

# A Multi-Center Study of Private Residential Treatment Outcomes

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**Ellen Behrens, Ph.D.**

*Canyon Research & Consulting*

**Kristin Satterfield, M.D., Ph.D.**

*University of Utah*

Correspondence should be addressed to Dr. Ellen Behrens, E-mail: [Ellen@canyonresearchandconsulting.com](mailto:Ellen@canyonresearchandconsulting.com)

## Abstract

This paper presents the results from a multi-center study on outcomes for youth treated in private residential treatment programs. The sample of 1,027 adolescents and their parents was drawn from nine private residential programs. Hierarchical linear modeling indicated that both adolescents and parents reported a significant reduction in problems on each global measure of psycho-social functioning from the time of admission up until a year after leaving the program (e.g., Total Problems Scores, Internalizing Scales, and Externalizing Scales of the Child Behavior Checklist, CBCL, and Youth Self-Report, YSR). Furthermore, youth and parents reported that the youth improved on all syndromes between the point of admission and discharge (YSR and CBCL syndrome scales: Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Thought Problems, Attention Problems, Aggressive Behavior, Rule-Breaking) and that most of the syndromes remained stable and within the normal range for up to one year after discharge from treatment.

## **A Multi-Center Study of Private Residential Treatment Outcomes**

Since the early 1990's hundreds of private residential programs have been established in the United States. Outcomes of youth treated in these programs are largely unknown (Friedman, Pinto, Behar, Bush, Chirolla, Epstein ... & Young, 2006). Previous research has focused almost entirely on public residential treatment programs (RTPs) (Curry, 2004; Curtis, Alexander, & Longhofer, 2001; Hair, 2005; Leichtman, Leichtman, Barbet, & Nese, 2001; Lieberman, 2004; Whittaker, 2004). In fact, there is virtually no published outcome research on private RTPs. This paper attempts to build a research corpus expressly for private RTPs using a large-scale, systematic exploration of treatment outcomes.

It can be argued that private RTPs and public RTPs are fundamentally different. They developed independently and therefore have different histories, professional associations, client services, and client populations. Public RTPs originated in the 1940s, with the work of Bruno Bettelheim, Fritz Redl, and David Wineman (Cohler & Friedman, 2004). The primary professional association representing public RTPs is the American Association of Children's Residential Centers ([www.aacrc-dc.org](http://www.aacrc-dc.org)), which was founded in the 1950's. Clients in public RTPs are typically referred through public avenues (i.e., juvenile justice system, child protection agencies, or public mental health systems) (Curtis, et. al., 2001; Epstein, 2004; Hair, 2005) and funded with public money. Public RTP clients are predominantly males and disproportionately selected from ethnic minority backgrounds (Asarnow, Aoki, & Elson, 1996). A literature search of the PsycInfo database produced dozens of research studies conducted at public RTPs, enough to warrant a few literature reviews published in referee journals (e.g., Curry, 1991, Epstein, 2004; Hair, 2005, Little, Kohm, & Thompson, 2005).

In contrast, private RTPs were established in the late 1980's and early 1990's (Young & Gass, 2007) with the most rapid growth occurring after 2000 (Santa & Moss, 2006). Private RTPs were founded by a different and loosely organized network of individuals including John Santa, John Reddman, Kimball Delamare, and John Mercer (Santa & Moss, 2006). The National Association of Therapeutic Schools and Programs (NATSAP), founded in 1999, is the major association representing professionals in private RTPs. Private RTPs are typically for-profit entities. Private RTP services typically feature adventure activities, challenge courses, art therapy, and equine programs (Young & Gass, 2007). Services are most often funded by parents or, in some cases, by insurance companies (Friedman et al., 2006; Young & Gass, 2007). The large number of co-educational and female-only programs suggests that female youth are well represented within private RTPs. Unlike public RTPs, private RTPS are costly for families, ranging from \$5,000 to \$12,000 a month (Young & Gass, 2007), which largely circumscribes the client base to families of a high socio-economic status. In contrast to the large body of research

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on public RTPs, only one published outcome study has been conducted at a private RTP, specifically at The Menninger Residential Treatment Program, an intensive, short-term program. The primary measures for the study of 123 youth were the Child Behavior Checklist (CBCL) (Achenbach, 2001) and the Youth Self-Report (YSR) (Achenbach, 2001). The study found that parents and youth reported a significant decline in problems from admission to 3 months post-discharge with maintenance of gains up to 12 months post-discharge (Leichtman et al., 2001).

