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Characteristics of Children and Adolescents Admitted to a Residential Treatment Center

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Studies of youths in residential treatment that utilize systematic assessments and validated measures are rare. We examined psychopathology, family characteristics, occurrence of physical or sexual abuse, types of aggressive behavior, hyperactive/impulsive behavior, medical and neurological problems, and self-reported drug and alcohol use in 397 youth who were assessed using reliable measures and consecutively treated in a residential treatment center. Results indicate high rates of internalizing and externalizing psychopathology, aggressive behavior, and consistent gender differences, with girls having higher levels of internalizing and externalizing psychopathology and aggressive behavior. The sample was characterized by high rates of medical problems including asthma, seizures, and obesity, as well as evidence of extensive family dysfunction, including high rates of parental alcohol use, violence, and physical or sexual abuse. Residential treatment needs to progress beyond the one size fits all approach and develop more specific and empirically proven treatments for the specific needs of this population.

KEY WORDS: residential; treatment; children; adolescents; psychopathology.

Although the movement towards community-based treatment of children and adolescents with serious emotional disturbance has led to a de-emphasis on residential treatment, a substantial number of youths are placed in residential treatment each year. Since 1980, the number of children and adolescents admitted

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to residential treatment has increased substantially (Gilliland & Judd, 1986; Public Health Service, 1992; Spencer, Shelton, & Frank, 1997). Analyses suggest that the growth in residential treatment has been accompanied by decreased access to inpatient treatment and that residential treatment centers increasingly serve as an alternative to inpatient psychiatric care for many seriously emotionally disturbed children and adolescents. This trend has accelerated as public sector mental health and child welfare agencies increasingly adopt managed behavioral health care models with mandates to reduce the cost of child psychiatric hospitalization (Frank & Dewa, 1992; Lyons et al., 1998).

Despite the multiple descriptions of youngsters in residential treatment (Burns & Freidman, 1990; Costello, Angold, Burns, Erkanli, Stangl, & Tweed, 1996; Greenbaum, Dedrick, Friedman, Kutash, Brown, Lardieri, & Pugh, 1998; LeCroy & Ashford, 1992; Reddy, 2001; Wells & Whittington, 1993), several critical areas remain neglected in the study of this population. The first area concerns a need to more specifically describe aggression. Most studies of children with behavior problems in residential treatment describe them as having conduct, antisocial, delinquent, or behavioral problems (Greenbaum et al., 1998). However, little is known about more specific characteristics of aggressive behavior in children who are placed in residential treatment (see Connor, Melloni, & Harrison, 1998 for an exception). For example, in psychiatric settings the category of aggression (e.g., verbal threats, physical assault, property destruction, self-harm), frequency, and intensity of individual aggressive behavior is important to know for treatment planning and safety considerations (Yudofsky, Silver, Jackson, Endicott & Williams, 1986). In addition, maladaptive aggression can be categorized as proactive, reactive, or pervasive (Dodge & Coie, 1987; Dodge, 1991). Proactive aggression is determined by reward contingencies. Reactive aggression is a defensive response to perceived threat (Connor, 2002; Dodge, Lochman, Harnish, Bates, & Pettit, 1997). Pervasively aggressive children are both reactive and proactive in their aggressive behaviors. This distinction is important because reactive aggression may be more treatment responsive than proactive aggression (Connor, 2002). Studies of youths in residential treatment have not examined these more fine-grained aspects of aggressive behavior. Such investigation may help identify which aggressive youths respond best to residential treatment.

Another important issue relates to possible gender differences in this population. There is little research on girls who are placed in residential treatment, but it is possible that girls who are placed in residential treatment programs may have higher levels of psychological disturbance than boys in the same program (Hussey & Guo, 2002). However, few studies have used empirical methods to describe the characteristics of girls in residential treatment.

