offense resulting in an adjudication.

EXHIBIT IV-2
RATES OF RE-OFFENDING

RATES	EXPERIMENTAL		CONTROL	
	NUMBER	PERCENT	NUMBER	PERCENT
New Adjudicated Offenders	31	38.8%	38	35.5%
Juvenile Adjudications	(21)	(67.7%)	(29)	(76.3%)
Adult Adjudications	(10)	(32.3%)	(9)	(23.7%)
Youths Having No New Adjudications	49	61.3%	69	64.5%
TOTAL	80	100.0%	107	100.0%

EXHIBIT IV-3
YOUTH RECIDIVATING AT POINTS FOLLOWING RELEASE

DAYS FOLLOWING RELEASE FROM CONFINEMENT	EXPERIMENTAL GROUP (n=80)			CONTROL GROUP (n=107)		
	FREQUENCY	PERCENT	CUMULATIVE PERCENT	FREQUENCY	PERCENT	CUMULATIVE PERCENT
1-30	2	2.5%	2.5%	1	1.0%	1.0%
31-60	1	1.3	3.8	4	3.7	4.7
61-90 (3 mos.)	5	6.3	10.1	2	1.9	6.6
91-120	2	2.5	12.6	3	2.8	9.3
121-150	2	2.5	15.1	1	1.0	10.3
151-180 (6 mos.)	2	2.5	17.6	2	1.9	12.1
181-210	2	2.5	20.0	2	1.9	14.0
211-240	1	1.3	21.3	6	5.6	19.6
241-270 (9 mos.)	1	1.3	22.5	0	0.0	19.6
271-300	2	2.5	25.0	0	0.0	19.6
301-330	4	5.0	30.0	0	0.0	19.6
331-360 (1 yr.)	0	0.0	30.0	4	3.7	23.4
361-390	1	1.3	31.3	1	1.0	24.3
391-420	1	1.3	32.5	2	1.9	26.2
421-450 (15 mos.)	0	0.0	32.5	2	1.9	28.0
451-480	1	1.3	33.8	4	3.7	31.8
481-510	0	0.0	33.8	0	0.0	32.7
511-540 (18 mos.)	1	1.3	35.0	1	1.0	33.6
541-570	0	0.0	35.0	1	1.0	33.6
571-600	1	1.3	36.3	0	0.0	33.6
601-630 (21 mos.)	0	0.0	36.3	2	1.9	35.5
631-660	1	0.0	37.5	0	0.0	35.5
661-690	0	0.0	37.5	0	0.0	35.5
691-720 (24 mos.)	0	0.0	37.5	0	0.0	35.5
721-750	1	1.3	38.8	0	0.0	35.5
751-780	0	0.0	38.8	0	0.0	35.5
781-810 (28 mos.)	0	0.0	38.8	0	0.0	35.5
811-840	0	0.0	38.8	0	0.0	35.5
841-870	0	0.0	38.8	0	0.0	35.5
TOTAL RECIDIVATING	**31**		**38.8**	**38**		**35.5**
TOTAL NOT RECIDIVATING	**49**		**61.2**	**69**		**64.5**

New Offenses in Days Following Release from Confinement

Exhibit IV-3, on the preceding page, presents experimental and control youth who committed new offenses by time of the new offense following release from confinement (in 30-day intervals). As the exhibit demonstrates, experimental youth appear to recidivate faster (i.e., the first year) but after that the control youth rapidly catch up for a total of 38.8 % of the experimentals recidivating and 35.5% of the controls recidivating.

As an additional measure of survival (i.e., not recidivating) following release, new offenses committed by experimental and control youths were analyzed to determine average elapsed times from release to a new adjudicated offense. Exhibit IV-4 presents the results of this analysis. Re-offending experimental youths demonstrated a shorter survival period than the control group: the 31 re-offending experimental youths averaged 248 days, or approximately 8.1 months, from the point of release from confinement to the date of a new adjudicated offense, while the control youth averaged 275 days, or approximately 9 months from point of release to date of new adjudicated offense. Among the youths committed to boot camp, re-offending experimental youths whose original sentence was DYS survived a slightly shorter time (245 days) than experimental youths whose original sentence was probation (253 days).

Re-offending control group youths committed to probation averaged 267 days (8.8 months) from date of release to new adjudication. As the exhibit demonstrates, control group youths committed to DYS facilities averaged approximately 278 days, or 9.1 months, from point of release to new adjudication.

