

# Symptom Persistence in Seriously Emotionally Disordered Children: Findings of a Two-Year Follow-up after Residential Treatment

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**Abstract** Residential treatment is arguably the most costly and intensive part of the children's mental health system. Yet, research suggests that a subset of the emotionally disordered children and youth admitted to intensive tertiary care treatment facilities fail to demonstrate symptom reductions upon discharge, with many continuing to deteriorate in their adjustment during the follow-up period. This study reports on the factors that characterize the children and youth that, while showing marginal benefit from residential treatment, continue to show community conduct problems at a two-year follow-up period. The results are discussed in the context of how knowledge of these factors can help inform future treatment and research directions.

**Keywords** Residential treatment · Symptom persistence

## Introduction

Certain youth who experience serious emotional disturbance (SED) appear not to improve on measured outcomes despite receiving the most intensive inpatient services available within the children's mental health system. (Halliday-Boykins et al. 2004; Renaud et al.

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1998; St. Pierre et al. 2008). Epstein et al. (1998) suggest that such symptom persistence, and impairment severity with these children and youth, constitute approximately 10% of all children. Both the nature of the treatment provided and the means by which it is delivered needs to be reconsidered for this group. (Halliday-Boykins et al. 2004; Renaud et al. 1998; St. Pierre et al. 2008). This study explored the characteristics of children and youth who do not show improvement at a two-year follow-up, despite their having access to costly and, arguably, the most intensive services available.

## Literature Review

Research examining the risk for long-term adjustment difficulties for SED children and youth has focused on a number of areas including the age at which the onset of behavioural problems first emerge, the nature and intensity of externalizing and internalizing disorders, and the impact of early traumatizing experiences that predict later adjustment difficulties.

### Age of Onset

The existence of different developmental pathways leading to poor mental health outcomes in children and adolescents is well established (Bierman et al. 2002; Moffitt 1993; Moffitt and Caspi 2001; Moffitt et al. 2002; Ruchkin et al. 2003; Tremblay et al. 2004; van Lier et al. 2007; Vermeiren et al. 2002). Moffitt (1993) identified two distinct categories, or pathways, for children and adolescents that share problem behaviours, both of which have different risk factors. These are identified as life-course persistent and adolescent-limited (Moffitt and Caspi 2001). Externalizing psychopathology and neuropsychological deficits such as attention deficit hyperactivity disorder or other impulse control disorders are associated with the development of life-course persistent antisocial behaviour (Moffitt and Caspi 2001; van Lier et al. 2007; Vermeiren et al. 2002).

### Nature of the Disorder

The specific nature of a child's emotional disorder has also distinguished chronic from episodic adjustment disorders in children and youth. Externalizing behaviour disorders, reflected in hyperactivity, aggression, and conduct problems, are the most common reasons for psychiatric referrals (Fite et al. 2008), and are associated with an increased risk for persistent and serious antisocial behaviour (Leschied et al. 2008). The association between externalizing behaviour problems and persistent and serious conduct problems is identified in numerous studies (Babinski et al. 1999; Broidy et al. 2003; Fite et al. 2008; Shabat et al. 2008; Vermeiren et al. 2002).

Methodologically, research investigating symptom persistence has typically examined disorders across developmental periods and used a variety of measures to assess the disorders (Rubin et al. 2003; Rubin and Stewart 1996). A convergence of results suggests however, that for internalizing disorders such as anxiety (Albano et al. 2003) and depression (Hammen and Rudolph 2003), symptoms are relatively stable over time for a substantial number of youth. For example, in a group of prepubertal children and post-pubertal youth, Birmaher and Brent (2005) reported that adolescents assessed for psychopathology every two years over a five-year period had similar internalizing symptomatology, severity of index episodes, and rate of recurrence (40%). Other researchers report a 50% persistence rate for major depressive disorder (Goodyer et al. 1997).