While most studies of youth placed in residential treatment characterize domains including behavior, service needs, academic functioning, family functioning, and outcome (Connor, Miller, Cunningham, & Melloni, 2002; Curry, 1991; Reddy, 2001; Wells & Whittington, 1993), little research has assessed the medical

needs of children and adolescents in residential treatment. Thus, there exists a need for systematically collected data on medical and neurological problems in these youngsters to guide treatment planning.

The purpose of our study is to begin to address these issues by describing a carefully and systematically evaluated sample of children and adolescents who were consecutively treated in a large, single-site, residential treatment center. A focus of this study is to examine various measures of youth functioning and family characteristics and problems. Our study (1) describes characteristics of aggressive behavior, using reliable and valid rating scales, (2) examines possible gender differences in psychopathology and behavioral problems, and (3) describes medical problems encountered in these children and adolescents.

METHOD

Subjects

The sample consisted of 397 consecutive admissions to a single residential treatment center between 1994 and 2001. A few youngsters referred to the program were not included in the sample ($N = 26$; 6%) because they left the residential treatment center before the assessment was completed (e.g., ran away, premature discharge). The mean age of the subjects was 13.44 years ($SD = 2.64$) and 80% ($N = 317$) were male. In terms of ethnic background, 64% of subjects were Caucasian, 17% African American, 15% Hispanic, 1% Asian American, and 3% mixed ethnic background.

Data Collection Procedures

Children were systematically assessed when admitted to the residential treatment center and all data were obtained as part of this standard clinical assessment. Data were collected in such a way as to protect the subjects' confidentiality and the procedure was reviewed and approved by the University of Massachusetts Medical School's Institutional Review Board. Independent written informed consent was obtained from all parents and guardians for the review of the clinical data.

A board-certified or board-eligible child psychiatrist evaluated all children. Psychiatric diagnoses were obtained by clinical interview of the child with corroborating information from caregivers and the clinical record. All psychiatric diagnoses were based on DSM-IV criteria (American Psychiatric Association, 1994). Medical and neurological diagnoses were obtained from the admission physical examination conducted by consulting pediatricians.

Clinical staff completed rating scales within 4 weeks of admission to the residential treatment center. Information about family history and other clinical

variables were obtained by interviewing the child and the parent or guardian, and by reviewing the child's medical record.

Measures

Psychopathology

The Devereux Scales of Mental Disorders (DSMD) is a well-validated 110-item behavior rating scale designed to evaluate psychopathology in young children and adolescents consisting of 3 broad band and 6 narrow band scales (Naglieri, LeBuffe, & Pfeiffer, 1994). The total score indicates the overall level of psychopathology. Classroom teachers completed the DSMD on all children.

Hyperactive/Impulsive Behavior

Classroom teachers assessed child hyperactive and impulsive behaviors using the 10-item Conners Teacher Rating Questionnaire (CTQ) (Conners, 2001).

Self-Reported Alcohol and Substance Use

Children were asked to report whether they used alcohol or other drugs. Youth self-reports of substance use may be valid in highly structured psychiatric treatment settings where honest reporting is encouraged (Crowley, Mikulich, Ehlers, Whitmore, & MacDonald, 2001; Weiss, Najavits, Greenfield, Soto, Shaw, & Wyner, 1998).

Intelligence

For youths 16 years and older, IQ was assessed by the Wechsler Adult Intelligence Scale (Wechsler, 1981). For younger children, IQ was determined by the Wechsler Intelligence Scale for Children (Wechsler, 1991).

Aggression

The Modified Overt Aggression Scale (MOAS) (Sorgi, Ratey, Knoedler, Mardert, & Reichmann, 1991; Yudofsky, Silver, Jackson, Endicott, & Williams, 1986) is a 20-item scale that assessed the frequency and severity of aggression during the previous month. The MOAS was completed by residential staff. The MOAS assesses four categories of aggression including Verbal Aggression (threats of harm to others), Objective Aggression (impulsive property destruction), Self-Aggression (self-injurious behaviors), and Other Aggression (physical assault).