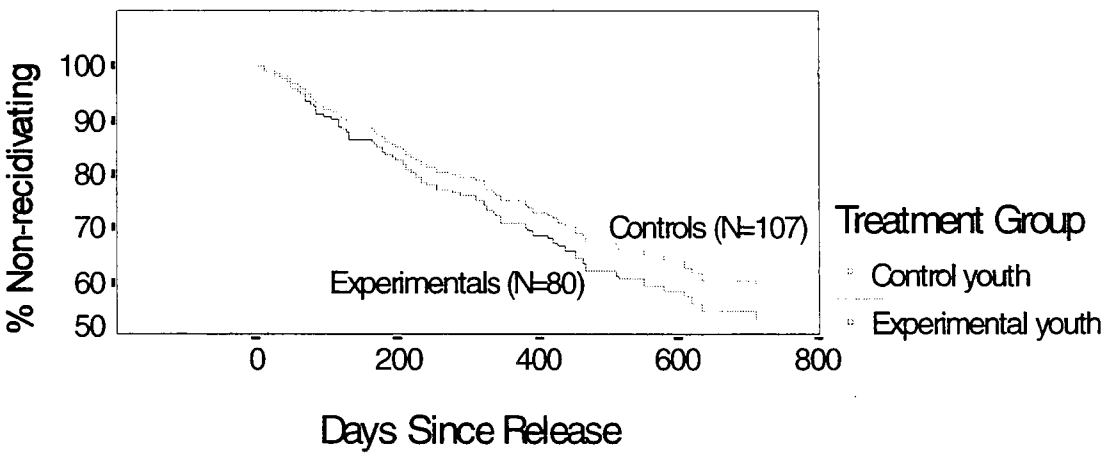
EXHIBIT IV-4
AVERAGE DAYS TO NEW OFFENSE

MEASURE	NUMBER	DURATION (IN DAYS)
TIME TO NEW OFFENSE - EXPERIMENTAL GROUP	31	248.3
Experimental - Original Sentence - DYS	21	245.8
Experimental - Original Sentence - Probation	10	253.5
TIME TO NEW OFFENSE - CONTROL GROUP	38	274.9
Youths Committed to DYS	26	278.5
Youths Committed to Probation	12	267.1

Baseline Regression Comparisons of Experimental and Control Recidivism

Initial analysis of the relationship between group membership and recidivism indicated that there was no association between experimental or control group membership and recidivism (χ^2=.20587, df=1, p=.65002, N=80 experimental youth and 107 control youth). There was also no relationship between group membership and recidivism when the 25 experimental youth who did not complete boot camp were included in the analysis (χ^2=.15183, df=1, p=.69679, N=212). Using Cox regression to examine the risk of recidivism across time for the two groups, there was no indication of a significant overall difference between the groups in risk of recidivism, nor was there any indication of a significant difference between the two groups in timing of recidivism.[1] Exhibit IV-5 presents the survival curve produced by the baseline Cox regression analysis. This exhibit shows the proportion of youth in each group that had not recidivated by time since release. Once again, these differences were not statistically significant.

EXHIBIT IV-5
SURVIVAL FUNCTION
Baseline Comparison (N=187)



4.2 Multivariate Comparisons of Experimental and Control Group Recidivism

The baseline analyses could not rule out entirely the presence of a relationship between treatment group and recidivism; i.e., a difference between the two groups in background factors, criminal or social history, or demographics could have been masking or suppressing indications of actual overall differences between the treatment groups. Also, group differences on the above listed factors could have been responsible for the appearance of no timing difference in recidivism between the two groups. These group differences, if present, could have occurred by chance despite the random assignment procedure or they could have been the result of sample

attrition over the course of the study. Whatever the cause of any treatment group differences, multivariate analyses were conducted in order to ensure that group differences in background factors, criminal or social history, or demographics were not masking or suppressing indications of actual treatment group differences in recidivism and to ensure that these same group differences were not responsible for the appearance of no timing differences in recidivism between the two groups. Multivariate analyses mathematically remove the effects of potentially confounding variables (in this case, background factors, criminal or social history, and demographics) to allow the assessment of the independent or net effect of the variable of interest—in this case, treatment group—on recidivism and the timing of recidivism.

In the group comparability analysis reported in Chapter 3, four significant group differences were identified:

- Controls were more likely to report prior youth gang involvement than were experimentals
- Control youth were more likely to report prior illicit drug use than were experimentals
- Control youth were more likely to report prior alcohol use than were experimental youth
- Control youth were more likely to require or be recommended for drug/alcohol treatment than were experimental youth.

These group differences were identified using the entire demonstration project sample.

Because the study group used for these recidivism analyses was substantially smaller than the entire demonstration project group, these four group differences were reexamined in the recidivism analysis subsample. The results of this reexamination indicated:

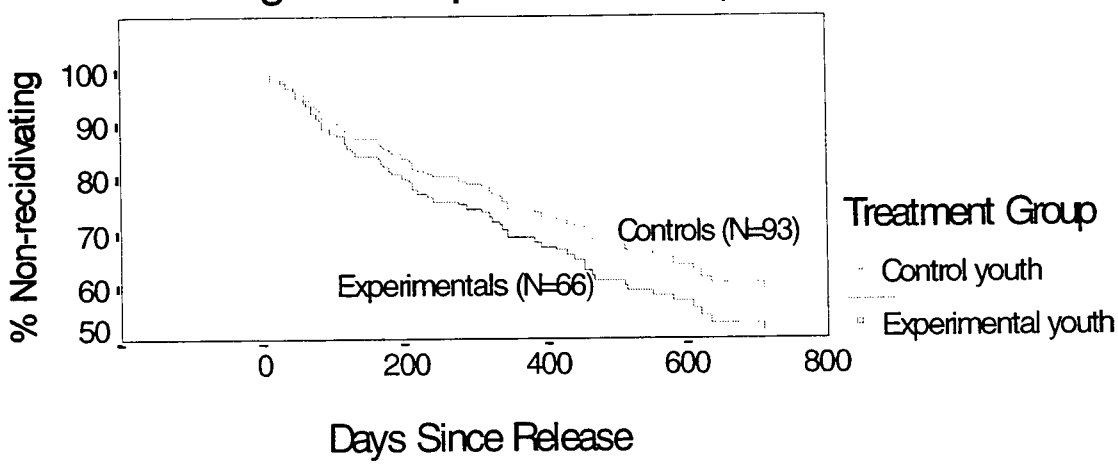
- No subsample group differences in prior alcohol use or prior gang involvement
- Support for group differences within the subsample on prior drug use and recommendations for drug/alcohol treatment.