This evidence suggests that certain internalizing disorders identified early in childhood can place the child at risk for the development of comorbid conditions, and if left untreated, can extend into adolescence and adulthood (Albano et al. 2003).

There is, however, contradictory evidence concerning how internalizing disorders influence later behaviour. Some studies have found internalizing disorders during childhood and adolescence to be modest predictors of later behavioural disorder and violence (Leschied et al. 2008). Vermeiren et al. (2002) suggest that young offenders with major depressive disorder may belong to the adolescence-limited type (late-onset group) as previous studies have found higher rates of internalizing problems in this group of offenders.

### Comorbidity

Comorbid diagnoses among children with SED is common, most notably with regards to children presenting with comorbid externalizing behaviour disorders such as conduct disorder and attention-deficit/hyperactivity disorder, and internalizing behaviour disorders (Babinski et al. 1999; Fite et al. 2008; McMahon 1994). Persistence rates for externalizing (40–56%), and internalizing domains (23% to 57%; e.g., Briggs-Gowan et al. 2003; Lavigne et al. 1998), suggest a pattern of oppositional symptomatology, comorbidity, and persistence of disorder in clinic-referred preschool boys (Speltz et al. 1999).

### Trauma

High rates of Post Traumatic Stress Disorder are reported among young people identified in the youth justice system, or other children's service agencies (Ruchkin et al. 2003; Ruchkin et al. 2002; Vermeiren et al. 2006). A trauma model of violence suggests a relationship between traumatization and later violence, supported by studies that suggest witnessing violence and being victimized by violence, are positively associated with novelty seeking, emotional dysregulation, aggression, and antisocial behaviour in later adulthood (Ruchkin et al. 2002; Schelble et al. 2010).

### Treatment Provided to Seriously Emotionally Disordered Children/Youth

The children's mental system is created within a hierarchical framework insuring those children/youth showing the greatest need receive the most intensive services that are available. Residential treatment (RT) within this service delivery framework represents the most intensive and indeed expensive part of the system. While still relatively modest in number, outcome studies reporting on the effectiveness of RT are mixed in their results (Frensch and Cameron 2002; Hair 2005). Henggeler and his research colleagues (Henggeler et al. 2009) over the past twenty years have noted the discouraging outcomes related to RT, particularly for youth with conduct disorder, signaling that a service delivery approach for these youth is more effective when based on intensive, community-oriented treatment options. Yet, for most communities, RT remains the treatment of choice for SED children and youth within the children's mental health system.

### Present Study

Symptom persistence within the study of developmental psychopathology is now well documented in youth with early onset, comorbid symptoms (see Cicchetti and Rogosch

2002 for a comprehensive exploration of the concept of continuity and discontinuity). As well, the youth justice literature points to developmental trauma and maltreatment as predictors of later social service involvement. The current sample of children and youth who possessed high comorbid mental health difficulties, early age of symptom onset, and high rates of pathogenic care, were followed for two years after at term of inpatient treatment.

## Method

### Participants

Children and youth aged 6 to 17 years with complex mental health difficulties were admitted to residential treatment at a tertiary care facility. The referral process within the catchment area for the treatment facility ensured that only those individuals with high levels of clinical need and risk for permanent school and home breakdowns were accepted for inpatient treatment. There were 230 individuals who entered residential treatment during the study period ( $M = 12.06$  years of age,  $SD = 2.46$ , 171 boys). Five participants were not included in the analysis as they voluntarily left residential care within the first two weeks. From the final sample of 225 participants, 170 families (75%) completed the long term follow-up telephone interview. Of those who did not complete the follow-up interviews, 11 (5%) could not be located, 29 (13%) were contacted but did not respond, and 16 (7%) declined to participate. The age difference between males and females at the time of admission was statistically significant,  $t(199) = 4.65$ ,  $p < 0.05$ , which may reflect the means by which boys and girls are differentially served within their communities prior to their admission to residential treatment. An analysis of variance comparing sample characteristics with the larger population statistics of the tertiary care facility revealed no significant differences on sex,  $F(1,223) = 2.49$ ,  $p = .12$ , or age at the start of treatment  $F(1,223) = 3.43$ ,  $p = .07$ .