Proactive and reactive aggression were assessed using the Proactive/Reactive Aggression rating scale completed by residential staff (Dodge, Lochman, Harnish, Bates, & Pettit, 1997). This scale consists of 3 questions assessing reactive aggression and 3 questions assessing proactive aggression. The Proactive/Reactive Aggression scale demonstrates adequate reliability and validity in children (Coie, Dodge, Terry, & Wright, 1991; Dodge & Coie, 1987; Dodge et al., 1997).

The Buss Durkee Hostility Inventory was used to assess self-reported hostile attributions. This scale yields an Expressed Hostility factor and an Experienced Hostility factor. The convergent and discriminant validity of this scale is well established (Buss, Durkee, & Baer, 1956; Treiber et al., 1989).

Family History

The current primary caregiver, any history of parental violence, arrest, or substance use, number of placements, and age at first placement were obtained by directly interviewing the child and coded if corroborating evidence was found in the medical record.

Physical and Sexual Abuse

Physical or sexual abuse history was identified only if the written medical record supported a documented legal charge against a caregiver because of suspected abuse, court appearance because of abuse charges, or a supported protective services evaluation of abuse as mandated by state child protective service law. This represents a more conservative coding strategy than studies that use only self-report data to ascertain abuse history and has been used in previously published research (Connor et al., 1998). Age at first reported abuse and type of perpetrator were coded from the medical record.

Reliability of Diagnoses and Coding of Variables

Inter-rater reliability between a board-certified child psychiatrist and board-eligible psychiatrist was calculated using the Kappa statistic for 40 (10%) subjects. The mean Kappa was .84 for all diagnostic, historical, and chart review variables.

RESULTS

Psychiatric and Medical Diagnoses

The primary psychiatric diagnoses were disruptive behavioral disorders (e.g., conduct disorder, ADHD) (49%), affective and anxiety disorders (31%), psychotic

disorders (12%), and other disorders (e.g., developmental, tic, personality disorders) (8%). Almost all children (92%) received more than one psychiatric diagnosis ($M = 2.68$; $SD = 0.93$). Regarding the frequency of multiple diagnoses, 39% of the children had two psychiatric diagnoses, 32% had three diagnoses, 20% had four diagnoses, and 1% had five diagnoses.

There was a significant gender difference in primary diagnosis, $\chi^2(7) = 39.1$, $p < .001$. Girls were more likely to have a primary diagnosis of affective and anxiety disorder and boys were more likely to have a primary diagnosis of disruptive behavior disorder.

A large number of subjects (40%) also were diagnosed with a medical problem. These included pulmonary (primarily asthma) (17%), cardiovascular (3%), endocrine (2%), hematological (1%), and other (primarily obesity) (18%) conditions. In addition, 20% of the subjects were diagnosed with neurological disorders. These disorders included seizure disorders (5%), abnormal EEG without active seizures (6%), other neurological conditions involving the central nervous system (8%), and other neurological conditions that did not involve the central nervous system (2%).

Psychopathology and Behavioral Problems

DSMD Scales

For the entire sample, the mean score on the DSMD Scales ranged from 55 to 60 (See Table I). Although the mean scores for the DSMD scales indicate borderline levels of psychopathology for the entire sample, significant percentages of subjects scored in the clinical range (i.e., scores of 60 or greater) on each subscale (See Table II).