However, the extremely high correlation (r=.75) between prior drug use and recommendations for treatment precluded the use of both variables in any model. As a result of these analyses, the multivariate models controlled only for prior drug use.

Comparisons of Experimental and Control Group Recidivism Controlling For Group Differences

Using Cox regression, there was no indication of any differences in probability of recidivism for the two groups when controlling for prior drug use.[2] In addition, there was no indication that the relative risk of recidivating for the two groups varied over time; i.e., the rate of recidivism was not significantly different between the treatment groups at any point in time.[3] Exhibit IV-6 presents a comparison of the proportion of youth not recidivating by time since release when controlling for prior drug use. Once again, the apparent differences between the control and experimental youth were not statistically significant.

EXHIBIT IV-6
SURVIVAL FUNCTION
Controlling for Group Differences (N=159)



Additional Analysis of Treatment Group Recidivism as Related to Original Dispositions

Separate analysis comparing recidivism in the experimental and control groups were run for youth whose original disposition was probation and youth whose original disposition was DYS. No differences were found in recidivism between experimental and control youth in either subgroup.[4]

4.3 Summary of Findings

In response to the original recidivism questions, the analyses indicate:

- There was no significant difference in recidivism between the experimental youth and control youth

- Treatment group differences in selected background, criminal history, social history, or demographic characteristics were not masking a treatment group difference in recidivism

- Rate of recidivism between the treatment groups did not vary over time even when controlling for group differences on selected background, criminal history, social history, or demographics characteristics.

The relatively high rate of non-recidivators (more than 60% in both groups) left at the close of these analyses suggests that it is possible that differences between the two treatment groups might develop in the future. Further, the fact that recidivism was defined as the first offense rather than looking at several subsequent offenses, suggests that follow-up of these youth is warranted to determine if treatment group differences might obtain later in time or in subsequent offenses.

5. SUBSEQUENT OFFENSES

It would be ideal, at this point, to analyze the types and levels of offenses committed subsequent to treatment to determine if, while not preventing subsequent new offenses, treatment was related to later offenses of lesser severity, lesser number, or differing type. This form of analysis requires extensive information on recidivism including multiple subsequent offenses. Complete information of this type was not available for analysis for this interim report. Therefore, the following issues were addressed concerning the relationship between previous offenses, committing offenses and first new offense after release from treatment:

- What is the severity and type of recidivating offense committed by the experimental and control youth?

- What is the relationship between type of committing offense and type of new recidivating offense?

- What is the relationship between level of committing offense and level of new recidivating offense?

- What is the relationship between an overall severity indicator for committing offenses and the same indicator for new recidivating offense?

It is important to note a critical limitation of the analysis. Unfortunately, the important issue of a "monitoring" effect (i.e., whether one group of youth was at greater risk of being detected for new offenses because of more intensive scrutiny and observation during aftercare) could not be

explored because of insufficient data. Information to examine this issue, including the origin and circumstance of each new offense and technical violation (i.e., where the offense was committed, whether aftercare staff contributed to bringing charges), was never part of the routine data collection process.

This section of the analysis is organized in two parts. In the first part, the type and severity of the subsequent offenses are described. In the second part, the results of analyses to examine patterns in type and severity of offenses committed over time and the possibility of a suppression effect by treatment on type and severity of recidivating offense are examined.

5.1 Description of Severity and Type of New Offense

Exhibit IV-7 presents information describing the type and level of post-release new adjudicated offenses committed by experimental and control group youths. As the exhibit demonstrates, of those youths in both groups who re-offended, the distributions of offenses by type or class (felony/misdemeanor), or severity (combined type and class) were found to be similar. Examining new adjudicated offenses by offense type shows that offenses committed by experimental youths were mostly property crimes (52%) while offenses committed by control youths were mostly person-related crimes (32%) and public order (29%). Public order offenses were the least common new offenses among the experimental youths while drug crimes were the least common among the control youths.

In order to test for significant differences in the distribution of type of offense for the treatment groups, the public order and drug offenses first were combined into a single category. This was necessary because the small number of youth in each of these categories precluded using the distinct categories in the analysis. Once these categories were combined, there was an indication of a statistically significant association, although marginal, between the treatment groups and type of offense committed (χ^2= 5.77079, df=2, p=.05583). In order to better explain this association, the distributions for each of the three types of offenses were examined individually: person, property, and public order/drug. There were no differences in the proportion committing person and public order/drug crimes for the two groups. There were, however, significant differences in the proportion committing property offenses. Experimental youth were much more likely to commit property offenses and control youth were less likely to commit property offenses than one would expect given no relationship between treatment group and committing property offenses (χ^2= 5.760372, df=1, p=.01636).

Of the 31 re-offenders in the experimental group, more than two-thirds (68%) were found to have committed felonies, while approximately 32 percent were found to have committed misdemeanors. Of the 38 re-offenders in the control group, 63 percent were found to

have committed felonies, while approximately 32 percent were found to have committed misdemeanor offenses. Differences between the experimental and control groups on the level of new offenses were found not to be statistically significant.

Combining type and level of new offenses, Exhibit IV-7 demonstrates that felony/property-related offenses were by far the most common new offense type among experimental (42%); each other category had only two or three youths, comprising 7 or 10 percent respectively. On the other hand, felony/person-related offenses were most common new offense type among the control youths (24%), followed by public order/felony offenses (21%), and misdemeanor/property offenses (13%). Ranking these combinations from most severe to least severe (person/felony to public order/misdemeanor and petty), we created a continuous variable. Testing for differences in mean scores on this variable indicated no differences in overall severity between the two groups (t=-0.70, p=0.488).