The findings of Leichtman and colleagues stand in contrast to the large body of literature on public residential treatment. Though a critical mass of studies have found that 60%-80% of adolescents improve during stays in public RTPs (Curry, 1991; Curtis et al., 2001; Epstein, 2004; Hair, 2005; Wells, 1991), many others have found that treatment gains come slowly, are spotty, and leave quickly. For instance, The National Adolescent and Child Treatment Study found that youth treated for “serious emotional disturbance” in public RTPs took three years to move from clinical to normal range of functioning (Greenbaum, Detric, Friedman, Kutash, Brown, Lardieri, & Pugh, 1996). In addition, based on published outcomes, reviewers have concluded that residential treatment is most appropriate for higher functioning, less vulnerable youth (Connor, Miller, Cunningham, & Melloni, 2002; Epstein, 2004; Gorske, Srebalus, Walls, 2003; Wells, 1991). Numerous other reviews of public RTPs conclude there is “no evidence” of lasting benefits for youth who received treatment: a significant portion of adolescents who function well at discharge subsequently experience a decline when transferred to a lower level-of-care (Curry, 1991; Epstein, 2004; Hair, 2005; Little, Kohm, & Thompson, 2005). The U.S. Department of Health and Human Services (1999) concluded after a review of the research conducted in public RTPs, “Given the limitations of current research, it is premature to endorse the effectiveness of residential treatment for adolescents.” In part because of this pronouncement, public policy shifted from RTP placements to community-based services. Bennett Leventhal and D. Patrick Zimmerman (2004), guest editors for a special issue of the *Child and Adolescent Psychiatric Clinics of North America* on (public) residential treatment, open the issue by stating,

*...the role of residential treatment seems to have little or no place in the continuum of care for children with mental disorders. Facilities for the intensive, long-term treatment of children and adolescents with serious and persistent psychiatric illness seem to have disappeared or quietly slipped in the shadows of available services. The public sector has seen dramatic downsizing or closures of most long- and short-term inpatient psychiatric treatment centers for children and adolescents. (p.7)*

The poor outcomes reported for public RTPs are based on a research corpus that has been sharply criticized for methodological

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flaws. Reviewers have criticized this body of work for its poor samples, retrospective designs, unstandardized measures, and unsophisticated statistical analyses (Curry, 1991; Curtis et al., 2001; Epstein, 2004, Hair, 2005). The majority of studies used only one informant, even though multiple informants have been shown to be necessary (Rend, 2005), and many studies use self-styled measures that lacked normative data and psychometric rigor (Hair, 2005). Sample sizes for studies of public RTPs also tend to be very small. Additionally, relatively few studies used advanced statistics to control for error or explore the impact of moderator and predictor variables.

### Method

The present study was designed to systematically explore youth outcomes in private RTPs and to simultaneously address some of the flaws noted in the public RTP research corpus. The study used a multi-center design, with repeated standardized measures, prospective data, a large sample, and two informant groups. The Western Institutional Review Board ([www.wirb.org](http://www.wirb.org)) approved consent/assent forms and issued Certificates of Approval for the study. The research questions were:

- 1) What are the characteristics of adolescents treated in the private RTPs?
- 2) How do adolescents function during and after treatment in private RTPs?
  - 2a) How does adolescent functioning vary across the selected treatment outcomes (e.g., total problems, internalizing problems, externalizing problems, aggressive behavior, anxious/depressed symptoms, withdrawn/depressed symptoms, somatic complaints, social problems, thought problems, attention problems, aggressive behavior, and rule-breaking behavior)?
  - 2b) Do youth outcomes vary according to age, gender, or number of presenting problems?

#### **Participants**

The sample consisted of 1,027 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, discharge, and 6- 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. Demographic information (i.e., ethnicity, parental income, gender, age) provided by the residential programs indicated the sample was representative of students enrolled in the programs during the same time period.

