

# Behavioral and Personality Characteristics of Children With Reactive Attachment Disorder

SARA ELIZABETH KAY HALL

*Department of Psychology  
Southern Oregon University*

GLENN GEHER

*Department of Psychology  
State University of New York at New Paltz*

---

**ABSTRACT.** The authors compared behavioral and personality characteristics of children with reactive attachment disorder (RAD) with non-RAD children. Participants included parents of children with RAD ( $n = 21$ ), parents of non-RAD children ( $n = 21$ ), and some of the children ( $n = 20$ ). The parents completed questionnaires regarding behavioral and personality characteristics of their children. Parents were also given the option of asking their children to participate in the study by completing self-report measures. Several significant findings were obtained. Children with RAD scored lower on empathy but higher on self-monitoring than non-RAD children. These differences were especially pronounced based on parent ratings and suggest that children with RAD may systematically report their personality traits in overly positive ways. Their scores also indicated considerably more behavioral problems than scores of the control children. Previous research has been generally qualitative in nature. The current research represents some of the first quantitative, empirical work documenting specific behaviors associated with the diagnosis of RAD. The findings of this study have implications for better understanding and dealing with reactive attachment disorder.

Key words: attachment, AD, attachment disorder, RAD, reactive attachment disorder

---

*REACTIVE ATTACHMENT DISORDER* (RAD) has been conceptualized and defined relatively recently as a childhood disorder with a variety of adverse behavioral consequences. Several experiential antecedents in children's life histories and behavioral patterns that are common to individuals diagnosed with RAD seem to suggest that research on RAD may be useful in understanding other disorders of childhood. The onset of this disorder presumably renders children incapable of forming normal, loving relationships with others (Reber, 1996). According to the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-

IV; American Psychiatric Association, 1994), the onset of RAD occurs before the age of 5 years but may be diagnosed in infants as young as 1 month old (Richters & Volkmar, 1994).

Research into the origins of this disorder has failed to uncover any specific organic etiological component (Reber, 1996). Rather, RAD is conceptualized as caused by pathogenic care in infancy, usually consisting of abuse or neglect. However, experiential antecedents such as frequent changes in a primary caregiver or severe unrelieved pain may also precede the development of RAD (Reber, 1996). Positive interaction with the primary caregiver, which leads to bonding and attachment, is typically absent in the lives of RAD children. Some research suggests that the processes of growth and development in these children are disrupted by psychological elements resulting from the lack of attachment with the primary caregiver (Derivan, 1982; Tibbits-Kleber & Howell, 1985).

*Attachment*, as defined by Bowlby (1969, p. 194), is a "lasting psychological connectedness between human beings" and is recognized as a crucial factor for healthy human development (Reber, 1996). RAD children, however, lack the ability to form attachments with others (Parker & Forrest, 1993). The psychological repercussions of this inability are posited to manifest themselves in a variety of detrimental behavioral patterns.

Children with RAD exhibit numerous maladaptive behaviors. Destruction of property is common, as are hoarding or gorging of food, refusal to make eye contact with others, stealing, and lying (Parker & Forrest, 1993; Reber, 1996). They may engage in "crazy lying," which is lying for no apparent reason (Parker & Forrest). Cruelty to animals and to other people is frequent and often fatal to the victim, as is fire setting, another common manifestation (Parker & Forrest; Rayfield, 1990; Reber). Children with RAD may be characterized by a lack of developmentally appropriate social responsiveness (Richters & Volkmar, 1994).

Indiscriminate affection with strangers, yet refusal to receive or give affection to family members, is also typical of children with RAD (Reber, 1996). Poor impulse control, developmental delays, inappropriate sexual behavior with self and other children, promiscuity, overactivity, and abnormal speech patterns are

*This research was supported in part by the Psi Chi Undergraduate Research Grant program and by a grant from Georgia-Pacific.*

*We greatly appreciate the assistance of Eric Cooley of Western Oregon University, whose counsel and support were very valuable throughout the research process. We also thank the Psychology Department at Western Oregon University in general for supporting this research in several capacities. Further, we thank Amy Lingenfelter and Sonia Park for help with proofreading the manuscript.*

*We extend a sincere "thank you" to all of the caregivers and children who volunteered to participate in this research. Without their generosity in sharing their time and experiences with us, this research would not have been possible.*