5.2 Results of Analyses of Patterns in Type and Severity of Offenses over Time

This section addresses the remaining three research questions;

- What is the relationship between type of committing offense and type of new recidivating offense?
- What is the relationship between level of committing offense and level of new recidivating offense?
- What is the relationship between an overall severity indicator for committing offenses and the same indicator for new recidivating offense?

In looking at patterns in type and severity of offense over time, these analyses examined the possibility of a suppression effect of either type of offense or severity as a result of the boot camp experience among youth who committed new offenses as their recidivating incident.

Type of Offense

Because of the small number of recidivating youth whose committing offenses were drug offenses (N=3), public order offenses (N=5), and person offenses (N=7), both committing offense and recidivating offense were recoded to property versus all others. The Pearson correlations between committing property offense and recidivating property offense were then examined. No statistically significant relationships between type of committing offense and type of recidivating offense were found for the entire group (r=.0318, p=.795, N=69) or for either treatment group (experimentals r=-.0598, p=.749,N=31; controls r=.1358, p=.416, N=38)[5].

EXHIBIT IV-7
TYPE AND DEGREE OF NEW OFFENSES

CHARACTERISTIC	EXPERIMENTAL						CONTROL					
	DYS YOUTHS		PROBATION YOUTHS		TOTAL		DYS YOUTHS		PROBATION YOUTHS		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
TYPE OF NEW OFFENSE												
Person Crimes	6	28.6%	0	0.0%	6	19.4%	8	30.8%	4	33.3%	12	31.6%
Property Crimes	9	42.9%	7	70.0%	16	51.6%	5	19.2%	4	33.3%	9	23.7%
Drug Crimes	4	19.0%	1	10.0%	5	16.1%	4	15.4%	2	16.7%	6	15.8%
Public Order	2	9.5%	2	20.0%	4	12.9%	9	34.6%	2	16.7%	11	28.9%
TOTAL	21	100.0%	10	100.0%	31	100.0%	26	100.0%	12	100.0%	38	100.0%
DEGREE OF NEW OFFENSE												
Felonies	16	76.2%	5	50.0%	21	67.7%	17	65.4%	7	58.3%	24	63.2%
Misdemeanors	5	23.8%	5	50.0%	10	32.3%	7	26.9%	5	41.7%	12	31.6%
Petty	0	0.0%	0	0.0%	0	0.0%	2	7.7%	0	0.0%	2	5.3%
TOTAL	21	100.0%	10	100.0%	31	100.0%	26	100.0%	12	100.0%	38	100.0%

EXHIBIT IV-7 (CONT'D)
TYPE AND DEGREE OF NEW OFFENSES

CHARACTERISTIC	EXPERIMENTAL						CONTROL					
	DYS YOUTHS		PROBATION YOUTHS		TOTAL		DYS YOUTHS		PROBATION YOUTHS		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
COMBINED TYPE/DEGREE*												
Person, Felony	3	14.3%	0	0.0%	3	9.7%	7	26.9%	2	16.7%	9	23.7%
Property, Felony	8	38.1%	5	50.0%	13	41.9%	1	3.8%	3	25.0%	4	10.5%
Drugs, Felony	3	14.3%	0	0.0%	3	9.7%	2	7.7%	1	8.3%	3	7.9%
Public Order, Felony	2	9.5%	0	0.0%	2	6.5%	7	26.9%	1	8.3%	8	21.1%
Person, Misdemeanor	3	14.3%	0	0.0%	3	9.7%	1	3.8%	2	16.7%	3	7.9%
Property, Misdemeanor	1	4.8%	2	20.0%	3	9.7%	4	15.4%	1	8.3%	5	13.2%
Drugs, Misdemeanor / Petty	1	4.8%	1	10.0%	2	6.5%	2	7.7%	1	8.3%	3	7.9%
Public Order, Misdemeanor / Petty	0	0.0%	2	20.0%	2	6.5%	2	7.7%	1	8.3%	3	7.9%
TOTAL	21	100.0%	10	100.0%	31	100.0%	26	100.0%	12	100.0%	38	100.0%

* Cross-tabulation of type and degree of new offenses.

Level of Offense

This aspect of the analyses was restricted to the examination of the relationship between committing and recidivating felonies versus misdemeanors. There was no significant relationship between level of committing offense and recidivating offense for the entire group (r=.0061, p=.960, N=69) or for either treatment group (experimentals r=-.1810, p=.330,N=31; controls r=.2000, p=.229, N=38).

Indices of Severity of Offense

Based on the separate analyses of types of offenses and levels of offenses there was no evidence of suppression of offenses. In order to incorporate both type and level of offense into the suppression analysis, the relationship between indices of offense severity that combine both type and level of offense for both committing and recidivating offenses, and that rank order these combinations, was examined next. No evidence of a systematic relationship either reflecting similar severity for both offenses or a suppression of severity of the recidivating offense for the entire study group (r=.0604, p=.622, N=69) or for either treatment group (experimentals r=-.0646, p=.730,N=31; controls r=.2035, p=.220, N=38) was found.

Summary and Limitations

These initial analyses indicated no relationship between committing offense and recidivating offense and thus, provide no support for the idea that treatment systematically suppressed the level or type of the first subsequent offense. These analyses, however, were severely limited by our inability to track trajectories of offense. There was no information available on prior offenses or on subsequent recidivating offenses. Before final conclusions can be made about the presence or absence of a suppression effect due to the boot camp program, comparisons must be made between the juvenile crime trajectories for the two groups of youth from initial offense through any and all multiple offenses following treatment.

