

**TREATMENT EFFECTIVENESS
AT NEW DOMINION SCHOOL FOR BOYS:
A Summary**

1996-2000

Findings of this study support the overall efficacy of the program as did the four previous studies of treatment effectiveness that have been conducted since the school opened in 1976. In the current time period from 1996 through 2000, 199 students had completed the program, and parents or agency personnel responsible for 145 of them could be contacted for follow-up.

Entering students had a mean age of 15 years, 1 month, and the mean Length of Stay was 17 months. The special nature of this population is reflected in the percentages who had these pre-treatment histories: Special Education classes-52%; mental health services-77%; court contacts-67%; alcohol problems-30%; drug problems-40%. Adjustment was rated as Inadequate for almost all of the group. Forty-five percent came from one-parent households.

One difference between this population and that of previous studies is that many more students were placed privately (40%) as compared to the last study (14%). Students in this study who had been referred by public agencies were younger, were more likely to have been in Special Education and to have come from families with more problems. There were no significant differences between the groups in history of mental health treatment or incidence of alcohol problems. Publicly placed students had significantly more court contacts before treatment, while privately placed students had significantly more drug problems and were rated as having greater behavior problems at entry. At the time of discharge, privately placed students were rated as having made the greater change in behavior.

Significant improvement by the 199 students who completed the program was found on the Problem Evaluation Inventory, which reflects ratings of students' behavior problems before and after treatment by persons responsible for the student. Significant positive changes in scores on the Internalized Shame Scale with measures of self-esteem and shame were obtained when time between test administration was factored in. The fact that no significant difference was found between scores of the total group of 199 students and the follow-up group of 145 suggests that the latter group is representative of the whole.

For the follow-up group of 145, 78% returned to a parent's home after discharge and 81% had returned to school. Only 24 % had sought mental health treatment as compared to 77% before treatment. Alcohol and drug problems also were considerably reduced, but the changes did not reach statistical significance. Adjustment ratings as reported by referral sources were significantly improved, and 92% of respondents believed the program had helped the student. Respondents for private referrals were more satisfied with the program than were agency personnel.

Delinquency as measured by court contacts was significantly reduced with Time Since Discharge having no significant impact on the outcome. The length of the follow-up period ranged from 14 to 74 months. The Success Rate Index, which attempts to partial out the impact of minor vs. major offenses and is based on months incarcerated, reached 93%. Seventy per cent of the group had no periods of confinement after discharge.

Academic achievement while students are in the program also has been measured since 1976, and those positive findings are consistent with results of studies of treatment effectiveness using follow-up data as reported herein. During the time period of this study, 44 students attempted the General Educational Development exam, and 39 passed. This is a passing rate of 89%. In addition, another 6 students earned high school diplomas during this period.

Complete reports and references may be obtained from New Dominion School, P O Box 540, Dillwyn, VA 23936.

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FIFTH 5-YEAR STUDY
OF TREATMENT EFFECTIVENESS:
1996-2000

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INTRODUCTION

New Dominion School for Boys has provided treatment for male adolescents with emotional problems, learning disabilities, and/or behavior disorders since its opening in 1976. Located in Buckingham County near Dillwyn, VA, the program focuses on group process within a wilderness camping framework that emphasizes individual responsibility, emotional growth, building of relationships, and problem solving. The school is now a subsidiary of Three Springs, Inc. with headquarters in Huntsville, AL.

Students from ages 11 to 18 live in groups of no more than 12 with two counselors at campsites on a 550-acre campus. Staff and students are interdependent as they plan their work projects, weekly off-campus recreation, meals at the campsite two days a week, and hiking or canoe trips that may last from three days to four weeks. When problems arise, a group meeting is called to resolve differences. A strong academic program focuses on each student's individual needs in the classroom. In addition, students with a history of alcohol or drug problems are placed in a group called Recovery Dynamics, which addresses substance abuse. A Sexual Awareness group is available for students who have a history of being sexually abused and/or sexual acting out.

NDS is licensed by CORE, a licensing body of the Commonwealth of Virginia, and serves a maximum of 72 students at a time with a staff of approximately 45 professionals and paraprofessionals.

PROGRAM EVALUATION

This is the fifth study of treatment effectiveness conducted by NDS, and it includes students who completed the program during the years 1996 through 2000. Previous results were generally positive, and some comparisons with current findings are made in the current report with reference to Study I (1976-1980), Study II (1981-1985), Study III, (1986-1990) and Study IV (1991-1995).

Method.