#### **Description of the residential programs**

The nine participating programs were private, out-of-home, licensed (when applicable), therapeutic placements for adolescents and were

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member programs of the National Association of Therapeutic Schools and Programs (NATSAP). The RTPs were Academy at Swift River, Aspen Ranch, Copper Canyon Academy, Mount Bachelor Academy, Stone Mountain School, Pine Ridge Academy, SunHawk Academy, Turnabout Ranch, and Youth Care ([www.aspeneducation.com](http://www.aspeneducation.com)). The contribution of each of the residential programs to the sample was relatively equal, ranging from 9% to 16%. This sample consisted of a mean of 55% of adolescents admitted to the residential programs during the identified time period. Though the participating programs were owned by one parent company, Aspen Education Group, curriculum and programming were developed “on-site.” This individual development resulted in significant diversity of curriculum and programming. The participating programs varied in terms of size (ranging from 15-bed programs to 120-bed programs), location (Massachusetts, Utah, Arizona, Oregon, North Carolina), treatment philosophy (therapeutic boarding school or residential treatment, the latter of which is more clinically focused and designed for more severely impaired adolescents), and services (e.g., equine assisted therapy, neurofeedback, adventure therapy, partial community placements). The diversity of the participating programs is reflective of the broader private residential treatment industry.

### ***Design and measures***

Since no control or comparison group was available, a single-group, pretest-posttest design was used. The primary measures were the Child Behavior Check List (CBCL) and the Youth Self Report (YSR) (Achenbach, 2001). The CBCL and YSR are two related and widely used measures of adaptive and maladaptive psychological and social functioning. The CBCL and YSR syndrome scores, Internalizing and Externalizing Scores, and Total Problem Score have excellent reliability (alpha values range from .78 to .97 for the CBCL scales and from .71 to .95 for the YSR scales) and validity (e.g., Achenbach, 2001; Bérubé & Achenbach, 2006). The CBCL is a parent-report measure of adolescent functioning that consists of 113 items. The YSR is a youth self-report measure that consists of 112 items. The measures have the same item format and scales, which makes them highly compatible. Items are rated on a three-point scale and are primarily objective or behaviorally anchored (e.g., “cries a lot”, “gets teased”, “fidgets”, “truant”). The CBCL and YSR yield 11 scales:

**Eight (8) Syndrome scales:** Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Thought Problems, Attention Problems, Rule-Breaking Behavior, Aggressive Behavior,

**Three (3) Aggregate or broad-band, scales:** Internalizing (problems that are mainly within the self), Externalizing (problems that mainly involve conflict with other people and their expectations for the child), and Total Problems (the sum and severity of all the problems reported on the measure).

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High scores on a scale indicate clinical deviations from the norm and the presence of numerous and severe problems. Each raw-scale score can be converted into a T-score, percentile rank, and range (Normal, Borderline Clinical, and Clinical). This study used raw scores for statistical analysis, as recommended in the CBCL and YSR manual, because T scores are truncated (Achenbach, 2001). The corresponding range for each syndrome's mean raw score was reported for informational purposes, to provide a benchmark relative to the normative data.

Background questionnaires were completed by both parents and adolescents at admission and discharge, and then again at the six and 12 month marks after discharge. The questionnaires evaluated psychosocial history (e.g., psychotropic medication use, legal problems, grade point average, matriculation in school, presenting problems and program evaluation) and satisfaction with the RTP. Residential program staff completed a brief form for each participating adolescent that indicated discharge status and problems that had been the focus of treatment.

## Results

### *Characteristics of the sample*

The mean age for all participants was 16 (SD = 1.2) with 55% being male. Most participants were Caucasian (87%), with small percentages of other ethnic groups. The median annual family income was >\$100,000. Almost all (97%) of the adolescents were placed in treatment by their parents. The overwhelming majority of youth had previous treatment at other levels of care (94%). Specifically, 80% had received outpatient treatment in the prior year, 70% had recently been prescribed psychotropic medications, and 31% had at least one psychiatric hospitalization. Only 22% of the youth had a legal record. The mean grade point average for participants was 2.0 on a 4.0 scale (D).

At the admission mark, "Total Problems" raw scores were 74 on the CBCL and 63 on the YSR, placing youth problems at the 97th percentile according to parents and the 91st percentile according to youth. This finding is salient: when treatment began, the adults and adolescents indicated that the adolescents were functioning worse than more than 90% of the adolescent population.

