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# Adult Outcomes of Children

## With Reactive Attachment Disorder in a Non-Institutionalized Sample

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#### Abstract

**Objective:** Research on reactive attachment disorder (RAD) has focused on institutionalized samples, and long-term outcomes have not been described. This study examines the natural history of RAD into adulthood in a US community sample.

**Methods:** The electronic medical record of a tertiary care center was reviewed for individuals who received an *ICD-9* or *ICD-10* diagnosis of RAD between 3–12 years old and were  $\geq$ 18 years old at the start of the study; data were collected between February and June 2018. Children with RAD (n=49) were identified and psychiatric, social, and medical outcomes were collected in childhood and adulthood. A subset of the RAD cohort with comorbid attention-deficit/ hyperactivity disorder (ADHD) based on *ICD* codes (n=34) was compared with age-matched controls with ADHD and without attachment disorders (n=102).

**Results:** Children with RAD had high rates of adult psychiatric diagnoses (73.5%), substance use (42.9%), suicide attempts (28.6%), and psychiatric hospitalizations (71.4%). They also demonstrated poor psychosocial outcomes, including low high school (34.7%) and college (2.0%) graduation, high unemployment (26.5%), state-funded health insurance (65.3%), and legal issues (34.7%). Compared to children with ADHD alone, children with RAD and ADHD had higher rates of comorbid adult psychiatric diagnoses (OR 3.0, P=.02), suicide attempts (OR 7.5, P<.01), and hospitalizations (OR 6.4, P<.01).

**Conclusions:** This study describes the natural history of RAD into adulthood in a non-institutionalized sample. The findings suggest that children with RAD have a high burden of psychiatric comorbidities and reduced psychosocial functioning into adulthood that extend beyond the impairment associated with ADHD, a common comorbidity in RAD. These findings highlight the continuous impact of early attachment difficulties on the developmental trajectory of children.

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Reactive attachment disorder (RAD) was first described in formal nosology in the *DSM-III* in 1980 and included criteria of an onset before 8 months of age and caregiver neglect and was consistent with concerns of failure to thrive. American Psychiatric Association<sup>1</sup> criteria have been revised multiple times since, with attempts to describe a unique symptom cluster related to inadequate early caregiving. Clinicians noticed 2 distinct patterns of behavior in these patients: (1) children who were consistently inhibited and emotionally withdrawn and (2) children who were socially disinhibited and indiscriminate in their affections.<sup>2</sup> *DSM-5*, therefore, now describes these as 2 distinct disorders, both in the section of Trauma and Stressor-Related Disorders and both requiring that the

child experienced a "pattern of extremes of insufficient care."<sup>3</sup> The *DSM-5* diagnosis of RAD now requires that the disturbance is present before 5 years of age.<sup>3</sup>

Despite evolving recognition of attachment diagnoses, less is known about comorbidities and outcomes associated with these disorders. The Bucharest Early Intervention Project (BEIP) is the most robust study of RAD and randomized Romanian orphans to foster care as an alternative to institutional care, completing baseline assessments and reevaluations at 30, 42, and 54 months of age and 8, 12, and 16 years of age.<sup>4–30</sup> The BEIP demonstrated that children removed from institutional rearing had decreased signs of RAD compared to those who remained institutionalized and that children who were adopted out of institutions tended not to show signs



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### **Clinical Points**

- Little is known about the long-term outcomes of children with reactive attachment disorder (RAD), especially in non-institutionalized samples.
- Children with RAD demonstrate high rates of psychiatric disorders and reduced psychosocial functioning in adulthood. These findings highlight the long-term impact of early attachment difficulties on the developmental trajectory of children.

of RAD in the years following adoption.<sup>31</sup> Humphreys and colleagues described the outcomes of the BEIP groups at 12 years of age and determined that children with a history of being institutionalized had higher symptoms of internalizing, externalizing, and attentiondeficit/hyperactivity disorder (ADHD) symptoms than children who had no history of institutionalization.<sup>26</sup> They also found that previously institutionalized children who were placed into a foster care setting had fewer externalizing symptoms, but there was no statistical difference in internalizing disorders or ADHD compared to those children who remained in institutional care.