For a description of the population, demographic data were retrieved from admission records for the 199 students who completed the program during the five-year period. Of that number, contacts could be made for follow-up data on 145 students. The 54 youths for whom follow-up information was unavailable were included because these youth did have pre- and post-test results. In addition, comparisons of the two groups provided a test for possible systematic biases in the follow-up sample.

By telephone interviews, family members or agency personnel were asked to report activities of the students after discharge. They also were asked to provide ratings on a 3-point scale of the student's adjustment before and after treatment in four areas: School, Leisure, Interpersonal, and Household (defined as avoidance of disruption of normal household).

functioning). Differences in adjustment were analyzed by a series of repeated measures Analyses of Covariance (ANCOVAs). Satisfaction with treatment and whether the student was helped also were reported by respondents

Results of measures administered at admission and again at discharge were analyzed using ANCOVAs. The Problem Evaluation Inventory was introduced in 1982 and contains 19 characteristics or behaviors that are rated by parents or agency personnel. Items are rated on a 5-point scale from "Almost Always" to "Almost Never." A copy of this inventory can be obtained from New Dominion School. (Note 1) The Self-Concept Scale (Rosenberg, 1965) was introduced in 1981 as a pre-post measure to assess changes in a student's self-concept. It was discontinued in 1997, and only 49 students in the current study had been tested with this instrument

A third measure, the Internalized Shame Scale (ISS) by David Cook (Note 2)) was introduced in 1997 to assess changes in Self-esteem and Shame. The ISS is now available only from Multi-Health Systems Inc. (Note 3)

Analyses of differences between students who were placed privately and those who were referred by public agencies were performed since privately-placed students made up 40% of the total group of 199. Comparisons were made by Chi square or t-tests on: Status at entry, behavioral ratings, self-report measures, satisfaction with treatment, and follow-up data

In order to assess the impact of students' participation in a Sexual Awareness Group, their self-reports of the helpfulness of the group and their scores on a pre- and post-test measure of knowledge learned were analyzed by a repeated measures analysis of variance (ANOVA).

Results.

Age of Subjects. The age of students at admission ranged from 11 years 7 months to 18 years 8 months with a mean of 15 years 1 month. These findings are comparable to those obtained in the previous four studies.

Length of Stay. The mean Length of Stay in the program was 17 months. This compares with prior studies in which the means ranged from 16.8 months to 18.6 months.

Referral Sources. Forty per cent (N = 79) of the current subjects were privately referred as compared to only 14 per cent in the last study that covered the period from 1990 through 1995. Numbers of students referred by public agencies in this study were: Virginia-101; Out-of-state-19

Pre-Treatment Profile. Fifty-two per cent of the subjects had been in Special Education classes before coming to NDS, as compared with 47% in the last study and 67% in the one before. Seventy-seven per cent of the group had received mental health services before admission. This number has varied over the five studies with a range from 62% in Study I to 85% in Study IV.

Prior alcohol problems were reported for 30% of the subjects as compared to 27% in the last study. Forty per cent had prior drug problems, an increase from 30% previously. The number of subjects having been charged with a sex offense was 6% as compared to 9% in Study IV.

In regard to delinquency, 67% of this group had had court contacts before coming to NDS. The figures from previous studies ranged from a low of 77% in Study I to a high of 86% in Study III.

Family Background. The incidence of one-parent households for this population increased over the years the program has been operating until it reached more than half (51%) for subjects in the last study. The current findings indicate the percentage for this group was 45%. Previous figures were: Study I--24%; Study II--40%; Study III--45%. The percentage of families with no one employed dropped to 12% in this study as compared to 25% in Study IV. Earlier studies had found an incidence of 13 to 14%. In this sample, only 17% of the families were on welfare, as compared to 27% in the last study.

Records indicate the following percentages of students with at least one family member having these problems: Criminal history--23%; Drinking problem--37%, Drug problem--24%; History of mental illness--20%. These figures do not differ greatly from earlier studies, except the incidence of mental illness increased from 13% in the last study to the present 20%.

Pre-Treatment Adjustment. When respondents were asked to rate the adjustment of students before admission to NDS, poor adjustment was reported on all of the four variables--School, Leisure, Interpersonal, and Household. These findings are consistent with previous studies.

Summary of Pre-treatment Findings. The mean age of this group was 15 years 1 month, and the mean Length of Stay in the program was 17 months. As in prior studies, the data indicate that students who came to NDS were making a poor adjustment in many areas of their lives. A very high percentage (77%) had been provided mental health treatment. Thirty per cent had prior alcohol problems, and 40% had been involved with drugs. About half (52%) had been in Special Education classes, and difficulties with society were reflected in the high incidence of court contacts (67%).