There were significant gender differences on the Conduct ($t(101.4) = 2.85$, $p < .05$), Anxiety ($t(388) = 2.91$, $p < .005$), and Depression ($t(101.0) = 2.55$,

Table I. Means and Standard Deviations for Devereux Scales of Mental Development

Scale	Entire sample	Females	Males	*t* test
Conduct	58.12 (10.8)	61.7 (13.2)	57.2 (9.9)	(101.4) = 2.85*
Delinquency/Attention	52.9 (10.0)	54.2 (10.2)	52.6 (9.9)	(388) = 1.30
Anxiety	59.9 (13.1)	63.7 (15.0)	58.9 (12.4)	(388) = 2.91*
Depression	58.2 (12.2)	61.9 (15.0)	57.3 (11.2)	(101.0) = 2.55*
Autism	55.6 (13.1)	58.4 (15.8)	54.9 (12.2)	(102.9) = 1.81
Acute Problems	55.1 (11.4)	57.0 (11.0)	54.6 (11.4)	(388) = 1.63
Externalizing	55.6 (10.2)	58.2 (11.5)	55.0 (9.7)	(387) = 2.51*
Internalizing	59.7 (12.9)	63.8 (15.3)	58.7 (12.0)	(101.7) = 3.17*
Critical Pathology	55.7 (12.2)	58.0 (13.1)	55.1 (12.0)	(387) = 1.86
Total Score	57.6 (11.7)	60.77 (13.2)	56.78 (11.2)	(107.8) = 2.47*

Note. Adjusted degrees of freedom are reported when Levene's test for equality of variances indicated statistically significant group differences ($p < .05$) in variances.
*$p < .05$.

Table II. Percentages of Children with Devereux Scales of Mental Development Scores >60

DSMD Scale	Entire sample	Females	Males
Conduct	46%	51%	42%
Delinquency/Attention	26%	26%	24%
Anxiety	46%	48%	38%
Depression	42%	47%	37%
Autism	29%	29%	27%
Acute Problems	24%	27%	21%
Externalizing	35%	42%	31%
Internalizing	46%	52%	41%
Critical Pathology	29%	33%	25%
Total	40%	47%	35%

$p < .005$) subscales. Girls scored higher than boys on all three subscales. For the composite scales, girls scored significantly higher than boys on both the Internalizing ($t(101.7) = 3.17$, $p < .01$) and Externalizing ($t(387) = 2.51$, $p < .05$) scales. A similar pattern was obtained for the Total score ($t(107.80) = 2.45$, $p < .05$). Once again, girls had higher overall levels of psychopathology than boys.

Impulsive Behavior and Substance Use

The mean score on the Conners Teacher Questionnaire for the entire sample was 12.71 ($SD = 8.18$). Scores for girls ($M = 11.58$, $SD = 8.63$) and boys ($M = 12.99$; $SD = 8.05$) were not significantly different, $t(392) = -1.39$. Many subjects reported using alcohol (25%) or drugs (28%). With regard to alcohol, girls (38%) were significantly more likely than boys (22%) to use alcohol, $\chi^2(1) = 8.35$, $p < .001$. A similar pattern was found for drug use, $\chi^2(1) = 6.02$, $p < .05$; girls (39%) were again more likely than boys (25%) to report that they used drugs.

Intelligence. For the entire sample, the mean Verbal IQ was 83.2 ($SD = 16.8$) and the mean Performance Scale IQ was 84.4 ($SD = 18.6$). The mean Full Scale IQ was 82.3 ($SD = 17.7$). There were no statistically significant gender differences in Verbal IQ, ($t(390) = 0.75$), Performance IQ, ($t(390) = 1.14$), or Full Scale IQ, ($t(394) = 1.28$).

Aggression

Mean scores for the aggression scales are presented in Table III. Scores on the MOAS indicate a high frequency of aggressive behavior. Based on their scores on the Proactive/Reactive Aggression scale, children were classified into reactively aggressive, proactively aggressive, pervasively aggressive (i.e., high in

