Longitudinal Family and Academic Outcomes in Residential Programs: How Students Function in Two Important Areas of Their Lives

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Abstract

This paper presents academic and family outcomes from a multi-center study of youth enrolled in private residential programs. The sample of 1027 adolescents, and their parents, was drawn from nine Aspen Education Group residential programs. Youth academic functioning and youth functioning within the family improved significantly during treatment and those gains were maintained, relative to admission functioning, one year after discharge. The study results suggest that academic and familial outcomes for youth in private residential treatment can be positive and lasting.

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When asked what he thought a normal person should be able to do well, Freud said "Lieben und arbeiten" (to love and to work). He was reported to have added: "It pays to ponder on this simple formula; it gets deeper as you think about it" (Erikson, E., 1950).

Family and school are the foundation of "love" and "work" during the transition that defines adolescence. Unfortunately, youth in residential programs often have serious problems with their family and school systems. The extant research offers little to inform clinical practice on these issues: there is a dearth of research on the academic and family outcomes of youth in private residential care.

The PsycInfo and Education Resources Information Center

(ERIC) databases list only two articles on family outcomes in private residential treatment. At one private residential school, Stage (1999) studied whether any the following were predictors of "successful discharge" (e.g., graduation) to a less restrictive setting: family dysfunction, disruptive behaviors, family therapy, and history of victimization. Surprisingly, family participation in therapy was the only significant predictor of successful discharge. It is important to note that the author did not follow these students after discharge to determine if "successful discharge" was predictive of post-discharge functioning. Springer and Stahmann (1998) studied parent perceptions of the therapeutic benefit of telephone therapy at one private residential program. With a sample of 47 parents, they found that parents believed their family functioning and family communication improved in direct proportion to the amount and quality of telephone family therapy they received. Note the benefit of telephone therapy was only significant when sessions involved all three parties: therapist, parent, and student. Outcomes were not correlated with telephone sessions that involved either a parent and student or a parent and therapist. The study offers valuable insight into parents' views of telephone family therapy. It also suggests that telephone family therapy -- a service that is common in private residential care, but lies outside of the "norm" in mental health care and especially in family therapy -- may be valuable. A limitation of the study was that the authors only gathered data from parents during treatment; there was no data about long-term outcomes. Another limitation was that the study did not examine the change in the students' functioning within the family. It is possible that student behavior did not change and, instead, that changes made by other members within the family accounted for the parents' perceived change in family functioning. Although a family-systems perspective is critical to establishing effectiveness of residential care, it is also critical to study changes made by the youth within the family system.

In recent decades several outcome studies have been published on family outcomes in public residential treatment. Before reviewing that research, it is important to note the differences between public and private residential care. Youth treated in public residential programs are typically referred by the juvenile justice or child welfare systems and are funded with public money (Curtis, Alexander, & Longhofer, 2001; Epstein, 2004; Hair, 2005). Public residential

clients are predominantly males, who are disproportionately from ethnic minority backgrounds (Asarnow, Aoki, & Elson, 1996). In private residential treatment, adolescents are generally placed in these settings by their parents who typically pay for their treatment. Though no client demographic and background information are available for private residential treatment programs, informal observation across a variety of programs suggests that clients are equally likely to be male or female, are predominately white, and come from upper middle class or upper class socioeconomic backgrounds.

Despite the likely differences between public and private residential treatment, the public residential treatment body of literature seems more closely related to private residential treatment than any other body of literature (e.g., private outpatient therapy, acute psychiatric hospital care). The literature summarizing public residential and family service practice standards emphasizes the importance of fostering the student's attachment with the family during out-of-home care (Downs, Moore, McFadden, & Costin, 2000). Also within the public residential literature, researchers have demonstrated that family involvement during out-of-home treatment and the stability of the discharge environment are significant predictors of outcomes after discharge (e.g., Connor, Miller, Cunninghan, & Melloni, 2002; Epstein, 2004; Gorske, Srebalus, & Walls, 2003; Wells, 1991). For example, a study by Landsman, Groza, Tyler, & Malone (2001) used two groups of clients at one public residential program: one group was treated with a family-based approach; and the other group was treated with the standard youth-based approach. The family approach provided skill training for families, extended aftercare, and active family participation in therapy and decision-making. The individual approach used "treatment as usual," including individual and group therapy, behavior management, and educational, medical, and recreation services. Results showed youth who received the family-based approach had significantly shorter lengths of stay and were more likely to be discharged to home than to another placement. Along similar lines, therapeutic foster care studies have found that visits with biological parents are correlated with shorter lengths-of-stay (Benedict & White, 1991; White, Alber & Bitonti, 1996) and improved behavioral and emotional functioning (Cantos, Gries, & Slis, 1997). Using varied and rigorous methodologies, studies such as these have