In addition, these students came from families with a history of serious problems. Forty-five per cent of them were from single-parent families. The improved financial resources of families in this study (drops in “percentage of no one employed” and “family on welfare”) can be explained on the basis of the large increase (14% to 40%) in private placements for the current study as compared to the previous one. In findings similar to earlier studies, about one fourth of the families had a member with a criminal history, about a third with a drinking problem, and one fourth with a drug problem.

Post-treatment Living Situations As to the living situations of the subjects when they were discharged, 78% of the 145 students who could be followed up had returned to a parent’s home, while the other 12% went to live with relatives, friends, or into foster care after they completed treatment. Hence most of them returned to their original environment, a finding that is consistent with previous studies. At the time of this survey, Fall, 2001, only 35% remained living with parents. This probably represents a normal turn of events as young people typically leave home in their late teens. In addition, the follow-up period ranged from 14 months to 74 months after discharge, a longer period than in previous studies. This would allow more time for students to move into the adult world.

Activities In regard to activities after they left the program, 30% returned to school, 17% went to work, and 51% did both. Only 3% had done neither. As to type of school attended, 75% went to high school or a prep school, 11% had gone to college, and 7% had attended vocational school. Another 7% had gone to more than one type of school. While at NDS during the time period of this study, 44 students had attempted the General Educational Development (GED) exam and 39 passed. This is an 89% passing rate, which is consistent with prior studies. One impact of this large number of students achieving the GED certificate may be a reduction in the number who returned to school upon discharge.

The post-treatment activities of the current group are similar to those of the last study except many more students in the current study had both gone to school **and** gotten a job—51% vs 31%. A major factor contributing to this result probably is the longer time between discharge and follow-up in this study, which would allow more time for students to complete school and then get a job. At the time of follow-up, 35% of the group were still in school, 38% were working, 25% were doing neither, and 2% were in the military.

Mental Health Only 24% of the group sought help for mental health problems after discharge as compared with 77% who had done so before entering the program. This compares with findings of the last study in which 17% sought help after leaving the program, while 85% had received help before admission. Five per cent of the current group had entered a mental hospital, and another 7% were considered to have needed help with mental health problems but refused help. The latter findings are not very different from those of the last study. Results of both studies indicate a considerable reduction in need for mental health treatment after completion of the program, and there were no significant differences between private and public placements in regard to these needs.

Admission to another program is a different matter, however, as a significantly greater percentage of students referred by public agencies (31%) were sent to another program than were those privately placed (14%) ($p < .02$). Only two times in a hundred would this result occur by chance. The percentage for the whole group was 24%, which compares with 16% in the last study.

Alcohol, Drugs. Although 30% of the group had problems with alcohol prior to treatment, that number dropped to 16% after treatment. In regard to drug problems, the pre-treatment percentage of 40% dropped to 17% following treatment. Although these changes are in the positive direction, they did not reach statistical significance. Thirty-two per cent of the total group had participated in Recovery Dynamics while at NDS.

Adjustment Ratings. As in previous studies, ratings on the four adjustment variables were almost entirely reversed from pre- to post-treatment. That is, ratings of "Inadequate" in the 90% range at time of entry shifted to "Adequate" or "Good" on all four variables: School-90%, Leisure-91%; Interpersonal-87%, and Household-88%. All differences were statistically significant ($p < .001$). Only once in 1,000 times would this result occur by chance. This shift was not affected by the length of time between discharge and follow-up.

Consumer Satisfaction. The mean for the 3-point scale on satisfaction with treatment was 2.65, indicating highly satisfied users of the program. Ninety-two per cent of respondents believed that the program helped the youth. These findings are similar to ones obtained previously. All of the adjustment ratings were correlated with each other and with both satisfaction and helpfulness of the program.

Self-concept Scale. No significant shift in Self-concept from pre- to post-test was found with this measure, although highly significant positive changes had appeared in previous studies. One explanation of the current finding is the sample size. Data were complete for only 49 students in this study as compared to 103 in Study IV.

Problem Evaluation Inventory. The shift in behavioral ratings by parents or agency personnel from the time the student entered to discharge was positive and statistically significant ($p < .001$). There were no effects of the length of time between testing, and there was no difference between youths that were followed up and those who were not followed up. These findings indicate that for the group as a whole, the problems that students were exhibiting when they came to NDS were significantly reduced by the time of discharge, in the view of the adults who held responsibility for them.