In the United States, institutional rearing is quite uncommon. However, many children find themselves in foster care settings or placed with family members when their parents are unable to provide adequate care. The most recent report from the Adoption and Foster Care Analysis and Reporting System estimated that there were 423,997 children in foster care, of which 6% (25,832) were placed in an institutional setting and 2% (7,398) were in long-term foster care.<sup>32</sup>

There are insufficient data on the prevalence of RAD in children in clinical cohorts or the general population. Minnis and colleagues determined the prevalence of RAD in a low socioeconomic subset of the United Kingdom population to be 1.4%.<sup>33</sup> Other studies have investigated foster-care and child welfare populations, citing potentially higher rates of RAD (19.4%)<sup>34</sup> as well as conduct/oppositional defiant disorder (ODD), depression, and ADHD.<sup>35</sup>

Attachment is a biologic process, aimed at providing a young child security and safety. The child's behaviors help him/her/them seek proximity and protection from caregivers.<sup>36</sup> In neglectful or abusive situations, this process can be disrupted and the child's attempts at attachment hindered.<sup>5</sup> Additionally, if a child has a large number of caregivers, such as in an institutional setting, the child may not develop a preferential attachment to a caregiver.<sup>5</sup> These early experiences and ineffective attachments are thought to influence a child's ability to form future relationships and predispose individuals to future psychiatric and social complications. However, to date, there is very little literature or data exploring these outcomes in adults.

The aim of this study is to determine the adult outcomes of children diagnosed with RAD by describing the natural history of RAD into early adulthood from a non-institutionalized, or community setting, cohort most like what mental health practitioners typically manage. We hypothesized that individuals who experience ineffective caregiving and attachment as children will be higher utilizers of social services and have significant psychiatric illness in adulthood and that these difference extend beyond the sequelae of the psychiatric comorbidities associated with RAD. ADHD is highly comorbid with RAD<sup>37,38</sup> and is associated with adult functional impairments including social and employment difficulties.<sup>39-45</sup> Given the high comorbidity of ADHD and the known functional impairment that results, psychiatric and functional outcomes for individuals with RAD and ADHD are compared to those in matched controls with ADHD and no history of RAD.

#### **METHODS**

The study sample was drawn from residents of Olmsted County, Minnesota, which is located in southeastern Minnesota. Since Olmsted County is geographically isolated, its residents almost exclusively receive medical care from 2 medical facilities within the county: the Mayo Clinic and the Olmsted Medical Center. All medical records from these facilities are contained in the Rochester Epidemiology Project (REP), a repository of medical records for every patient seen in Olmsted County since the early 20th century. The REP data have generated hundreds of studies of this population isolate, with findings considered generalizable to much of the United States.<sup>46,47</sup>

All study procedures were approved by the local institutional review board. The study was conducted in 2 phases, and data were collected between February and June 2018. The first phase focused on adult outcomes of individuals who had received a RAD diagnosis during childhood. To account for the high comorbidity and known sequelae of ADHD, the second phase of the study was a case-control study within the ADHD subset of the RAD population.

For the first phase of the study, electronic medical records were reviewed, using the *ICD* codes for RAD of Childhood (*ICD-10*, F94.1) and Other Emotional Disturbances of Childhood or Adolescence (*ICD-9* 313.89). *DSM-IV-TR* criteria for RAD were used as this was a retrospective study and cohort selection occurred prior to the release of *DSM-5*.

The age at diagnosis was limited to between ages 3 years and 12 years as we sought to identify children who were diagnosed with RAD at an early age. Additionally, we required that the individuals' current age be  $\geq 18$  years and that they have documentation in their chart at age 18 or older. Seventy-nine individuals meeting these criteria were identified and each chart was



#### Figure 1. Selection of Reactive Attachment Disorder (RAD) Cases

reviewed. Diagnoses of RAD were originally made by child psychiatrists, with child psychologists and developmental pediatricians also contributing. If the RAD diagnosis was documented as historical, described as "likely," "probable," or "rule out," these patients were excluded. Diagnoses such as "insecure attachment" or "attachment issues" were also excluded. This resulted in 49 patients meeting inclusion criteria (Figure 1). Patient charts meeting inclusion criteria were then reviewed for historical and current data including sociodemographic information, psychiatric comorbidities, suicidal behavior, other medical diagnoses, history of psychiatric hospitalizations, and the use of social support services.