led expert reviewers to conclude that family-based interventions in public residential care improve youth outcomes (Hair, 2005; Huang et al., 2005). Based on this literature, there is good reason to hypothesize that a family-based treatment focus could also improve outcomes for youth in private residential treatment. However, this question has not yet been explored in the residential treatment literature. More directly related to the present study is another set of unexplored questions: does youth functioning in the family change during treatment and are those changes maintained after discharge?

A query of the PsycInfo and ERIC databases revealed one article that mentioned academic outcomes for adolescents treated in a private residential treatment program (Bratter, Bratter, Coiner, Kaufman, & Steiner, 2006). The article was primarily devoted to delineating the theoretical model of the John Dewey Academy, a college preparatory therapeutic boarding school. In support of their theoretical model, they reported that all their graduates, over a 20 year period, attended quality colleges and more than 70% attained a college degree. The study used a retrospective design and did not explore changes in academic functioning over time.

A few articles from the public residential treatment literature reported secondary findings on academic outcomes. Weis, Wilson, and Whitemarsh (2005) studied a variety of outcomes for adolescents treated in a public military-style residential program Six months after discharge, those who successfully graduated from the program were far more likely than those who withdrew from the program to graduate high school/earn a GED. Successful graduates were also more likely to be engaged full time in some combination of work and school. In another study, a cross-sectional design using 111 youth from one program found that the majority of youth performed satisfactorily in school after discharge: 94% at 6 months post discharge and 80% at 12 months and 24 months post discharge (Hooper, Murphy, Davaney, & Hultman, 2000).

A couple of limitations are noteworthy in these studies. First, the few studies that exist were conducted primarily within public residential programs. Whether the findings generalize to the private residential population is an empirical question, worthy of attention.

A second limitation pertains to the studies' research focus. The studies were limited to an examination of academic functioning *after* discharge. No study has explored whether academic functioning changes during treatment and if post-discharge academic functioning is significantly different from pre-admission discharge functioning. Whether students' academic performance changes from pre-admission to post-discharge is a question meriting empirical attention and one that has profound practical implications for youth. Clinical observation suggests that many youth admitted to programs are underachieving and performing poorly in school. If youth academic functioning doesn't improve during treatment and/or if those improvements are not typically maintained after they discharge, there would be good reason to question the validity of the current focus on academics in private residential care. On the other hand, if youth academic outcomes are improved and maintained, there is good reason to continue and to promote an academic focus in private residential care.

This study used a multi-center design to explore the following questions:

1. Does youth functioning within the family change during treatment and in the year after treatment?
2. Does youth academic functioning change during treatment and in the year after treatment?

Method

Participants

The Western Institutional Review Board (www.wirb.org) approved consent/assent forms and issued Certificates of Approval for the study. The sample consisted of 1027 adolescents who, along with their parents or guardians (hereafter referred to as "parents"), agreed to participate in the study and who completed measures at admission, and/or discharge, three, six, and 12 months after discharge from the program (regardless of discharge status). Students were admitted to one of nine programs located in the Eastern and Western United States, between August 2003 and August 2005. This sample consisted of a mean of 55% (range 37-75%) of the adolescents admitted to the residential programs during the time period. Demographic information (i.e., ethnicity, parental income, gender, age) from admission data provided

by the residential programs indicated the sample was representative of students enrolled in the programs during the same time period.

Study participants were 55% male, with a mean age of 16 (SD = 1.2). Most were Caucasian (87%), with small percentages of several other ethnic groups. The median annual family income was >$100,000. Ninety-seven (97%) percent of the adolescents were placed in treatment by their parents. The overwhelming majority of youth had been treated at other levels-of-care (94%). Specifically, 80% had received outpatient treatment in the prior year, 70% had recently been prescribed psychotropic medications, 40% had a history of prior outdoor therapy, and 31% had at least one psychiatric hospitalization. Only 22% of the sample had a legal record. The mean grade point average at admission was 2.0 (D) on a 4.0 scale. While in the residential program, the majority of adolescents were treated for multiple problems (82%). The most frequent treatment foci were disruptive behavior disorders (50%), substance use disorders (40%), and mood disorders (34%). The average length of stay was 10.5 months for those discharged with maximum benefit and 7 months for who were discharged with partial benefit or against program advice.