6. CONCLUSIONS

While these analyses reveal no differences between the treatment groups with regard to recidivism and no indication of a suppression of level or type of recidivating offense as a result of treatment differences, the analyses do leave several unanswered questions that may warrant further monitoring of these youth. Some examples of these questions include:

- Will similarities in occurrence and timing of recidivism between treatment groups hold over time for first and subsequent recidivating offenses?

- Will there be a suppression in number of subsequent offenses related to treatment group?

- Can positive behaviors and choices be systematically linked with the boot camp treatment program?

Answering these questions would require continued monitoring of court-related information on subsequent offenses and expanded data collection regarding the youth in both treatment groups.

ENDNOTES

1. Cox regression results for initial assessment of the relationship between group membership and recidivism. Table 1.A is the initial Cox regression and Table 1.B tests for the significant interaction between time and group membership. Note that there are no statistically significant differences obtained.

TABLE 1.A INITIAL COX REGRESSION: COEFFICIENTS AND ASSOCIATED STATISTICS

Variable	B	S.E.	Wald	df	Sig	R	Exp (B)
Experimental/Control Group	0.1774	0.2424	0.5355	1	0.4643	0.0000	1.1941

TABLE 1.B COX REGRESSION WITH INTERACTION BETWEEN TIME AND GROUP MEMBERSHIP: COEFFICIENTS AND ASSOCIATED STATISTICS

Variable	B	S.E.	Wald	df	Sig	R	Exp (B)
Experimental/Control Group	0.2698	0.4328	0.3886	1	0.5331	0.0000	1.3097
Time*Experimental/Control Group	-0.0107	0.0415	0.0661	1	0.7970	0.0000	0.9894

2. These are the coefficients and associated statistics for the multivariate analysis concerning recidivism.

TABLE 2. COX REGRESSION CONTROLLING FOR PRIOR DRUG USE: COEFFICIENTS AND ASSOCIATED STATISTICS (N=159)

Variable	B	S.E.	Wald	df	Sig	R	Exp (B)
Experimental/Control Group	0.2313	0.2654	0.7593	1	0.3835	0.0000	1.2602
Prior Drug Use	0.0956	0.3881	0.0607	1	0.8054	0.0000	1.1003

3.

TABLE 3.A COX REGRESSION CONTROLLING FOR PRIOR DRUG USE WITH INTERACTION BETWEEN TIME AND GROUP MEMBERSHIP: COEFFICIENTS AND ASSOCIATED STATISTICS							
Variable	B	S.E.	Wald	df	Sig	R	Exp (B)
Experimental/Control Group	0.2479	0.4496	0.3041	1	0.5813	0.0000	1.2814
Prior Drug Use	0.0961	0.3882	0.0612	1	0.8045	0.0000	1.1009
Time*Experimental/Control Group	-0.0019	0.0423	0.0021	1	0.9633	0.0000	0.9981

4.

CHI-SQUARE ANALYSES FOR TREATMENT GROUP DIFFERENCES BY ORIGINAL DISPOSITION				
Breakdown	χ^2	df	Sig	N
Youth who were originally assigned to DYS	0.90757	1	0.34076	114
Youth who were originally assigned to Probation	0.07827	1	0.77965	73

5. We use Pearson correlations rather than the Chi-square statistic because of the expected small cell sizes in the separate treatment group analyses.

V. DEMONSTRATION COST ANALYSIS

V. DEMONSTRATION COST ANALYSIS

A documentation and analysis of costs associated with the Denver boot camp initiative was conducted as a preliminary step to presenting cost-effectiveness measures of the boot camp intervention, compared with alternative sentencing options in Denver. The objective is to document demonstration costs on the basis of available cost and resource data over the course of the project to date, from October 1991 through the project's end in December 1994. The chapter is structured in accordance with the following framework:

- Overview of the methodology
- Total demonstration costs to date
- Unit cost calculations
- Comparative cost analysis.

The analyses of the boot camp demonstration costs presented herein are based on data compiled and supplied by the Colorado Department of Human Services, Office of Youth Services (formerly the Division of Youth Services in the Department of Institutions), which also served as the conduit for data submissions to Caliber from the Division of Facilities Management, Division of Risk Management, and the Food Services Administration. Since the project's inception in 1991, Federal contributions to the experimental boot camp demonstration were monitored through the automated Colorado Financial Reporting System (COFRS), while state matching funds were tracked using the State General Fund Expenditure system.

1. OVERVIEW OF THE METHODOLOGY

The objective of the cost and resource analysis is to develop a framework by which to compare the relative costs of providing services to participating experimental and control group youth during confinement or on probation, and in aftercare following release. Two steps are involved: documenting total costs and developing unit cost calculations.

1.1 Document Total Demonstration Costs to Date

The initial step in the process is to document and to present the total expenditures to date associated with the boot camp demonstration in Denver, as supplied by the Office of Youth Services. These costs accrued over a period beginning in October 1991 and accruing through December 1994. The boot camp demonstration was prematurely terminated in March 1994; a phase-out grant from the State of Colorado was used to ensure adequate aftercare services to the

last cohorts of youth following their release from the residential phase. These total costs are presented in Section 2 of this chapter.

1.2 Develop Unit Cost Calculations

Once total program costs are identified, unit cost calculations can be developed. These costs form a foundation for comparing the relative costs of alternative commitment options in Denver, Colorado, including boot camp for experimental youth and other institutional confinement settings or probation for control youth. Two critical unit cost measures can be calculated: cost per youth per day and cost per offender. These critical unit cost estimates are presented in Section 3.