While in the residential program, the majority of adolescents were treated for multiple problems (82%). The most common treatment foci within the sample 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 seven months for those who were discharged with partial benefit or against program advice. The majority of the sample discharged with staff approval: 54% of students were discharged with maximum benefit,

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19.8% discharged early but with approval, 17.3% discharged against program advice, and 8.2% were transferred to a different program. At the discharge mark, mean parental and youth satisfaction with treatment was 4.4 and 4.3, respectively, on a scale ranging from one (poor) to five (excellent).

### **Change in functioning during and after treatment**

Table I contains the mean raw scores and ranges of functioning on the CBCL and YSR scales. Both adolescents and parents reported a dramatic decline in youth problems from admission to discharge, on all scales of the YSR and CBCL. Furthermore, scores changed from either the clinical or borderline clinical range at the admission mark to the normal range at the discharge mark and for up to one year after that, on all of the aggregate scales of the CBCL and YSR. For example, as shown in Figure 1, parent report of total problems decreased from the 97<sup>th</sup> percentile (Raw Score 73.82, Clinical Range) at admission to the 72<sup>nd</sup> percentile (Raw Score 31.14, Normal Range) one year after treatment. The complementary data from adolescents was similar: youth-reported total problems decreased from the 91<sup>st</sup> percentile (Raw Score 63.5, Clinical Range) at admission to the 60<sup>th</sup> percentile (Raw Score 38.5, Normal Range) one year after treatment.

**Table I**  
*Raw Score Scale Means and Range of Functioning*

		Admission	Discharge	6-Months Post	12-Months Post
<b>Aggregate Scales</b>					
Internalizing	CBCL	19.09, CL	7.96, N	7.88, N	7.99, N
	YSR	18.15, B	10.41, N	10.37, N	10.49, N
Externalizing	CBCL	28.19, CL	8.34, N	11.13, N	11.12, N
	YSR	24.52, CL	12.52, N	14.23, N	15.06, N
Total Problems	CBCL	73.82, CL	27.81, N	30.94, N	31.14, N
	YSR	63.50, CL	36.37, N	38.49, N	38.35, N
<b>Syndrome Scales</b>					
Anxious/Depressed	CBCL	8.49, N	4.00, N	3.52, N	3.42, N
	YSR	7.97, N	4.84, N	4.61, N	4.87, N
Withdrawn/Depressed	CBCL	6.95, N	2.63, N	2.91, N	2.91, N
	YSR	5.36, N	2.87, N	3.15, N	2.87, N
Somatic Complaints	CBCL	3.64, N	1.34, N	1.45, N	1.66, N
	YSR	4.81, N	2.70, N	2.62, N	2.75, N

Notes. CL = Clinical Range of Functioning, spans the 98<sup>th</sup> to 100<sup>th</sup> percentile, B = Borderline Clinical Range of Functioning, spans the 95<sup>th</sup> to 97<sup>th</sup> percentile, N = Normal Range of Functioning, below the 95<sup>th</sup> percentile. CBCL ns = 252-650, YSR ns = 139-773.

*(Table I Continued on page 34)*

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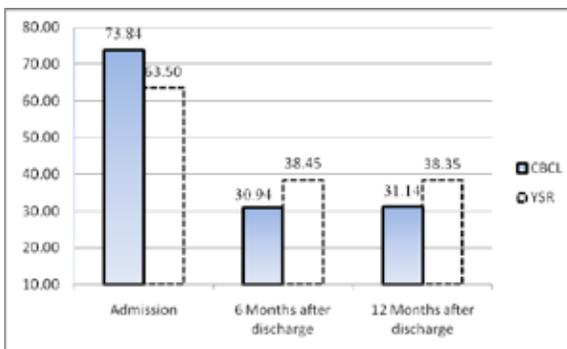
(Continued from page 34)