It is important to appreciate the needs of the children and youth that participate in residential treatment. Table 1 summarizes pre-admission characteristics, and underscores the extent to which the children in this sample are significant consumers of mental health services prior to their admission. Every child had received considerable community-based mental health services, with some children receiving services from as early as one year of age. Virtually every participant involved had received at least one psychiatric diagnosis, and 94% were receiving psychotropic medication at the time of admission. Age of first psychiatric diagnosis and use of psychotropic medication was 7 years.

Maltreatment was also a significant factor among these children. According to parent/guardian reports on the Brief Child and Family Phone Interview (BCFPI; Cunningham et al. 2004), 66.2% of the children experienced one or more forms of maltreatment: 31.3% experienced physical abuse, 18.9% experienced sexual abuse, 24.9% experienced neglect, and 54.2% witnessed verbal or physical abuse. The percentage of children in the sample who were maltreated highlights the traumatic backgrounds of these children, as well as concern regarding their safety needs.

These children and youth also registered elevated externalizing and internalizing mental health scores on the BCFPI. As illustrated in Table 2, the mean pre-treatment externalizing score was 82.9 indicating the extreme level of parental concern with acting out behaviour problems. The mean internalizing T scores were also within the clinical range at 71.05,

**Table 1** Characteristics of children at the time of admission

Factor	% Yes	Minimum	Maximum	Mean
Received mental health services	100			
Age of first mental health encounter		1	15	6.31
Received diagnosis	99.0			
Age at first diagnoses		3	15	7.63
Number of diagnoses		0	6	1.51
Received medication	93.5			
Age when first on medication		3	15	7.75
Number of medications		0	3	1.1
Out of home placement/number of times out of home	70.6	0	10	2.15
Mental health facility	47.8	0	9	0.93
Youth justice facility (custody)	9.0	0	3	0.14
Foster/group home	44.8	0	3	0.79
Children's aid society involvement	50.2			
CAS involvement	33.8			
CAS temporary care agreement	4.0			
CAS guardian	12.4			
Involvement with the law	41.8			
Charges laid	16.4			
No charges laid	22.4			
Charges pending	1.5			
Too young to be charged	1.5			
Experienced maltreatment	62.2			
Physical abuse	31.3			
Sexual abuse	18.9			
Neglect	24.9			
Witnessed verbal or physical abuse	54.2			

$n = 201$

highlighting co morbidity as a common sample characteristic. Table 3 reflects that percentage of youth at both pretreatment and follow-up with scores .70 and above.

### Nature of the Residential Program

Children and youth admitted to this tertiary care mental health facility receive assessment, treatment, and individualized care plans developed collaboratively by the family/guardian, community case manager, and clinicians at the Centre. The professions of psychiatry, psychology, social work, education and childcare represent the clinical team. Case plans are formally reviewed on a monthly basis. Treatment is based on current best practice, drawing on structured behavioural milieu and individualized intervention strategies. An on-site school provides daily academic programming. The average length of stay is four months and outpatient services are provided during the immediate post discharge period through community collaboration within the children's services network. The nature of the psychiatric milieu therapy program, multidisciplinary supports, and onsite school along

**Table 2** Summary of total scores at admission and two-years post- discharge

Measure	Mean score	
	Pre-treatment	Two-years post-treatment
BCFPI		
Externalizing T score	82.9	73.48
Internalizing T score	71.05	64.79

$n = 201$

Higher scores represent pathology with 65–70 typical of clinical cut of in the literature (normal T score mean is 50)

**Table 3** Percentage of respondents with a t-score >70 at admission and two-years post-discharge

Measure	Mean score	
	Pre-treatment (%)	Two-years post-treatment (%)
BCFPI		
Externalizing T score	89	60
Internalizing T score	49	33

$n = 201$

A normal T score typically has a mean of 50, and a score of 70 or greater is generally considered to represent a score in the clinical or pathological range

with a broader assessment of sampling characteristics and client outcomes is available from the authors.