Programs

The nine participating programs were private, out-of-home therapeutic placements for adolescents and are member-programs of the National Association of Therapeutic Schools and Programs (NATSAP). All nine were programs within the Aspen Educational Group and were as follows: Academy at Swift River, Aspen Ranch, Copper Canyon Academy, Mount Bachelor Academy, Stone Mountain School, Pine Ridge Academy, Sun Hawk Academy, Turnabout Ranch, and Youth Care (See www.aspeneducation.com). The contribution of each of the nine residential programs to the sample was relatively equal and ranged from 9% to 16%.

Design and Measures

A single-group, pretest - posttest design was used. Questionnaires were completed by both parents and adolescents at admission and/or discharge, and at three, six, and 12 months post discharge. Questionnaire items assessed the student's grade point average, status with high school credits, communication with family members,

compliance with family rules, and family relationship quality.

Four items on the questionnaire related to youth functioning within their families. In order to allow for parsimonious data analyses, factor analyses were conducted using the principal component extraction method and varimax rotation on the items. One series of factor analyses was for the parent-reported items, with another series for the youth-reported items. Both the parent and youth series of factor analyses examined the four items at 5 measurement points: admission, discharge, three months, six months, and 12 months-post discharge.

Using the four parent-report items (communication quality, compliance with family rules, and relationship quality with parents, relationship quality with other family), the series of factor analyses for parents clearly loaded onto one factor (N = 295 - 895). Communalities were high for each of the four items, with a range of .61 to .90, and component loadings ranged from .76 to .94. Across the measurement periods, eigenvalues ranged from 3.17 to 3.30 and the factor accounted for 77% to 82% of the variance. Reliabilities across measurement periods were moderate to high (a = .78 - .92). The items were therefore summed into a scale: *Youth Functioning in Family Scale, Parent-Report*. The factor analytically-derived scale has a range of 1-20, with high scores reflecting good functioning.

The second series of factor analyses used the youth-reported items pertaining to youth functioning within the family, at 5 measurement periods (admission, discharge, three months, six months, and 12 months-post discharge) (N = 137 - 973). The four items (communication quality, compliance, and relationship quality with parents, relationship quality with other family) loaded clearly onto one factor. Communalities were high for each of the 4 items, with a range of .44 to .88, and component loadings ranged from .54 to .92. Across the measurement periods, eigenvalues ranged from 2.46 to 3.37 and the factor accounted for 56% to 73% of the variance. Reliabilities across measurement periods were moderate to high (a=77 - .83). The items were therefore summed into a scale: *Youth Functioning in Family Scale, Youth Report*. The factor analytically-derived scale has a range of 1-20, with high scores reflecting good functioning.

Results

Response rates

Survey response rates for the study are noted in Figure 1. Response rates were high for parents and youth at admission and discharge. As is common in longitudinal survey studies, post-discharge response rates were lower. The mean post-discharge return rate for parents was 27% and for youth was 19%. The obtained post-discharge return rates are within the "norm" for survey-based research, as outlined by Sommer & Sommer (1991), who cite typical return rates ranging from 10% to 33%.

Changes in youth functioning in the family

The repeated measures ANOVA statistical test "drops" a participant's responses from the analysis if one or more surveys are missing (e.g., if person A did not submit a 3 month survey, the entire set of data is excluded from the statistic). In order to maximize the available data, the researchers made the decision to use only 3 of the 5 available time periods: admission, discharge, and 12 months post-discharge. Repeated measures ANOVAs were computed using the parent- and youth-reported scores on the *Youth Functioning in Family Scale*. For both analyses, the within-subjects variable, the variable of time was significant indicating a change in youth family functioning scores over time, Parent-report, $F(1, 1.88) = 347.11$, $p < .001$, $n^2 = .65$ and Youth-report $F(1, 1.82) = 143.61$, $p<.000$, $n^2=.539$. The linear and quadratic models also were significant, suggesting that the change over time could be described as both linear and curvilinear. The means of the parent-report and youth-report scales are presented in Figure 2. Examination of mean scores shows the curvilinear trend, specifically, family functioning scores were low at admission, improved substantially at discharge, and subsequently decreased slightly by 12 months after discharge. In addition, the linear trend is evident in the mean scores: one year after discharge, students' functioning in the family remains significantly better than it had been at admission.