Internalized Shame Scale. The ISS subscale that measures Self-esteem failed to show a significant increase from pre- to post-test overall. When length of time between tests was factored in, however, the increase was marginally significant ($p < .07$). Youth who had less than 12 months between tests averaged an increase of 3.29 points. Youth who averaged 15 months or more between tests averaged an increase of 4.64, while those with 18 months or more between

testing averaged an increase of 6.63 points. Those students in the follow-up group were not different from those who could not be followed

The ISS subscale measuring Shame showed similar results in that the degree of decrease in shame from pre- to post-test was dependent on the length of time between testing. When time was factored in, a significant decrease in shame was found ($p < .05$). Youth who had less than 12 months between tests averaged a decrease of 6.47 points. Youth who averaged 15 months or more had an average decrease of 10.34 points. Youth with 18 months or more between testing averaged a decrease of 17.47 points. As in the Self-esteem subscale, youth who were followed up were no different from those who were not followed.

The subscales of the ISS were negatively correlated as expected ($p = .001$), but they were not correlated with either the Problem Evaluation Inventory or the Self-concept Scale. These findings suggest that the instruments may be measuring different variables. In addition, the amount of increase in Self-esteem and decrease in Shame as assessed by the ISS was dependent on the length of time between testing. This was not the case with either the Problem Evaluation Inventory or the Self-concept Scale. Results also indicate that the Problem Evaluation Inventory was a stronger indicator of adjustment at follow-up ($p < .05$) than the ISS inventory, which showed no significant correlations with ratings of adjustment.

Delinquency Reduction in delinquent behavior is a measure that typically is used to assess effectiveness of treatment of adolescents. In all of the five studies conducted by NDS, delinquency was defined in terms of court contacts, including both Juvenile Courts and Courts of Record. Current findings indicate that although 67% of this population had court contacts before treatment, that number dropped to 48% during the follow-up period, a significant decrease ($p < .05$). Previous results are comparable: Study I—decrease from 77% to 35%, Study II—decrease from 81% to 52%, Study III—decrease from 86% to 37%, Study IV—decrease from 79% to 40%.

To examine whether time since discharge affected incidence of court contacts, the follow-up period was divided into four groups: Less than 2 years (25.5% of the sample), 2-3 years (23.5%), 3-5 years (31.7%), and more than 5 years (19.3%). No significant differences were found between groups, which indicates that time since discharge had little impact on the incidence of court contacts. This is at variance with findings of the last study, but the time periods are so different that comparisons are meaningless.

Success Rate Index This index was formulated by Dr. George Giacobbe and was used in a follow-up study at Elk Hill Farm, a residential program that appears to treat a population similar to that of NDS (Note 4). The index is held to be more sensitive to long-term success than methods that consider only whether a youth has been charged in a court of law or has been in detention or jail. By calculating the total number of months a student was **not** incarcerated by the total number of months since discharge, the impact of minor offenses vs. major offenses is taken into account.

In the current study, the Success Rate Index was 93%. This compares with an index of 88% in Study IV, 92% in Study III, and 91% in Study II. Study I did not calculate this index. It is important to note that 70% of the current group had no period of incarceration. This means, of course, that 30% were incarcerated for some period of time. For the group who had some confinement, the mean time was 11 months with a range of 1 month to 40 months.

Other Differences Between Private and Public Placements At the time of admission, youth referred privately were significantly older than those referred by public agencies—15 years 5 months vs. 14 years 10 months ($p < .01$). They also had higher scores on the Problem Evaluation Inventory, but at the time of discharge they had fewer behavior problems than those from public agencies. In addition, they showed a trend toward greater change in Self-concept scores.

Students from public sources were significantly more likely than youth referred from private sources to have been enrolled in Special Education classes ($p < .001$), to have come from a single parent household ($p < .001$), to have family members with criminal histories ($p < .001$), alcohol problems ($p < .002$), or drug problems ($p < .02$), to have families on welfare ($p < .001$) and no one employed ($p < .001$), to have had prior court contacts ($p < .001$), and to have been charged with a sex offense ($p < .03$). In contrast, privately placed students were significantly more likely than youth from public sources to have had a drug problem ($p < .002$). Consistent with pre-admission history, youth from private referrals were more frequently placed in Recovery Dynamics, a group program for substance abuse problems, while those referred by public agencies were significantly more likely to have been in the Sexual Awareness Program. The latter is a group program for students with a history of being sexually abused and/or sexual acting out.

At the time of follow-up, youth from private referrals were more likely than youth from public referrals to be in school ($p < .001$) while significantly more of the publicly referred students were working ($p < .001$). Over the period since discharge to follow-up, there were no significant statistical differences between the groups in regard to court contacts overall, although students from public agencies were more likely to have had contact with a juvenile court. This may relate to the younger age of this group. Youth from private referrals, however, were incarcerated fewer months than youth from public referrals ($p < .01$).