**Table 1**  
Raw Score Scale Means and Range of Functioning

	Admission	Discharge	6-Months Post	12-Months Post
<b>Syndrome Scales</b>				
Social Problems				
CBCL	5.25, B	2.14, N	2.00, N	2.06, N
YSR	5.30, N	3.43, N	3.39, N	3.31, N
Thought Problems				
CBCL	5.53, B	2.21, N	2.05, N	2.10, N
YSR	6.81, N	4.25, N	4.37, N	4.41, N
Attention Problems				
CBCL	10.10, B	4.73, N	5.24, N	5.27, N
YSR	8.72, N	5.76, N	6.12, N	5.09, N
Rule Breaking Behavior				
CBCL	13.80, CL	3.93, N	5.24, N	5.27, N
YSR	13.07, CL	5.77, N	7.26, N	7.63, N
Aggressive Behaviors				
CBCL	14.39, B	4.41, N	5.33, N	5.31, N
YSR	11.45, N	6.75, N	6.98, N	7.43, N

Notes. CL = Clinical Range of Functioning, spans the 98<sup>th</sup> to 100<sup>th</sup> percentile, B = Borderline Clinical Range of Functioning, spans the 95<sup>th</sup> to 97<sup>th</sup> percentile, N = Normal Range of Functioning, below the 95<sup>th</sup> percentile. CBCL ns = 252-650, YSR ns = 139-773.

Figure 1.  
CBCL and YSR Mean Raw Total Scores Over Time



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Paired samples t-tests were used to examine change in YSR and CBCL aggregate and syndrome scale scores from the admission mark to the discharge mark. All scales of the YSR and CBCL showed significant in-treatment changes (Table 2). As shown in Table 1, all syndrome raw score scales reduced to the normal range by discharge or, in the case of those scales that were already in the normal range at admission, reduced to levels further within the normal range at discharge.

One year after the discharge mark parents reported on some other important indicators of outcomes. Eighty-nine (89%) percent of the youth remained at home and had not been placed in any type of out-of-home care (i.e., residential treatment, boarding school, short-term psychiatric hospitalization). Eighty-six percent of parents reported their child was “somewhat better” or “much better” in response to the question, “Currently, how would you describe your child’s problems in comparison to when s/he entered the program?”

**Table 2**  
*T-tests for Syndrome Scale Scores at Admission and Discharge*

	<i>Measure</i>	<i>t test value</i>
<b>Aggregate Scales</b>		
Internalizing	CBCL	21.19**
	YSR	12.75**
Externalizing	CBCL	17.65**
	YSR	13.12**
Total Problems	CBCL	25.22**
	YSR	17.98**
<b>Syndrome Scales</b>		
Anxious/Depressed	CBCL	14.37**
	YSR	11.15**
Withdrawn/Depressed	CBCL	11.47**
	YSR	14.71**
Somatic Complaints	CBCL	9.60**
	YSR	11.39**
Social Problems	CBCL	13.94**
	SR	10.41**
Thought Problems	CBCL	11.81**
	YSR	10.45**
Attention Problems	CBCL	18.09**
	YSR	14.31**
Rule Breaking Behavior	CBCL	22.82**
	YSR	12.17**
Aggressive Behaviors	CBCL	21.10**
	YSR	13.56**

Note. \*\* =  $p < .001$ . CBCL ns = 215, YSR ns = 420

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Hierarchical linear modeling was used to evaluate changes in global functioning over time (admission through 12 months after discharge) and to explore if functioning was related to gender, age, or number of presenting problems. Hierarchical linear modeling is ideal when, as with this study, the goal is to model change over time but there are unequal time intervals and missing data (Hedeker & Gibbons, 1997), and when the goal is to determine if outcomes vary for different groups within the sample. Two-level, growth curve models were conducted using HLM6 (Raudenbush, Bryk, & Cheong, & Congdon, 2004) (Table 3). Growth models were estimated separately for Internalizing, Externalizing, and Total Problems scales using raw scores for the CBCL and YSR. Predictor variables were age, gender and number of presenting problems. Models were run separately for each predictor to maximize the available data. Because the major focus for the study was the trajectory of outcomes over time, attention was primarily on the linear and quadratic trend components rather than the intercepts. The linear trend isolated outcomes at admission and discharge. The quadratic trends isolated outcomes during the year after discharge. Table 3 displays chi-square tests that showed significant variability among subjects in their intercepts, linear slopes, and quadratic trends, ( $p < .05$ ). Attempts to account for the reliable variance in linear and quadratic components with the youths' age, gender, or number of presenting problems were unsuccessful. Taken together, the HLM models indicated that youths' problems improved significantly from admission to 12 months after discharge and that these trends did not differ based on gender, age, or number of problems.