Changes in youth academic functioning

Parents reported on two aspects of youth academic functioning: grade point average (i.e., 0=F, 1=D, 2=C, 3=B, 4=A) and high school credit status (i.e., 1 = More than 1 year behind, 2 = About one year behind,

3 = About 1 semester behind, 4 = On schedule, 5 = Ahead of schedule). Repeated measures ANOVAs were computed to investigate whether scores changed over time. Again, to maximize the available data only 3 time periods were used: admission, discharge, and 12 months post-discharge. For both analyses, the within-subjects variable, time, was significant, indicating that Credit Status and GPA changed over time, Credit Status, F (1, 1.95) = 21.02, $p<.001$, $n^2 =.137$; Grade Point Average, F (1, 1.9) = 96.15, $p<.001$, $n^2=.397$. Linear and quadratic models were significant for both analyses, suggesting that the change over time in Credit Status and GPA can be explained as both linear and curvilinear . Figure 3 shows mean scores for Credit Status and GPA. Examination of mean Grade Point Average and Credit Status scores at each time period indicates the curvilinear trend: students perform poorly at admission, improve substantially by discharge, then decline somewhat in the 12 months after discharge. The linear trend is evident in the scores at admission and 12 months after discharge: one year after discharge students' academic functioning remains significantly better than it had been at admission.

Conclusions

This was the first large-scale exploration of long-term academic and family outcomes for students in private residential programs. The 1027 adolescents and their parents were sampled from nine private residential programs that varied widely in their approach and services. This variety among participating programs is believed to be a general reflection of the broader industry.

According to both parents and youth, adolescent functioning in the family typically improved during treatment. Although some of the "gain" was lost one year after discharge, youth functioning in the family remained significantly better than it had been at the time of admission. A similar trend was found for academic functioning. Grade Point Average and high school credit status improved significantly during treatment. One year later, academic functioning declined slightly, but remained significantly better than it had been at the time of admission.

A number of issues warrant further research attention. First, like most outcome research in public residential treatment, this study

did not use a control group. The lack of stronger and more valid experimental designs (e.g., control groups, random assignment to different conditions) in residential treatment outcome research is a common occurrence because of the practical and ethical constraints involved with leaving seriously disturbed adolescents untreated or treated at a lower level-of-care. In this age of outcome-based contracting and evidence-based practice standards, it is desirable to use more robust, experimental designs when possible. Curry (1991) has suggested some creative alternatives to classic experimental design which use within-program and across program comparison groups. His recommendations are practical and may be a reasonable "next step" in research designs. Private residential treatment research would also benefit from process-focused studies that attempt to attribute academic and family changes to specific components of the residential program (e.g., telephone therapy, parent visits, parent support groups, one-to-one instruction, computer-based instruction, tutoring). Attempts to tie academic and family therapy program components to outcomes would have profound implications for program development.

The data indicate that youth academic functioning and youth functioning within the family improve during residential care. Effort spent by care providers to target those areas seem to be fruitful. Positive outcomes, combined with the salience of family and academic functioning to youth overall functioning (recall Freud's "love" and "work") offer a strong rationale for promoting academic and family foci in private residential care.

The trends for academic and family functioning over time have some important implications for clinical care. Care providers, parents, and youth may benefit from knowing that the majority of youth experience a "dip" in their academic and family functioning after they leave the program. Such predictions may be used to guide the discharge decisions and aftercare planning. For example, it may be worth "setting the bar high" for discharge criteria as they pertain to how the youth functions in the family or how well the youth is gaining school credits. After youth discharge they are likely to experience a slight "dip" in those areas, so it seems prudent to schedule discharge after they have exceeded minimum criteria. In addition, it would be prudent for youth to seek academic and family services in the months

after discharge to focus on maintaining and transferring gains made in the residential program. All too often youth leave programs believing their work is complete, when it may be more helpful for them to devote themselves to on-going, transition services. These implications have a common goal: to help youth learn better ways to approach family and school—"love" and "work".