Table III. Means and Standard Deviations of Aggression Scales

Measure	Entire sample	Females	Males	*t* test
Reactive	3.1 (1.4)	3.1 (1.1)	3.1 (1.4)	(395) = −0.29
Proactive	2.1 (1.4)	2.2 (1.1)	2.0 (1.4)	(395) = 1.01
Verbal	13.2 (12.0)	16.3 (15.1)	12.4 (10.9)	(101.1) = 2.19*
Object	5.9 (9.2)	7.6 (11.4)	5.4 (8.4)	(102.2) = 1.60
Self	4.7 (9.3)	8.1 (13.3)	3.8 (7.8)	(93.5) = 2.76*
Other	5.8 (9.9)	8.6 (13.7)	5.1 (8.5)	(94.9) = 2.19*
Total	29.5 (32.1)	40.6 (43.1)	26.7 (28.1)	(96.8) = 2.75*
Expressed Hostility	4.5 (1.7)	4.8 (1.6)	4.5 (1.8)	(384) = 1.37
Perceived Hostility	3.5 (1.2)	4.1 (0.9)	3.3 (1.2)	(155.1) = 6.35*
Total Hostility	8.0 (2.4)	8.9 (1.9)	7.8 (2.4)	(147.9) = 4.30*

Note. Adjusted degrees of freedom are reported when Levene's test for equality of variances indicated statistically significant group differences ($p < .05$) in variances.
* $p < .05$.

both reactive and proactive aggression), and nonaggressive groups. Most children (58%) in the sample were classified as aggressive. Reactively aggressive children comprised 37% of the sample and pervasively aggressive children comprised another 21% of the sample. Only one child (0.3%) was classified as proactively aggressive.

There were significant gender differences on the MOAS. Compared to boys, girls had significantly higher scores in three categories of aggressive behavior: Verbal Aggression, $t(1001.1) = 2.19$, $p < .05$, Self-Aggression, $t(94.9) = 2.19$, $p < .05$, and Other Aggression, $t(93.5) = 2.76$, $p < .01$. Girls also had significantly higher scores on the MOAS Total scale, $t(96.48) = 2.74$, $p < .01$. Girls also scored significantly higher on the Perceived Hostility scale, $t(155.1) = 6.35$, $p < .001$, indicating that girls view the environment as more hostile than do boys. For the Total Hostility score, girls again had significantly higher scores than boys, $t(147.9) = 4.30$, $p < .001$. There were no significant gender differences in the proactive/reactive classification of aggressive behavior, $\chi^2(3) = 4.63$.

Family Characteristics

With regard to living arrangements prior to admission, 57% of the subjects were living with a biological parent, 43% with others, and 23% were in the custody of state protective services.

For 65% of subjects, a parent or primary caretaker abused alcohol. There were significant gender differences in parental alcohol abuse, $\chi^2(1) = 5.44$, $p < .05$. Parental alcohol abuse was more common in the families of girls (76%) than boys (62%). There were no significant gender differences in history of parental violence, $\chi^2(1) = 1.75$. There were no significant gender differences in the rates of parental arrest, $\chi^2(1) = 0.87$.

Placement History

For 7% of the subjects, the current admission to the residential treatment center was the first out-of-home placement. Nine percent of subjects had one prior out-of-home placement, 39% had 2–5 placements, 26% had 6–10 placements, and 19% had more than 10 out-of-home placements. Thus, 84% of the study youth had two or more out-of-home placements prior to the placement in the current setting. There were significant gender differences in the number of out-of-home placements, $\chi^2(4) = 16.00$, $p < .005$. Compared to boys (40%), girls (65%) were more likely to have more than five prior out-of-home placements. Six percent of subjects were younger than 2 years old at the time of their first out-of-home placement. Another 19% were between 2 and 5 years old when they were first placed outside the home and 43% were 6–12 years old when they were placed outside the home. Twenty-seven percent of subjects were teenagers at the time of their first out-of-home placement.