As to satisfaction with treatment, respondents for private referrals were more satisfied with the program ($p < .03$) and were more likely to say the program helped the youth (98% vs 87%; $p < .02$). Private referrals also reported better leisure adjustment ($p < .05$) of students and better Interpersonal adjustment ($p < .05$) after NDS than did public agency respondents..

Sexual Awareness Measures The 40 students who participated in the Sexual Awareness group rated the helpfulness of the group at 8.95 on a 10-point scale. Scores on a 20-item test of knowledge of sexual issues were found to be significantly improved from pre- to post-test ($p < .001$).

Summary and Discussion.

Findings of this study support the overall efficacy of the program, as did the previous four studies. Since no untreated control group was available, maturation might be proposed as an explanation of these results. It is highly unlikely, however, that maturation could account for all of the positive changes. The lack of significant differences between the students who were followed up and those who could not be followed suggests that the follow-up sample of 145 is representative of the total population of 199 who completed the program during the five-year period of 1996 through 2000.

The mean age of the total group was 15 years 1 month, which is comparable to that found in previous studies. The mean Length of Stay of 17 months is also similar to prior findings. The use of mental health services before admission remained high with 77% having had prior treatment. Approximately half (52%) of the group had been in Special Education, and 67% had had court contacts. The incidence of problems with alcohol before admission was 30%, while 40% had prior drug problems. These findings are similar to earlier studies. The incidence of students having been charged with a sex offense dropped from 9% in the last study to 6% in the current one. As in previous studies, poor adjustment was reported at the time of admission on all four variables: School, Leisure, Interpersonal, and Household.

A major change in the makeup of the current study group is the much higher percentage of students privately placed—40% as compared to 14% in the last study. In general, students who were placed by public agencies were younger, were more likely to have been in Special Education, and came from families with more problems. There was no difference between the groups in regard to incidence of alcohol problems, but the privately placed students were significantly more likely to have had drug problems. The groups were similar in numbers having mental health treatment, both before and after treatment.

Privately placed students were rated as having more behavior problems at entry and fewer at the time of discharge than did publicly placed students. This suggests that private students made greater gains than those from public agencies, although there were no significant differences in their pre- post-test scores on self-report measures or in court contacts after treatment. Respondents for privately placed students were more satisfied with the program and more frequently indicated that the program helped the youth. They also reported better Leisure adjustment and Interpersonal adjustment after treatment than did public agency respondents.

The fact that more privately placed students were still in school at the time of follow-up than were those from public agencies may be due to the fact that students with greater financial resources are more likely to be able to continue their schooling in college.

Overall, these findings suggest that although there may be measurable differences between the two groups, they can be treated successfully in the same program.

For the total group of 199, the significant reduction in problem behaviors as reported on the Problem Evaluation Inventory is consistent with previous studies. Other pre- post-test measures showed variable results. Only when time between testing was factored in did the ISS with its Self-esteem and Shame subscales indicate significant improvement with the longer time periods showing greater gains. The Self-concept Scale failed to produce significant positive change, probably because of the small sample who had been tested. Previous results had showed significant improvement in self-concept with this measure.

When the follow-up group of 145 is examined, ratings by parents or agencies of adjustment variables continued to reflect drastic changes following treatment that were highly significant. Consumer satisfaction remained very high, and 92% believed that the program had helped the boy.

Although considerable reduction was found in alcohol problems (drop from 30% to 16%) and drug problems (40% to 17%) following treatment, these changes did not reach statistical significance.

Findings of significant decreases in delinquency as measured by court contacts are consistent with previous studies. For the current group, the percentage dropped from 67% before treatment to 48% during the follow-up period. Time Since Discharge was not found to affect the incidence of court contacts, a finding at odds with the last study. Because the time periods used are different, no direct comparison can be made to try to explain the divergence. It is of interest to note, however, that the current study had a much longer follow-up period than any of the previous studies. The present findings indicate that treatment effects did hold over time, and boys who were out longer were no more likely to get in trouble than those who had been out less than two years..

The Success Rate Index continued to be high (93%), which suggests that even those boys who got into trouble after completing the NDS program mostly were arrested for minor offenses and stayed out of trouble for longer periods of time than they spent in jail. Nevertheless, the fact that 30% of the group did spend some time incarcerated suggests that more community follow-up might be helpful in maintaining treatment effects.

References

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Notes

1. New Dominion School, P. O. Box 540, Dillwyn, VA
2. ISS, David R. Cook, Ed. D., copyright 1990
3. Internalized Shame Scale. Multi-Health Systems Inc. P. O. Box 950, Tonawanda, NY 14120-0950.
4. Elk Hill Farm, Inc., P. O. Box 99, Goochland, VA 23063.