In the second phase of the study, individuals with RAD who also carried childhood diagnoses of ADHD (36 of 49 [73.5%]) were selected and compared, via a case-control study, to a community-based sample of individuals with ADHD and no history of RAD. To obtain controls, electronic medical records were searched using ICD-10 codes for ADHD and limiting the initial diagnosis of ADHD to occur between the ages of 3 and 18. Optimal matching in a 3:1 ratio was performed based on age at ADHD diagnosis, current age, sex, and race. Two individuals from the RAD plus ADHD cohort were excluded. In one case, age at diagnosis of ADHD was not recorded and in the other case, the individual had a reported IQ below 70. Both instances precluded adequate matching with controls. This resulted in 34 cases and 102 controls. Sufficient matching was achieved in regard to current age, race, age at diagnosis of ADHD, and sex (see Table 3). Charts were again reviewed for demographic, psychiatric, other health, and social outcomes. Chart review was completed by 2 psychiatrists (H.K.B. and B.A.P.) and concerns were resolved via consensus with a

third psychiatrist. Concordance between raters was 98%.

In regard to data analysis, continuous variables were described using mean, range, and standard deviation whereas categorical variables were summarized with counts and percentages. Logistic models were constructed to investigate the associations between RAD and other variables of interest. As this work was exploratory in nature, no multiple testing correction was applied.<sup>48,49</sup>

#### <u>RESULTS</u>

#### Full RAD Cohort

Of the full RAD cohort of 49 individuals, 59.2% were male and 85.7% were white. The mean age at RAD diagnosis was  $8.4 \pm 3.2$  years. The age at last documentation ranged from 18 to 30 with a mean of  $23.3 \pm 3.1$  years. International adoptees made up 8.2% (n = 4) of the cohort (Table 1). The most common psychiatric comorbidities in childhood included ADHD (73.5%), depression (51.0%), PTSD (34.7%), ODD (30.6%), and anxiety/OCD (28.6%).

In adulthood, 65.3% were on state insurance, 34.7% graduated high school, 2.0% had graduated college, 26.5% were unemployed, and 34.7% had prior or current legal issues (Table 2). 73.5% of the individuals in the RAD cohort had an adult psychiatric diagnosis documented in the chart, and 71.4% were psychiatrically hospitalized at some point. The mean number of psychiatric diagnoses per individual was 2.9 (range 1–11). The most common comorbidities in adulthood were depression (42.9%), anxiety/OCD (32.7%), ADHD (26.5%), and PTSD (20.4%). 42.9% had a lifetime substance use disorder. Additionally, 28.6% had a prior suicide attempt, and 40.8% had engaged in self-injurious behaviors.

#### Table 1.

#### Childhood Characteristics of Children With RAD (n=49)

	Value <sup>a</sup>
Age at RAD diagnosis, mean ± SD, y	8.4±3.2
Age at last documentation, mean ± SD, y	23.3±3.1
Male	59.2
Race	
White	85.7
Non-white	14.3
International adoption	8.2
History of abuse/neglect	79.6
Comorbid childhood psychiatric diagnoses	
ADHD	73.5
Unipolar depression	51.0
Bipolar	10.2
Anxiety/OCD	28.6
PTSD	34.7
ODD	30.6
Conduct	12.2
Psychotic disorder	6.1
Impulse control disorder	20.4
Autism/PDD	10.2
Learning disability/developmental delay	44.9

<sup>a</sup>Values expressed as percentages unless otherwise noted.

Abbreviations: ADHD = attention-deficit/hyperactivity disorder,

OCD = obsessive-compulsive disorder, ODD = oppositional defiant disorder, PDD = pervasive developmental disorder, PTSD = posttraumatic stress

disorder, RAD=reactive attachment disorder.

Regarding utilization of services, 69.4% had county case management, and 34.7% had documented legal issues (Table 2). A large percentage of the RAD cohort were treated with psychotropic medications in adulthood, including antidepressants (83.7%), mood stabilizers (44.9%), antipsychotics (44.9%), stimulants (65.3%), benzodiazepines (20.4%), and opioids (24.5%).

#### RAD Plus ADHD Cohort Compared to ADHD Controls

Compared to children with ADHD alone, children with RAD and ADHD were significantly more likely to have another childhood psychiatric diagnosis (OR 3.3, P = .01, 95% CI [1.4–8.0]), especially oppositional defiant disorder, anxiety/OCD, PTSD, and impulse control disorders. They were also more likely to have additional adult psychiatric diagnoses (OR 3.0, P = .02,95% CI [1.2–7.6]), including PTSD and borderline personality disorder (Table 3). They were also significantly more likely to be overweight or obese in adulthood.