1.3 Limitations of the Data

The Colorado Financial Reporting System (COFRS) is a state-wide automated system that tracks expenditures across a wide range of state programs and services using a limited number of standardized expenditure codes. To support our analysis, the Office of Youth Services supplied copies of the General Ledger Year-To-Date Detail Reports from the system for State Fiscal Years 1992-94, which tracks item-by-item debits against the OJJDP boot camp demonstration grants over that period. The fundamental problem with the COFRS system, however, is that it is unable to differentiate between expenditures related to providing residential services to participating experimental youth through Camp Foxfire, and expenditures related to providing aftercare services through Wyatt Academy and New Pride; unfortunately, a reliable division of expenditures, which is required to estimate separate residential and aftercare unit costs, could not be re-created for this analysis. The unit cost figures, therefore, represent best estimates based on an operating budget constructed by the Department of Human Services, Division of Accounting.

2. TOTAL DEMONSTRATION COSTS TO DATE

Total demonstration costs to date consist of the sum of costs associated with providing services to youth in the residential setting, and costs associated with providing aftercare and other youth monitoring services following release. This section presents total costs of the demonstration over a period from October 1991 through the closing of Camp Foxfire in March 1994; aftercare services continued to be provided through December 1994.

As described in earlier chapters, the Camp Foxfire Boot Camp was located in Building #071 on the Mount View Youth Services Center campus. As a residential facility, each

participating youth was provided food, housing, bedding, and uniforms for the duration of his stay. On-site staff at Camp Foxfire consisted of drill instructors and academic and life skills teachers. Additional expenditures were incurred for minor operating expenses, supplies and materials, and patient and client care services. Wyatt Academy was located on the top floor of a downtown office building and was staffed by a principal, three teachers, an aftercare coordinator, and a certified addictions counselor. Stability in the delivery of designated services to participating youth through New Pride, however, was never accomplished.

Exhibit V-1 presents the total estimated costs associated with operation of the Denver boot camp demonstration, including costs associated with both residential and aftercare services, from October 1991 through December 1994. As the exhibit demonstrates, total costs amounted to approximately $2,205,902 over the 39-month period. Two-thirds of total demonstration costs (69.2%) are accounted for as state salaries and benefits ($609,626, 27.6%) and contractual services ($917,797, 41.6%), which includes the services provided by New Pride. Because the Camp Foxfire boot camp was located on the Mount View Youth Services Center campus, occupancy and food services costs were underwritten by the Department of Youth Services. Appropriately valued, these costs amount to approximately $432,435, or nearly one-fifth of total demonstration costs (19.6%). Patient and client care expenses amounted to $3,947 over the course of the demonstration, or less than one percent of total estimated costs.

3. UNIT COST CALCULATIONS

Using costs available to this point, two critical unit cost measures can be calculated: cost per youth per day and cost per offender. The cost per day can be defined as the total cost of providing services to an individual youth on a daily basis, and can be calculated to reflect residential and aftercare services separately. The cost per day is a function of the average total number of youth being served over the measured period. The cost per offender can be defined as the total cost of providing services to an individual youth over the full program duration, or his entire length of stay. Together, the two measures provide a useful basis for comparing the relative costs of providing services in boot camp as opposed to alternative placements.[1]

[1] The cost per day measure is useful in its sensitivity to labor intensity and marginal costs, while the cost per offender measure accounts for duration of service; thus, one program may have a higher cost *per day* than another as a consequence of higher staff-to-offender ratios, yet have a lower cost *per offender* due to a shorter duration of services.

EXHIBIT V-1
TOTAL DEMONSTRATION COSTS (10/91 - 11/94)
RESIDENTIAL AND AFTERCARE SERVICES

EXPENDITURE TYPE	STATE FISCAL YEAR[2]			TOTAL	PERCENT
	1992	1993	1994		
State Salaries and Fringe Benefits	$112,850	$236,268	$260,508[3]	$609,626	27.6%
Contractual Services	$158,365	$637,911	$121,521	$917,797	41.6%
Operating Expenses	$3,867	$5,524	$9,744	$19,135	0.9%
Supplies and Materials	$9,415	$12,327	$13,765	$35,507	1.6%
Patient and Client Care Expenses	$840	$1,341	$1,766	$3,947	0.2%
Occupancy Costs (In-Kind)[4]	$37,503	$150,010	$100,007	$287,520	13.0%
Food Services (In-Kind)[5]	$41,880	$42,046	$60,989	$144,915	6.6%
State Grant (Phase out)[6]	-	-	$187,455	$187,455	8.5%
TOTAL	$364,720	$1,085,427	$755,755	$2,205,902	100.0%
PERCENT	16.5%	49.2%	34.3%	100.0%	

2 State Fiscal Year begins on July 1 and ends on June 30.

3 Includes some personnel costs incurred during FY95 as the project was phased out.

4 Estimated value of occupying building #071 at Mount View Youth Services Center (includes value of building, contents and operating costs). Supplied by the Department of Human Services, Division of Facilities Management.

5 Based on loaded per-meal cost, which includes food and non-food supplies, personnel, and other operating expenses. Supplied by Office of Youth Services, Food Services Administration.

6 Amount budgeted by DYS to continue the residential phase through March 1994 and to provide aftercare services through December 1994.