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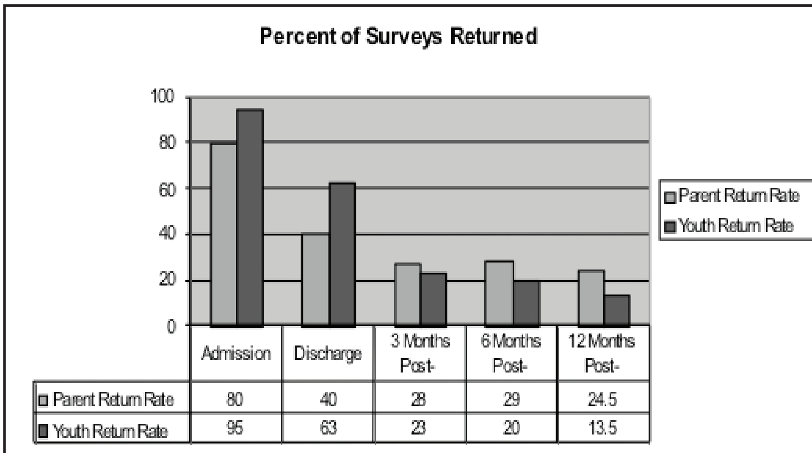
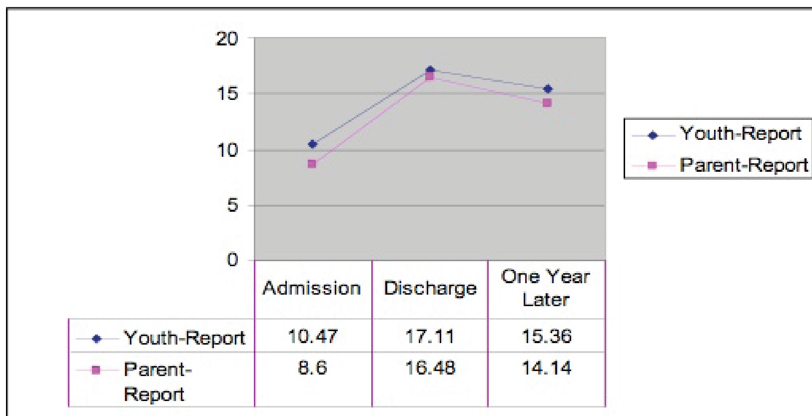
Figure 1. Parent and youth return rates at all measurement periods.



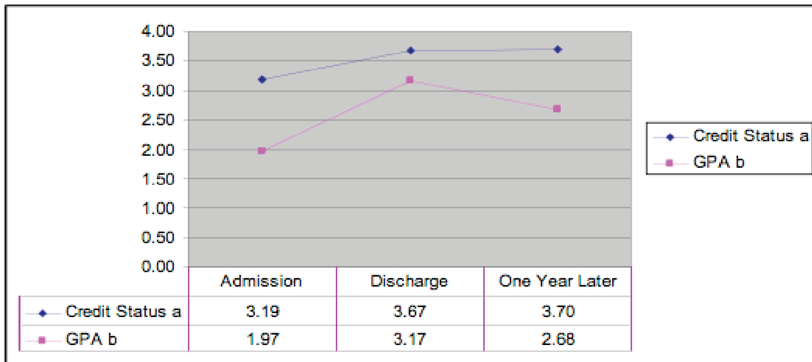
	Admission	Discharge	3 Months Post-	6 Months Post-	12 Months Post-
Parent Return Rate	80	40	28	29	24.5
Youth Return Rate	95	63	23	20	13.5

Figure 2. Mean scores for parent- and youth-reported data on the Youth Functioning within Family Scale.



	Admission	Discharge	One Year Later
Youth-Report	10.47	17.11	15.36
Parent-Report	8.6	16.48	14.14

Figure 3. Mean scores for measures of youth academic functioning.



	Admission	Discharge	One Year Later
Credit Status a	3.19	3.67	3.70
GPA b	1.97	3.17	2.68

Note: [a] Scale 1-5, with 1 = More than 1 year behind, 2 = About one year behind, 3 = About 1 semester behind, 4 = On schedule, 5 = Ahead of schedule [b] Scale 0-4, with 0=F, 1=D, 2=C, 3=B, 4=A