Individuals with RAD plus ADHD demonstrated greater severity of illness than those with ADHD and no attachment disorder. Those with RAD and ADHD were more likely to have been psychiatrically hospitalized at some point (OR 6.4, P < .01, 95% CI [2.5–16.1]), including in both childhood (OR 4.8, P < .01, 95% CI [1.9–12.1]) and adulthood (OR 3.7, P = .02, 95% CI [1.3–10.6]). Additionally, they were more likely to have

#### Table 2.

#### Adult Outcomes of Children With RAD (n=49)

	%	
Any adult psychiatric diagnosis	73.5	
Unipolar depression	42.9	
Bipolar disorder	8.2	
Borderline PD	16.3	
ADHD	26.5	
Antisocial PD	2.0	
Anxiety/OCD	32.7	
PTSD	20.4	
Psychotic disorder	2.0	
Autism/PDD	4.1	
Lifetime substance use disorder	42.9	
Suicidal behavior		
Prior suicide attempts	28.6	
Died by suicide	0	
Prior self-injurious behavior	40.8	
Current health insurance		
Private insurance	28.6	
State insurance	65.3	
Missing	6.1	
Highest education		
College graduate	2.0	
Some college	16.3	
GED	2.0	
High school graduate	34.7	
Some high school	10.2	
Trade school graduate	4.1	
Education		
IEP	40.8	
Employment status		
Employed or student	40.8	
Unemployed	26.5	
Missing data	32.7	
Legal issues	34.7	
Service use		
Prior psychiatric hospitalization	71.4	
Mean number of psychiatric hospitalizations	2.9	
Residential care	28.6	
Case management	69.4	

Abbreviations: ADHD = attention-deficit/hyperactivity disorder, IEP = individualized educational plan, OCD = obsessive-compulsive disorder, ODD = oppositional defiant disorder, PD = personality disorder, PDD = pervasive developmental disorder, PTSD = posttraumatic stress disorder, RAD = reactive attachment disorder.

attempted suicide (OR 7.5, P < .01, 95% CI [2.4–23.6]) and engaged in self-injurious behaviors (OR 22.6, P < .01, 95% CI [5.2–98.0]) in both childhood and adulthood.

In terms of other psychosocial outcomes (Table 3), there was not sufficient evidence that the individuals with RAD and ADHD were more likely to have substance use disorders or legal issues when compared to the general ADHD controls. However, they were more likely to have state-funded insurance as adults (OR 6.7, P = .02, 95% CI [2.5–18.2]), to carry a diagnosis of a learning disability or developmental delay (OR 2.6, P = .02, 95% CI [1.2–5.5]), and to have had an individualized educational plan (IEP) in school (OR 2.9, P = .02, 95% CI [1.2–6.8]).