3.1 Residential Services

The Camp Foxfire boot camp featured a bed capacity of approximately 30 youth on a given day, with an average term of confinement lasting three months, or approximately 96 days, for the typical youth. Though actual residential costs could not be isolated, the Department of Human Services' Division of Accounting constructed a reasonable budget over a measurable period in order to develop a cost per day per youth for residential services at Camp Foxfire. Based on that budget, as well as daily capacity at Camp Foxfire, the average costs per youth per day amounts to approximately $53.51. On the basis of an estimated 96-day average term of confinement for the typical boot camp graduate, the average total cost of confining a single youth in the former Camp Foxfire boot camp amounts to approximately $5,137. Given these inputs, the daily cost of operating the boot camp was approximately $1,605 per day.

3.2 Aftercare Services

Measuring the costs associated with providing aftercare services to participating youth is considerably less precise because actual attendance at Wyatt Academy never reached an acceptable level (youth actually served per day); the only reasonable method for estimating unit costs is to base the estimate on the "enrolled" population, or the total youth for whom aftercare services were available at any particular time, given anticipated inflows from boot camp and outflows as a consequence of graduation. Over the period of analysis, the assumed daily population enrolled in aftercare was approximately 54 youth, based on an assumed duration of services of approximately 180 days.

As provided by the Division of Accounting, Wyatt Academy was costing approximately $918 per day to operate. Thus, based on an assumed average enrolled population of approximately 54 youth, the average cost of providing aftercare services per *enrolled* youth per day is $16.69. Based on an assumed 180-day average term of aftercare, the average total cost of providing aftercare services to a single enrolled youth amounts to approximately $3,004.[7] Coupled with the residential cost per offender measures presented previously, these measures are the basis for the comparative analysis, presented in the next section.

[7] As a consequence of instability in the delivery of aftercare services, it is extremely difficult to develop a meaningful measure of any kind; the measures presented might be regarded as theoretical in that they represent estimated costs of services had the program operated as originally planned.

4. COMPARATIVE COST ANALYSIS

The objective of this section is to compare measures of the costs of providing services to youth participating in the experimental boot camp with those costs for control group youth, some of whom were confined while others were released on probation. Exhibit V-2 presents the cost per day and cost per offender measures for boot camp, juxtaposed with similar measures for control group youth in confinement or probation settings.

As the exhibit demonstrates, the cost of providing residential services per youth per day was lower significantly for boot camp youth ($53.51) than for the subset of control youth (n=76, 65.5%) who were confined ($138.97).[8] The theoretical cost of providing aftercare services per youth per day was also considerably lower ($16.69) than the actual cost per youth per day for control youth ($28.22), though this comparison is of limited value. The average cost per day from entry into confinement through release from aftercare for experimental youth ($29.50) is less than half the average cost for the subset of confined control youth ($63.83).

For control youth sentenced to probation (n=40, 34.5%), however, the total average per day cost of $1.99 is considerably lower than the average daily cost of boot camp plus aftercare ($29.50). The combined weighted average daily cost of providing treatment services to control youth (including youth confined and youth released on probation as a whole) was $42.51, or nearly 45 percent higher than the average daily cost of providing treatment services to experimental youth ($29.50).[9]

Using length of stay, or duration of services, inputs presented in Chapter III, cost per offender measures can be calculated and compared. As Exhibit V-2 demonstrates, based on an average term of confinement in boot camp of 96 days and an average length of aftercare of 180 days, the cumulative total treatment cost for experimental youth is approximately $8,141 per youth. Among control group youth who were confined, based on a 118-day average term of confinement followed by a 249-day aftercare period[10], the cumulative total treatment cost is approximately $23,425, or nearly three times the total treatment cost for experimental youth. Among control group youth who were released immediately to probation, based on an average

---

[8] This daily cost was reported by Denver as an average cost (at capacity) across various DYS institutional confinement settings.

[9] The combined weighted daily average cost is based on 116 control youth, of whom 76 were confined and 40 were released on probation. The average is influenced by the relative proportions of youth confined (65.5%) versus youth released on probation (34.5%) and represents the control group as a whole.

[10] An 8.3-month average term of aftercare for youth released from DYS facilities was provided by the Office of Youth Services.

EXHIBIT V-2
UNIT COST FOR SERVICES IN ALTERNATIVE SETTINGS

PER DAY COSTS	EXPERIMENTAL GROUP	CONTROL GROUP		
	BOOT CAMP	CONFINEMENT	PROBATION	WEIGHTED TOTAL[11]
Residential Services	$53.51[12]	$138.97	-	-
Aftercare Services	$16.69[13]	$28.22	-	-
Total Program Services[14]	$29.50	$63.83	$1.99[15]	$42.51
PER OFFENDER COSTS	**EXPERIMENTAL GROUP**	**CONTROL GROUP**		
	BOOT CAMP	**CONFINEMENT**	**PROBATION**	**WEIGHTED TOTAL**
Residential Services	$5,136.96	$16,398.46	-	-
Aftercare Services	$3,004.20	$7,026.78	-	-
Cumulative Total	$8,141.16	$23,425.24	$944.26	$15,673.18

probationary period of 475 days (1.3 years), the total treatment cost is approximately $944. The weighted average total treatment cost among control group youth as a whole is $15,673, or nearly twice the total treatment cost for experimental youth ($8,141).

Thus, the total cost of treating experimental youth is considerably lower than the total cost of treating control youth. This is primarily a function of the fact that the majority of control youth were confined in an institutional facility where residential and aftercare costs are significantly higher than for experimental youth participating in the boot camp.

---

[11] Based on 116 control youth, of whom 76 were confined (65.5%) and 40 were released on probation (34.5%).

[12] Based on budget manufactured by the Department of Human Services, Division of Accounting.

[13] Estimated cost per "Enrolled" Youth Per Day.