## Procedure

### Measures

*The Brief Child and Family Phone Interview* (BCFPI; Boyle et al. 2009; Cunningham et al. 2009). The BCFPI is a structured phone interview conducted with the caregiver. Content validity of the measure was based on mapping selected items onto the DSM-IV criteria. Each item is scored as 0, never true; 1, sometimes true; and 2, often true. The total of the item scores pertaining to each scale are added together to obtain scale scores which have a range of 0 to 12. Norms are based on Ontario child and youth samples. Standardized scale (T) scores provide normative data on subscale factors describing externalizing, internalizing, family and individual functioning factors. Internal consistency reliability scores indicated adequate reliability, especially given that this brief screening instrument consists of a few items per factor. Alpha coefficients for the major scales on the BCFPI reflect the following: ADHD ( $\alpha = 0.82$ ), oppositional behavior ( $\alpha = 0.83$ ), conduct problems ( $\alpha = 0.68$ ), separation anxiety ( $\alpha = 0.78$ ), anxiety ( $\alpha = 0.78$ ), depression ( $\alpha = 0.84$ ), with the 18 item composite externalizing ( $\alpha = 0.86$ ) and internalizing scales ( $\alpha = 0.85$ ). A subset of questions from this tool is used to assess for child abuse or neglect. The BCFPI was re-administered two-years post-discharge as the outcome measure for this study.

*Child and Adolescent Functional Assessment Scale* (CAFAS; Hodges 2000). The CAFAS represents a clinician's rating of child and youth functioning. Of relevance in the

current study was the subscale focusing on Substance Abuse. Each scale area is rated in ten-point increments on a scale from 0 (no impairment) to 30 (severe impairment). The present study relied on the CAFAS as a measure of adjustment at the pre treatment phase of service.

*Service Utilization at Follow-up.* Information was obtained from parents and/or guardians, two years following the date of discharge which related to whether the child/youth had been involved with the police during the intervening two years.

*Approach of the Analysis.* Binary logistic regression examined the combination of mental health variables and outcomes in the context of age of onset at two-years post-treatment. Two-years post-discharge measures of conduct problems and police involvement served as dependent variables in the binary logistic regression, sex was used as a covariate, and pre-admission measures of externalizing behavior problems (ADHD, cooperation, conduct, behavior towards others, and substance use); internalizing behavior disorders including anxiety and mood; and maltreatment served as the predictor variables. The two-year conduct problem outcome variable was formed by dichotomizing the BCFPI measure of conduct into two groups: those who scored in the clinical range ( $>70$ ) and those who scored below the clinical range ( $\leq 70$ ). Odds ratios were calculated in the final logistic regression models calculated by taking the logarithmic function of the coefficient with a positive relationship between two variables being expressed by an odds ratio greater than 1, and a negative relationship expressed by an odds ratio of less than 1. The co-morbidity predictor variables were constructed by selecting children who had scores in the clinical range ( $>70$ ) on two mental health variables, again with scores greater than 70 on both conduct and attention, impulsivity and hyperactivity.

## Results

### Two Years Post Discharge

Predictors of conduct problems at the two-year post-discharge period were examined (see Table 4). With alpha set at .05, conduct problem scores were significantly predicted by a total score on externalizing behaviour ( $p < .05$ ), and substance use ( $p < .05$ ) with higher scores on pre-treatment measures of externalizing behaviour and substance use predicting later elevated conduct disorder scores.

Subcategories of externalizing behaviour were then examined to determine whether certain externalizing behaviours predicted later conduct disorder (see Table 4). With alpha set at .05, pre-treatment conduct problems were significant predictors of later elevated scores on conduct disorder behaviour ( $p < .05$ ).