#### Table 3.

#### Adult Outcomes of Children With RAD and ADHD Compared to Non-RAD ADHD Controls<sup>a</sup>

	ADHD only (n = 102) <sup>b</sup>	RAD/ADHD (n = 34) <sup>b</sup>	OR	Lower 95% limit	Upper 95% limit	<i>P</i> value
Age at last documentation, mean ± SD, y	23.5±3.4	24.1±3.5	1.1	0.9	1.4	.24
Age at ADHD diagnosis, mean ± SD, y	8.8±3.1	8.9±3.2	1.1	0.7	1.6	.74
Any other child psychiatric disorder	49.0	76.5	3.3	1.4	8.0	<.01
Conduct disorder	3.9	5.9	1.7	0.2	13.3	.60
ODD	20.6	38.2	2.5	1.0	6.2	.04
Unipolar depression	34.3	38.2	1.2	0.5	2.7	.68
Bipolar disorder	4.9	5.9	1.2	0.2	6.9	.82
Anxiety/OCD	10.8	29.4	3.7	1.3	10.4	<.01
Eating disorder	2.9	2.9	1.0	0.1	11.9	1.000
PTSD	2.9	35.3	12.0	3.4	42.5	<.01
Impulse control disorder	3.9	17.7	7.2	1.4	36.8	.02
Autism/PDD	2.0	8.8	4.5	0.8	26.9	.10
Any adult psychiatric diagnosis	55.9	79.4	3.0	1.2	7.6	.02
Psychotic disorder	1.0	2.9	2.9	0.0	79.8	.99
Antisocial PD	1.0	8.8	9.0	0.9	86.5	.06
Depression	34.3	41.2	1.3	0.6	2.9	.48
Bipolar disorder	1.0	5.9	6.0	0.5	66.2	.14
ADHD	31.4	47.1	2.0	0.9	4.3	.10
Anxiety/OCD	29.4	41.2	1.7	0.8	3.8	.21
PTSD	2.9	17.7	15.4	1.8	130.6	.01
Autism/PDD	1.0	8.8	9.0	0.9	86.5	.06
Borderline PD	2.9	14.7	11.3	1.3	99.8	.03
Any psychiatric hospitalization	22.6	61.8	6.4	2.5	16.1	<.01
Child psychiatric hospitalization	18.6	50.0	4.8	1.9	12.1	<.01
Adult psychiatric hospitalization	8.8	26.5	3.7	1.3	10.6	.02
Any suicide attempt	8.8	38.2	7.5	2.4	23.6	<.01
Child suicide attempt	5.9	20.6	3.9	1.2	12.4	.02
Adult suicide attempt	4.9	26.5	7.8	2.1	29.3	.01
Any self-injurious behavior	10.8	58.8	22.6	5.2	98.0	<.01
Child self-injurious behaviors	9.8	52.9	11.0	3.7	33.0	<.01
Adult self-injurious behaviors	2.0	29.4	28.1	3.6	220.1	.01
IEP in school	25.5	47.1	2.9	1.2	6.8	.02
Learning disability/developmental delay	34.3	58.8	2.6	1.2	5.5	.02
Legal issues	22.6	35.3	1.9	0.8	4.7	.13
Lifetime substance use concerns	29.4	47.1	2.1	0.9	4.6	.07
Currently employed	72.6	61.8	0.6	0.2	1.4	.20
State insurance	26.5	67.7	6.7	2.5	18.2	.02
History of abuse/neglect	17.7	76.5	26.2	6.1	112.1	<.01
BMI (current)						
Mean ± SD	$29.0\pm9.1$	$30.5\pm5.9$	1.0	0.9	1.1	.43
Overweight (BMI≥25)	55.7	87.1	14.3	1.8	110.7	.01
Obesity (BMI≥30)	34.2	51.6	2.7	1.0	7.4	.06
Morbid obesity (BMI ≥ 40)	11.4	6.5	0.5	0.1	2.4	.35

<sup>a</sup>Cases and controls adequately matched on age at last documentation, age at ADHD diagnosis, race, and sex. Bolded P values are significant at P<.05.

<sup>b</sup>Values expressed as percentages unless otherwise noted.

Abbreviations: ADHD = attention-deficit/hyperactivity disorder, BMI = body mass index, IEP = individualized educational plan, OCD = obsessive-compulsive disorder, ODD = oppositional defiant disorder, PD = personality disorder, PDD = pervasive developmental disorder, PTSD = posttraumatic stress

disorder, RAD = reactive attachment disorder.

#### **DISCUSSION**

In this retrospective cohort study using a noninstitutionalized, or community-based, sample, we demonstrate that children diagnosed with RAD at a young age have high rates of psychiatric illness in adulthood, including psychiatric diagnoses, suicidal behavior, psychiatric hospitalizations, and psychotropic medication treatment. They also have poor psychosocial outcomes, including low rates of high school and college graduation, high unemployment and enrollment in state-funded health insurance, and legal issues. When compared to children with ADHD alone, children with RAD and ADHD demonstrate greater psychiatric impairment, including higher rates of comorbid psychiatric illness, suicidal behavior, and psychiatric hospitalizations. These findings not only demonstrate how adult psychiatric and psychosocial sequelae of RAD extend beyond the common psychiatric comorbidities associated with RAD but also indicate that children with both RAD and ADHD represent a particularly at-risk group. The most common diagnosis in children who die by suicide before age 13 is ADHD.<sup>50</sup> These children with comorbid RAD and ADHD have greater odds of engaging in suicidal behaviors than those children with ADHD and no attachment issues. The increased psychiatric burden persisted into adulthood, with higher rates of suicidal behaviors and psychiatric hospitalizations.