[14] Represents the weighted average cost per day per youth for services from entry into confinement through release from aftercare.

[15] Based on the estimated annual cost of probation services for a medium case ($725). The average term of probation is approximately 1.3 years.

VI. KEY FINDINGS AND LESSONS LEARNED

VI. KEY FINDINGS AND LESSONS LEARNED

1. KEY FINDINGS

The following key findings are based on the two years of operations of the demonstration boot camp program in Denver:

- The Boot Camp model prescribed by OJJDP was not fully implemented in Denver. The residential phase was relatively stable for two years of operations, but the instructional component of the program was diluted by the loss of and inability to replace one of two educational staff. The aftercare component enjoyed some relative success with the first six cohorts, but produced no graduates at all after that. The aftercare program was understaffed, provision of services was limited, and coordination of services was poor.

- The recidivism rate was comparable for experimental (38.8%) and control (35.5%) groups.

- The cost per day and cost per offender were less for the boot camp residential phase than for DYS confinement. Aftercare costs for the boot camp program also appear to be less, but are calculated on the basis of prescribed rather than actual days of participation and full capacity rather than actual attendance.

2. LESSONS LEARNED

Presented here is a summary of lessons learned from the demonstration project, for the benefit of future efforts in both Denver and other jurisdictions that are planning or operating boot camps for juvenile offenders.

Management

Coordination of a multi-phase program requires formal procedures at all levels of staff for disseminating information, resolving program issues, and making program adjustments that are sensitive to interphase and intraphase impacts. Specific lessons learned included:

- Staff lack of knowledge of program phases can lead to misinformed youth and misconceptions of the program

- Division of program responsibility needs to be accompanied by a system for accountability

- Clearly defined roles and responsibilities must be established for case management, and consensus on these roles achieved

- Coordination between the program staff and ancillary organizations (e.g. probation, public schools, proctor care) requires planning; many linkages with ancillary organizations were neglected in Denver's program design.

Continuity of care is not viable under a situation where phases are not integrated and staff in each phase are not working under the same assumptions about policy and procedure.

Lack of a comprehensive and dynamic policy and procedure manual exacerbated the aforementioned situation and left staff at each phase "making it up as they went along."

Selection and Screening

Medical and psychological screening is a vital part of the selection process. Informal screens are not always effective in detecting health barriers to program participation. In addition to established health criteria, youth with a history of suicide attempts or a history of being abused were thought to be inappropriate for boot camp by staff.

Screening lapses can be avoided through using a standardized process; adequate screening can help prevent mid-program terminations.

Assignment to the study should not occur until a formal/standardized screening has been completed, coordination with the court and with third party payees has been accomplished, and arrangements to detain or track youth until study entry have been implemented.

Case Management

Case management is essential for navigating each youth's progression through the four stages of the program. Probation officers do not have adequate time or resources to serve as effective case managers. Switching case managers for each phase is also not an adequate solution. Case management should be consistent for each youth throughout the program. Changing case management responsibility at each phase resulted in loss of continuity for the youth.

Improved tracking procedures for youth not in detention prior to boot camp entry or after community release are required. Additionally, responsibility and procedures for engaging youths who are absent from the program must be defined.

Youth should be fully informed of all stages of the project at intake, including aftercare and accountability phases. This will prevent misunderstanding about program expectations for the youth and family.

Case managers are limited by information provided by boot camp and aftercare staff. If staff do not have the time or are not trained to distinguish youth needs (education, drug/alcohol, anger management), then time for assessment of youth, observation of youth, and conferences with the case manager must be built into the project design.

Aftercare

Aftercare services when implemented must be dynamic in order to adjust for diverse youth experiences, social/home environments, and needs.

Transition from the residential to the aftercare phase is an important stage in the program and requires coordination and commitment from all staff to ensure that youth are not "dropped". Specific lessons learned include:

- Transition planning needs to begin early in the youth's residential stay.
- Transition planning should capitalize on experience with the youth gained by drill instructors, teachers and case managers. Family buy-in is a critical component of transition planning. Ideally, aftercare planning would involve all staff who are influential in the youth's boot camp experience and all who will be involved in the aftercare experience.
- The feasibility of a structured living arrangement prior to community release should be evaluated. This type of setting would allow the youth to gradually integrate positive behavioral changes attained in their boot camp experience into their environment.
- Aftercare services require the flexibility to meet each youth's needs. Vocational skills and employment placement are critical components of an aftercare program.

Aftercare programming should build on skills acquired in the residential boot camp.

Program Implementation

Program components were not supported by adequate staff. Failure to make community linkages and utilize existing resources contributed to overloading staff at each phase with multiple roles. Lower quality of services and levels of implementation resulted. Every phase of the program was impacted by low staffing levels.

Staff training was nonexistent for the Denver project except in the case of the residential phase where it was a cornerstone to success by strengthening shared philosophy and teamwork. Early and continuing staff training will facilitate the flow of communication, foster creative solutions, and strengthen commitment to program goals and objectives.

Lack of an accountability phase leads to a lack of closure for youth. Since one of the guiding principals throughout the project is shared experience and positive peer group formation, the inability to implement an accountability phase where youth as independents are able to occasionally reunite with their cohort and relive/remember the program, diminishes the chances of the experience having a continuing impact.

Youth are the biggest losers when confronted with a program that is understaffed and not well coordinated.

3. FURTHER EVALUATION

Because the demonstration project was closed in March 1994, and because of the data limitation that have been discussed in this report, further evaluation of the project in Denver would have limited value and is not recommended.