A final model was then created using conduct problems as a specific measure of externalizing behaviour (see Table 5). With alpha set at .05, high conduct scores at two-year follow-up was significantly predicted by conduct problem behaviour ( $p < .05$ ), and substance use ( $p < .05$ ). Odds ratios indicated that for one unit increase in conduct, the odds of receiving an elevated conduct score increased modestly by 1.02 (or approximately 2%), and for a unit increase in substance use, the odds of receiving an elevated conduct score increased by 1.07 (or approximately 7%).

Predictors for police involvement at two years' post discharge were then examined (see Table 5). With alpha set at .05, police involvement at two years' post-discharge was significantly predicted by substance use ( $p < .05$ ), with higher scores on pre-treatment measures of substance use predicting police involvement. The odds ratio indicated that a

**Table 4** Summary of logistic regression analysis for predicting conduct disorder at two-years post-discharge

BCFPI	Model one			Model two			Final model		
	Wald's $\chi^2$	<i>p</i>	Odds ratio	Wald's $\chi^2$	<i>p</i>	Odds ratio	Wald's $\chi^2$	<i>p</i>	Odds ratio
Constant	2.54	0.111	0.03	0.65	0.421	0.13	0.8	0.371	0.25
Sex = Male	0.59	0.444	1.42	0.46	0.497	1.39	0.35	0.556	1.31
Age at first diagnosis	3.19	0.074	0.88	3.07	0.08	0.88	3.42	0.064	0.88
Externalizing	7.02	0.008	1.05	–	–	–	–	–	–
Attention, impulsivity, hyperactivity	–	–	–	0.82	0.365	1.02	–	–	–
Cooperation	–	–	–	0.34	0.56	0.99	–	–	–
Conduct	–	–	–	8.85	0.003	1.02	10.38	0.001	1.02
Internalizing	0.02	0.89	1	0.42	0.516	1.01	0.62	0.432	1.01
Anxiety	–	–	–	–	–	–	–	–	–
Managing mood	–	–	–	–	–	–	–	–	–
Behaviour	0.09	0.762	0.99	0.13	0.72	0.99	0.15	0.698	0.99
Mood	0.43	0.512	0.99	0.4	0.525	0.99	0.43	0.512	0.99
Substance use	5.1	0.024	1.07	4.74	0.029	1.07	4.68	0.031	1.07
Maltreatment	0.58	0.446	1.33	0.85	0.356	1.43	0.62	0.433	1.35

*n* = 167 participants. Degrees of Freedom = 1

**Table 5** Summary of logistic regression analysis predicting police involvement at two-years post-discharge

Police involvement	Wald's $X^2$	<i>p</i>	Odds ratio
Constant	0.55	0.457	0.21
Sex = Male	2.58	0.109	2.14
Age at first diagnosis	0.26	0.613	0.96
Externalizing	0.54	0.463	1.01
Internalizing	0.98	0.321	1.01
Behaviour	0.16	0.694	0.99
Mood	2.58	0.108	0.97
Substance use	6.31	0.012	1.1
Maltreatment	1.65	0.198	0.621

*n* = 162 participants. Degrees of Freedom = 1

one unit increase in substance use increased the odds of police involvement at two-years post-discharge by 1.10 (or approximately 10%).

Comorbid diagnoses as predictors of conduct problems at two-years post-discharge were then examined (see Table 6). With alpha set at .05, conduct at two years' post-discharge was significantly predicted by comorbid conduct and attention, impulsivity, and hyperactivity (*p* < .05). The results show that higher scores on pre-treatment measures of comorbid conduct and attention, impulsivity, and hyperactivity predicted elevated conduct scores at two-years post-discharge. The odds ratio indicated that for a one unit increase in comorbid conduct and attention, impulsivity, and hyperactivity, the odds of receiving an elevated conduct score increased by 3.32 at two-years post-discharge.