Our data are consistent with what others have shown in terms of significant comorbidities in children with RAD.  $^{\rm 15,18,26,51}$  While prior studies have focused on an international or institutionalized population, we demonstrate that these comorbidities exist in a community population of primarily non-institutionalized individuals in the United States. These findings emphasize that caregiver absence and neglect in any form, not just the potential extreme of institutionalization, increase the risk of childhood and adulthood dysfunction. Additionally, given our long-ranging electronic medical record and the minimal number of health care systems in our geographic area, we are able to follow children with RAD into adulthood and describe the early adult outcomes associated with childhood RAD. To our knowledge, this is the first study of adult outcomes of RAD.

Our data show that children with RAD are at risk for many psychiatric comorbidities in childhood, specifically ADHD, depression, PTSD, and ODD. In adulthood, they continue to show high rates of psychiatric diagnoses. The severity of their psychiatric illnesses, as evidenced by hospitalization, self-injury and suicide attempts, and the use of social services, is greater than in peers without attachment disorders. While the RAD diagnosis may not persist explicitly in a patient's chart, evidence of it remains in the presence of long-term sequelae not yet adequately described by a diagnostic label.

It was notable that there was no statistically significant difference between the ADHD-only group and the comorbid RAD and ADHD group on adult prevalence of mood disorders, despite a significant difference between the groups on symptoms often comorbid with mood disorders, especially suicidal behaviors. We suspect this is at least partially explained by the relatively small sample size. In addition, the prevalence of depression in the ADHD-only group in adulthood was quite high (34.3%). Despite this, the prevalence of adult depression in the ADHD plus RAD group was still higher, although not statistically significant (41.2% vs 34.3%).

A potential underreporting and overreporting of our variables of interest serves as a limitation to this study—a limitation induced by the necessity of relying upon historical medical charts. This limitation could be especially relevant in adulthood where there were generally fewer encounters to review. Inconsistencies in the way in which medical histories were documented further add ambiguity. Another limitation includes diagnostic challenges as there is significant overlap between symptoms of ADHD and RAD/trauma-related disorders. Finally, our sample size was smaller than what would be desirable, making our estimates of odds more variable and decreasing model stability and power. A related limitation is that the majority of the population was white, which could limit the generalizability of the results.

It should be noted that we increased the acceptable age of diagnosis for RAD to 12 years, which deviates from what is prescribed in the *DSM-5*. However, this allows for alignment with the diagnosis of ADHD and the potential of a later presentation of RAD as may occur with early caregiver neglect and lack of available psychiatric resources. This choice is supported by prior studies.<sup>33</sup>

The US Department of Health and Human Services reports that foster care systems nationwide have had a marked increase in children requiring placement, citing concern for parental opioid use and other parental substance use.52 Given evidence that RAD exists in this population and is associated with significant morbidity and dysfunction into adulthood, it is likely that the impact of this growing population will have long-reaching consequences. Our data help prepare for future resources that will need to be extended to adult populations, while also highlighting the importance of early life stability. Once attachment issues are identified in a child, interventions can be appropriately targeted. The most important intervention is to ensure that the child has an emotionally available and stable attachment figure in his/her/their life.<sup>31</sup> This relationship can be fostered via supportive, directive dyadic therapy to reinforce the positive aspects of the relationship.<sup>31</sup> A childhood or historical diagnosis of RAD should also aid in a clinician's conceptualization of an adult patient and can be part of a risk assessment and treatment planning. While adults do not generally continue to carry a diagnosis of RAD in their medical charts, it appears that their childhood diagnosis may be a primary driver of symptoms and impairment in adulthood, and this history is important to note and acknowledge with the patient.

#### **CONCLUSION**

This retrospective cohort study of a communitybased sample begins the conversation regarding adult outcomes of children diagnosed with RAD. For the first time, we show that community children with RAD continue to have lifelong difficulties that extend beyond the impairment associated with common comorbid psychiatric diagnoses of RAD, such as ADHD. Children with RAD demonstrate a high burden of psychiatric illness including a high risk of suicidality. Though RAD is diagnosed in early childhood, the effects are long ranging, increasing the burden of comorbidity and reducing the level of functioning into adulthood.

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