Physical and Sexual Abuse

Almost half (47%) of the subjects had been physically abused. Girls (60%) were more likely to experience physical abuse than boys (43%), $\chi^2(2) = 7.38$, $p < .01$. Many subjects (33%) had been sexually abused. Girls (64%) were more likely to be sexually abused than boys (27%), $\chi^2(1) = 41.74$, $p < .001$. Twenty-four percent of subjects were subjected to both physical and sexual abuse. Girls (46%) were significantly more likely to experience both physical and sexual abuse than boys (18%), $\chi^2(3) = 41.92$, $p < .001$. There were significant gender differences in the nature of the perpetrators of physical or sexual abuse, $\chi^2(2) = 23.77$, $p < .001$. When physical and sexual abuse were considered together, 59% of girls and 43% of boys were abused by a parent or caregiver. For 19% of girls and 7% of boys, the perpetrator was someone other than a parent or caregiver.

DISCUSSION

Our study differs from most previous reports of youngsters in residential care in that a systematic and comprehensive assessment was conducted for each child that included reliable and valid measures.

Rates of psychiatric disorders in this sample far exceed population prevalence rates in the community. For example, ADHD is found in 3% to 12% of the population (Cantwell, 1996), conduct disorder in 6% to 16% (Connor, 2002), depression in up to 8% of teenagers (Birmaher et al., 1996), and anxiety disorders in up to 4% of adolescents (Bernstein et al., 1996). In this sample, 49% of the youth were diagnosed with disruptive behavior disorders (mostly ADHD and conduct disorder), and another 31% were diagnosed with affective or anxiety

disorders. In young adults, the population base rate of schizophrenia is between 0.5% and 1.5% (American Psychiatric Association, 2002). In this study, the rate of psychotic disorders (12%) exceeds this, although not all psychotic disorders were schizophrenia; some included schizophreniform and atypical psychosis.

Asthma is a common pulmonary disease in children, with a childhood population prevalence estimated to be between 5% and 10%. In this study, 17% of the children were being treated for asthma. This is higher than the population base rate. One possible explanation is the well-known finding that asthma is influenced by emotion, stress, and other psychological factors. Since the youths in this study experienced overwhelming stress during their development, those vulnerable to asthma may have expressed the disease at higher rates than nonreferred children (Behrman, Vaughn, & Nelson, 1987).

In the population, between 0.2% and 0.6% of children and adolescents have an active seizure disorder such as epilepsy (Behrman et al., 1987). In this study, 5% were in active treatment for a seizure disorder. A higher rate of seizure disorders may occur in this population because of increased rates of head injury in psychiatrically disturbed youths, violence resulting in head injury, congenital anomalies, or heritable factors known to be important in epilepsy.

These children exhibited very high levels of aggressive behavior. Findings for the Modified Overt Aggression Scale (Yudofsky et al., 1986), indicates that these children exhibited a wide range of aggressive behavior on a frequent basis. Verbal aggression (threats to harm others) was the most frequent form of aggressive behavior, but the frequency of physical assault, impulsive property destruction, and self-injurious behavior was noteworthy. Without a comparison group, it is difficult to precisely interpret our MOAS scores. We only report MOAS scores here to establish a comparison against which future studies can compare MOAS scores from different samples of children and adolescents.

The reactive/proactive typology of Dodge et al. (1997) was used to further assess aggression in this study. Using this method of classification, most children (58%) in this sample were classified as aggressive. Of those classified as aggressive, the majority were reactive aggressors. Reactive aggression is characterized by rage, hostility, and anger that occurs in response to perceived threat or provocation. About 20% of the children were classified as pervasively aggressive, having characteristics of both reactive and proactive aggression. These youths were aggressive in response to perceived threat or provocation, and saw positive outcomes from aggressive responding as an accepted means of conflict resolution or as a way to obtain resources from the environment. Proactively aggressive behavior by itself was rare in this sample.

Hyperactive-impulsive behavior was more prevalent than in nonclinical populations. For example, in nonreferred community samples, males have a mean score on the Conners Teacher Rating Hyperactivity Rating Index between 4.1 ($SD = 5.6$) for 6- to 8-year olds and 1.6 ($SD = 3.2$) for 15- to 17-year olds. For females the

corresponding scores range between 1.6 ($SD = 3.5$) and 0.3 ($SD = 0.6$) (Conners, 2001). In this study the scores for boys were 12.99 and for girls 11.6 across all ages. These findings suggest that impulse dyscontrol is a serious and significant problem for children of both genders in residential treatment.