**Table 6** Summary of logistic regression analysis predicting conduct problems at two-years post-discharge: comorbid mental health variables

BCFPI	Wald's $X^2$	<i>p</i>	Odds ratio
Predictor			
Constant	0.67	0.414	2.42
Sex = Female	0.07	0.788	0.89
Age at entry	2.83	0.093	0.89
Attention, impulsivity, hyperactivity and conduct	7.59	0.006	3.32
Conduct and anxiety	1.81	0.179	2.4
Conduct and mood	0.88	0.35	0.67
Anxiety and mood	2.10	0.147	0.36
Behaviour	0.01	0.914	1
Mood	0.22	0.641	0.99
Substance use	4.96	0.026	1.07
Maltreatment	0.48	0.489	0.77

*n* = 167 participants

The final model examined comorbid diagnoses as predictors of police involvement at two-years post-discharge. The results indicated that comorbid diagnoses were not significant predictors of police involvement at two-years post-discharge.

Results indicate that the greatest extent of on-going elevation of symptoms and severity at follow-up reflected measures of conduct problems, substance use, and comorbid conduct and attention, impulsivity, and hyperactivity. Pre-treatment measures of conduct behaviour, substance use, and comorbid conduct and attention, impulsivity, and hyperactivity predicted elevated conduct problem scores, with early substance use being the only variable that predicted police involvement at two-years post-discharge.

## Discussion

Research identifies a substantial number of children and youth who exhibit severe mental health and behavioural problems, and who are admitted to the most intensive and intrusive services within the children's mental health system, do not demonstrate significant symptom reduction and functional improvement (St. Pierre et al. 2008). This study explored differences at intake among children and youth that showed scores of lowered improvement at two years after receiving an average of four months of intensive child and family multidisciplinary treatments. It is this group of children and youth who are characterized as the hardest to serve, within an already hard-to-serve population.

### Externalizing Behaviour Disorders

Consistent with expectations, children and youth with higher scores on pre-treatment measures of conduct problems continued to show elevated conduct scores two years following their discharge. These results converge with previous studies with children and youth who had not received residential treatment that identified an association between externalizing behaviour disorders in childhood and persistent conduct problems into adolescence and adulthood (Babinski et al. 1999; Broidy et al. 2003; Fite et al. 2008; Moffitt and Caspi 2001; Rutter 2004; Vermeiren et al. 2002).

Substance use was identified as a particularly significant predictor of adjustment disorder and police involvement. At two years' post-treatment, higher scores on pre-treatment measures of substance use predicted elevated conduct scores, as well as involvement with the police. It would appear that children and youth entering into treatment with substance use problems at the pretreatment period signals that such youth are in need of more chronic and on-going care than what the current treatment models reflect.

### Internalizing Behaviour Disorders

Results did not provide evidence for the fact that children and youth with higher scores on pre-treatment measures of internalizing behaviour persisted at the two-year follow-up period. The weight of evidence from this study in regards to symptom persistence is markedly in the direction of symptoms more closely connected with externalizing behavior.

### Comorbidity

Higher scores on pre-treatment measures of comorbid conduct disorder and attention, impulsivity, and hyperactivity predicted elevated conduct disorder scores at two-years post-discharge. The odds ratio statistic reflected that for a one unit increase in comorbid conduct and attention, impulsivity, and hyperactivity, the odds of receiving an elevated conduct score two years post discharge increased by 232%. These results support past studies identifying that children with co-occurring conduct problems and hyperactivity problems are at the greatest risk for persistent antisocial behaviour compared to children with hyperactivity or conduct problems alone (e.g., Babinski et al. 1999; McMahon 1994).