**Table 3**

*Growth Model Mean Scores for Internalizing, Externalizing, and Total Problems of the CBCL and YSR*

	<i>Intercept</i>	<i>Linear Slope</i>	<i>Quadratic Component</i>	
Internalizing	CBCL	7.21*	-1.96*	1.66*
	YSR	8.29*	-1.55*	1.51*
Externalizing	CBCL	7.74*	-2.87*	3.23*
	YSR	10.44*	-1.51*	2.52*
Total Problems	CBCL	25.29*	-7.45*	7.30*
	YSR	30.46*	-4.72*	5.33*

*Note.* \* =  $p < .05$

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Repeated-Measures ANOVAs were computed for all syndrome scales of the YSR and CBCL, using Greenhouse-Geisser corrections, to test whether changes made during treatment were maintained after leaving the program, on each syndrome (Table 4). The within-subjects variable was time, which was measured by comparing scale scores obtained at the discharge mark to those obtained at six months and 12 months after discharge from the program. The hypothesis was that there would not be significant change over time, rather that gains made during treatment would be maintained. As seen in Table 4, time was not significant for most of the syndrome scales.

**Table 4**  
*Repeated Measures Analysis of Variance with Time as a Within Subject Variable*

<i>Syndrome Scales</i>	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>Partial eta sq</i>
<b>Anxious/Depressed</b>					
CBCL	3.50	1.94, 317.30	.69	.50	.004
YSR	4.70	1.85, 168.52	.50	.59	.005
<b>Withdrawn/Depressed</b>					
CBCL	9.13	1.93, 314.75	2.58	.08	.016
YSR	6.58	1.88, 173.33	1.79	.17	.019
<b>Somatic Complaints</b>					
CBCL	1.30	1.97, 321.76	.75	.47	.005
YSR	.78	1.95, 179.19	.23	.79	.002
<b>Social Problems</b>					
CBCL	3.43	1.87, 305.12	1.22	.29	.007
YSR	2.72	1.77, 163.03	.57	.55	.006
<b>Thought Problems</b>					
CBCL	1.59	1.93, 315.36	.60	.54	.004
YSR	.78	1.82, 170.36	.08	.91	.001
<b>Attention Problems</b>					
CBCL	55.23	1.92, 313.61	7.76	.001	.045
YSR	29.79	1.88, 72.92	5.19	.008	.053
<b>Rule Breaking Behavior</b>					
CBCL	349.04	1.96, 319.41	27.02	.000	.140
YSR	184.10	1.79, 164.88	15.42	.000	.144
<b>Aggressive Behaviors</b>					
CBCL	135.24	1.90, 309.73	10.58	.00	.060
YSR	60.17	1.94, 178.41	4.49	.01	.046

These findings indicate that neither the youth nor their parents thought that the youth had changed significantly during the year after discharge from the treatment program in terms of anxiety, withdrawal, somatic complaints, social problems, and thought problems. However, both parents and youth reported that the youth had changed (worsened) significantly in the year after discharge in terms of rule breaking, aggression, and attention. Note that the effect sizes, measured with partial eta square values, were very small for each of these scales, which indicates that there was only a small proportion of total variability. Thus, though statistically significant, the

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increase in rule-breaking, aggressive behaviors, and attention problems during the year after discharge was very small. Raw mean scores (Table 1) for the syndrome scales indicate that after discharge, parents and youth reported only a one-to-two point increase in those problems (on scales that have a ceiling of 30-34 points) and that the scores remained well within the normal range.

### Discussion

This study represents the first large-scale attempt at a systematic exploration of long-term treatment outcomes in private residential treatment. The 1,027 adolescents who participated in the study were sampled from nine private RTPs that varied widely in their approach and services. The variety among these private RTPs was intended to reflect private residential treatment in general. The typical client in these private RTPs was a white, upper middle- to upper class, 16-year-old male or female with prior treatment failures who was functioning below average academically and had multiple psycho-social problems. The most common youth problems were disruptive behavior, substance use, and mood disorders.

This present sample was fundamentally different from the samples reported in public residential treatment studies (Curtis et al., 2001; Epstein, 2004; Hair, 2005). Public residential treatment clients are primarily males, disproportionately selected from ethnic minority backgrounds, and referred by public authorities. In this private RTP sample clients were equally likely to be male or female, unlikely to be from ethnic minority backgrounds, and were placed in treatment by their parents. These demographic data lend credence to the claim that private and public residential treatment programs have distinct services and populations.