Significant gender differences also emerged for several measures of psychopathology and behavior problems. Similar to epidemiological studies and reports of clinically referred samples that include adolescents, girls were more likely to be diagnosed with affective and anxiety disorders (Kovacs et al., 1989; Lewinsohn et al., 1994). Similar to other studies of externalizing behavior disorders, boys in this study were more likely to be diagnosed with disruptive behavior disorder (ADHD, conduct disorder, oppositional defiant disorder) (Cantwell, 1996).

When gender differences were obtained, girls consistently exhibited higher levels of psychopathology. Girls in our sample had more significant family psychopathology and higher rates of multiple out of home placements than boys, and this may contribute to girls' increased rates of psychopathology. Moreover, girls were significantly more likely than boys to self-report use of alcohol and drugs. Compared to boys, girls exhibited higher levels of verbal aggression, physical assault, and self-injurious behavior. Furthermore, girls had higher scores on the Perceived Hostility scale, indicating that they view the world as more hostile than do boys.

Overall, these findings are consistent with Hussey and Guo (2002) in indicating that girls who are placed in residential treatment are likely to present with particularly high levels of psychopathology and behavioral problems. It may be the case that females in our sample need to have more psychopathology and behavioral problems than males to be considered by authorities for placement.

The findings concerning family characteristics and placement history underscore the extensive dysfunction in the children's families. Problems with parental alcohol abuse, parental violence, and parental arrest characterized a large number of families.

Some evidence suggests that family dysfunction, including parental alcohol abuse and violence, contribute to the occurrence of physical and sexual abuse (e.g. Azar & Wolfe, 1998; Briere, 1992; Chassin, Barrera, & Montgomery, 1997) and there was a high rate of child abuse in this sample. The finding that approximately 25% of the children had been subjected to both physical and sexual abuse is consistent with other research in indicating a substantial overlap in these different forms of abuse (Cohen et al., 1996; Green, Russo, Navratil, & Loeber, 1999; Meyerson, Long, Miranda, & Marx, 2002; Naar-King, Silvern, Ryan, & Sebring, 2002). In most instances, youths were abused by a parent or caregiver. In is important to note that using our conservative coding methodology, the present findings may underestimate the rates of physical and sexual abuse in our sample.

When interpreting the findings for the present study, it is important to recognize that the sample was obtained from a single residential treatment center. Because residential programs vary widely in size, treatment models, and populations served, the present findings may not generalize to youth who are treated in other kinds of programs. The study is descriptive and cross-sectional in design; hence, causality cannot be inferred from the present findings. No comparison group was available. On some measures such as the MOAS, lack of a comparison group diminishes precise understanding of the meaning of aggression scores.

Overall, these findings suggest that it will be important to go beyond the one-size-fits-all approach to treatment that is common in residential programs (Lyons et al., 1998). Treatment needs to be tailored to the needs of the child. Furthermore, specific and targeted interventions that are evidence-based and evaluated in populations of seriously emotionally disturbed youths are needed. It cannot be assumed that treatments that are effective in less impaired youngsters, such as those referred to ambulatory care clinics, will also be effective with seriously emotionally disturbed children and adolescents in residential treatment. In particular, these findings suggest that it is necessary to develop evidence-based interventions in several specific areas, including (1) anxiety and affective psychopathology, (2) disruptive behavioral disorders, (3) impulse dyscontrol, (4) reactive aggression and mixed proactive/reactive aggression, (5) trauma-related psychopathology, (6) early onset alcohol and drug problems, and (7) interventions with significantly impaired families. Moreover, these interventions must be adapted for children who often present with below average intelligence. Finally, additional research on the specific treatment needs of girls in residential settings is needed.

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