### Trauma

The present study sought to examine the extent to which a parent/guardian report of a history of pathogenic childcare is associated with persistent antisocial behaviour. A measure of PTSD symptoms was not obtained, and therefore experiences of maltreatment including physical and sexual abuse, neglect, and witnessing verbal and/or physical violence were used as a proxy measure of trauma. Maltreatment was not identified as a significant predictor of conduct problems, or involvement with the police. It is anticipated that parents of many children underreported maltreatment, and this variable may not have been an optimal measure of predictive variance. The nature of the trauma experience may also influence the impact that a trauma experience has on a child's behaviour. For example, violence-related trauma including witnessing domestic violence or a violent crime, physical abuse, and being a victim of a violent crime are the most commonly reported traumatic events among the children and youth who are seen in the facility under study. Future research should be conducted that examines the differential effects of different types of trauma on children's behaviour.

### Implications for Treatment

Previous research suggests that youth with mental health concerns, in combination with conduct-related problems, require more intensive and hence costly mental health services and resources than those SED youth without conduct-related concerns (Stewart et al.

2010). Moreover, research has indicated that approximately 70% of youth involved in criminal acts become life-course-persistent criminal offenders (Kjelsberg 1999). Given that early onset mental illness leads to serious disruptions in education, social interaction and later limited career options (Kessler et al. 1995; World Health Organization 2003), early interventions are recommended to reduce the mental health and social services costs in later life, minimizing suffering and reducing other societal economic costs.

The first implication for treatment is that this identified group of extremely high-risk children and youth may be in need of more intensive treatment, or a more chronic care model of service. The children and youth in the current study received community-based services prior to their placement at a tertiary care facility. Combined with four months of inpatient treatment and the pre treatment community based services are inadequate in bringing about long standing change for the identified group of children and youth. Treatment factors such as youth-staff relationships, sense of social support and program belonging, individual client characteristics, and parental engagement should also be taken into consideration as these factors have been found to influence treatment outcomes and likelihood of success (Bettmann and Jaspersen 2009; Marsh et al. 2010). Alternatively, the extent of follow-up treatment post discharge may not have targeted the appropriate behaviors or been as intensive as required. Research has suggested that there is a need to identify risk factors and barriers to successful community reentry into in order to support youth areas they are most vulnerable (Fields and Abrams 2010). Ongoing transitional supports such as individualized transition plans, school supports, vocational training, and therapeutic interventions are critical to the successful community adaption of these children and youth (Casey et al. 2010; Fields and Abrams 2010; Frensch et al. 2009). The third option for consideration may be that intensive residential treatment is an inappropriate option for the needs of this identified high-risk group. Scott Henggeler and his research team using Multisystemic therapy (MST) have consistently held that residential treatment may simply not be the treatment of choice for certain behaviorally disordered high risk youth and that the MST highly intensive community-based option is more appropriate. Yet, Henggeler too has shown that even within his mental health treatment outcomes, there remain highly resistant groups of youth who seem not to be responsive to even intensive community based alternatives (Henggeler et al. 2003).

Arguably, the most relevant finding from the current study is the identification of a putative profile that characterizes a highly treatment-resistant group of children and youth. This group requires a reexamination of the current continuum of treatment strategies. Future research should examine the ways in which conduct disorder and substance use negatively influence the effectiveness of treatment, and should work towards an understanding of how the combination of conduct disorder and attention-deficit/hyperactivity disorder interacts in holding such significance in the long-term functioning of certain children and youth.

## Conclusions

Notwithstanding the obvious limitation of using a single site, tertiary care sample of seriously emotionally disordered children and youth, the findings of this study further knowledge and understanding regarding the early predictors of risk for later adjustment disorder among children and youth who have received intensive inpatient mental health treatment. Elevated scores on conduct disorder, substance use, and comorbid conduct disorder and attention-deficit/hyperactivity disorder are clearly factors for screening to

identify children and youth who are at the greatest risk for symptom persistence. The findings of this study should be seen as part of a call for a renewed examination of the treatment needs of these children and youth in order to develop services that are more focused on these treatment targets.

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