Adolescents in this study had serious psychological and social problems. At admission, both adolescents and parents reported that the adolescents' problems were worse than adolescents in the normal population (97.5% and 91%, respectively). Additional study variables point to high levels of distress among the adolescents in the sample such as an extensive treatment history (94% had prior treatment at least one level-of-care), a high rate of multiple problems (82%), and a 10.5 month average length-of-stay for those discharged with maximum benefit.

Both adolescents and parents reported a significant decline in problems during treatment, on every measured outcome of global psycho-social functioning (CBCL and YSR Total Problems, Internalizing, and Externalizing Scales), as well as at the syndrome level (YSR and CBCL syndrome scales). Perhaps the most meaningful finding was that functioning changed from the clinical or borderline clinical range at the admission mark to the normal range at the discharge mark and remained in the normal range during the year after discharge, on all of the aggregate scales of the CBCL and YSR (Internalizing, Externalizing,

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and Total Problems Score). In the year after discharge, adolescents also maintained gains on syndrome scales, with relatively minor recurrence of problems with rule breaking, aggression, and attention. These long-term positive outcomes stand in contrast to the outcomes reported for public residential treatment program about which numerous reviewers have concluded that there is no evidence of lasting benefit (Curry, 1991; Epstein, 2004; Hair, 2005).

This study's data suggest that treatment outcomes generally do not vary according age, gender, or number of problems. These null findings stand in contrast to the findings in the public RTP research corpus. A critical mass of research suggests that youth with relatively numerous and severe problems are less likely to benefit from treatment in public RTPs (Connor et al., 2002; Curry, 1991; Epstein, 2004; Gorske et al., 2003; Hussey & Guo, 2002). This finding, however, did not bear out in the present study. In the present study, favorable outcomes were obtained for youth even though co-morbidity rates and problem severity were very high. Furthermore, the public RTP research corpus suggests that outcomes vary by gender and age of the youth (Connor et al., 2002; Epstein, 2004; Lyons & McCulloch 2006). In the present study, males and females as well as younger and older adolescents had comparable outcomes. Perhaps one explanation for these null findings in the present study lies within the differences between private and public residential treatment clientele and services. This is a hypothesis that warrants further empirical study.

Given that this sample had co-morbid conditions, had failed at prior levels of care, and was largely in the severe range at admission, the shift in scores toward the normal range during and after treatment is noteworthy and speaks to the clinical significance of the change. Perhaps a point of comparison will help to interpret these data. Two of the most acclaimed evidenced-based treatments for youth with behavioral and substance abuse problems, Multi-systemic Therapy (MST) and Functional Family Therapy (FFT), show high rates of problematic functioning after treatment. The primary outcome indicator used to establish the effectiveness of MST and FFT was recidivism. Research suggests that recidivism rates were reduced with MST by 25% - 70% and FFT by 25-80% (Fonagy, Target, Cottrell, Phillips & Kurtz, 2002; NREPP). Though primary outcome indicators were different for those studies than the present study, a lesson can be derived. Even treatments already deemed as "evidence-based" do not "cure" all youth. In fact, a significant portion of youth who complete the "best of the best" evidence-based programs, have serious problems that persist. In this context, the clinical significance of the present study's findings is remarkable: youth who came to private residential treatment had the most severe of problems, but a year after discharge function within the normal range.

A number of issues warrant further research attention. First, this study did not use a control group. The lack of experimental designs (i.e.,

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control groups, random assignment to different conditions) in residential treatment outcome research is a common occurrence due to the practical and ethical constraints involved in 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 clearly desirable to use more robust, experimental designs when possible. Curry (1991) has suggested some creative and practical alternatives to classic experimental design that use within-program and across program comparison groups. Private residential treatment research would also benefit from process-focused studies that attempt to attribute change to specific components of treatment. Private residential care is so multifaceted and complex that it is less an intervention and more a tapestry of interventions (Fahlberg, 1990). As such, attempts to tie program components to outcomes would have profound clinical implications.

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*Disclosure Statement:* Aspen Education Group provided funding for this study.