*Address correspondence to Glenn Geher, Department of Psychology, State University of New York at New Paltz, New Paltz, NY 12561; geherg@newpaltz.edu (e-mail).*

all common among children with RAD (Kirschner, 1992; Rayfield, 1990; Reber, 1996; Tibbits-Kleber & Howell, 1985). Preoccupation and obsession with blood, fire, death, and gore are also characteristics (Reber, 1996). These children tend to lack the ability to engage in cause-and-effect thinking and are commonly described as lacking a conscience, for they do not seem able to experience remorse or sincere regret for their actions (Magid & McKelvey, 1987; Reber, 1996). According to Kirschner (1992), they may display antisocial behavior patterns that cannot easily be attributed to the families and homes (often adoptive) in which the children were raised.

In a recent synthesis of work on attachment disorder, Zeanah (1996) suggested several ways that the RAD classification criteria (*DSM-IV*) might be modified. Specifically, Zeanah suggested that the diagnostic criteria should focus more on the exploration of attachment problems rather than on abnormal behavior. Whereas this suggestion may prove somewhat useful, given the emphasis on RAD underpinnings, one potential issue regarding such a change concerns the fact that behavioral problems, which are primarily addressed in the current *DSM-IV* criteria, are clearly the main concerns of caregivers of children with RAD. Furthermore, these very behavioral problems are most relevant throughout the lives of children with RAD. On one hand, children with RAD do tend to display common maladaptive behavior patterns (Wilson, 2001) that are different from those of children who do not have RAD; these behaviors are extremely easy to identify. On the other hand, a lack of attachment, the emphasis suggested by Zeanah, is much more difficult to observe.

According to Hanson and Spratt (2000), the purpose of the diagnosis of RAD is to provide a description that addresses the issue of a child's ability to relate to others, thus emphasizing relevant social behaviors. Many of these children's problems relating to others are caused by abnormal and maladaptive behaviors, developed most often in the context of pathogenic care in infancy and resulting in attachment problems. Because both behaviors and attachment patterns are integral to the diagnosis of RAD, it may be most appropriate for researchers to address the behavioral difficulties of these children and for the diagnostic criteria to include identified common behaviors in addition to an exploration of attachment patterns.

#### *Infant-Caregiver Attachment Research*

There exists an abundance of research supporting the concept of RAD as resulting from an absence of a meaningful attachment with another person. It has long been recognized that the infant-caregiver attachment is of immense importance. Bowlby (1952) noted that the development of psychopathology in a child is adversely affected by maternal deprivation. According to Egeland and Sroufe (1981), the attachment between infants and caregivers develops over the 1st year of life as the product of interaction. Once a pattern of attachment, either secure

or insecure, has been formed, it may be relatively stable throughout life (Waters, 1978). Therefore, children with RAD, who do not develop positive, healthy attachment styles may be unable to form such bonds across their lifetimes.

Bowlby (1973) suggested that children who experience a disruption of the development of the attachment to the primary caregiver are at higher risk for emotional problems later in life, whereas children who are well cared for by loving, competent caregivers from birth are not at risk for such emotional problems. It has also been proposed by researchers that separation experiences during infancy that prevent the development of an attachment to a primary caregiver may serve as traumatic events that predispose people to psychopathology (Young, Suomi, Harlow, & McKinney, 1973).

#### *Adoption Research*

Many problems have been reported among adopted children that are not as prevalent among children raised by biological parents. Brodzinsky, Schechter, Braff, and Singer (1984) found that adopted children experience more psychological and school-related behavior problems and are rated lower on the dimensions of social competence and school achievement than children raised by biological parents. Adopted children are also more likely to experience emotional, behavioral, and educational problems (Brodzinsky et al., 1984). As adopted children have generally had more caregivers than children raised by biological parents, issues surrounding RAD may be helpful in understanding detrimental behavior in these children.

#### *Child Abuse Research*

Research regarding abused children may also reveal manifestations of RAD. Berkowitz (1984) reported that the repeated infliction of pain may be the most powerful generator of aggression. Abused children tend to display higher levels of aggression than children who have never been abused (Widom, 1989). The relatively high levels of aggressive behavior on the part of RAD children may be causally related to a history of abuse, which is common among these children (Reber, 1996). Abused children also have difficulty expressing their feelings (Cicchetti & Beeghly, 1987) and difficulty in appreciating the distress of others (Lewis, 1992).

Children with RAD are often cruel and destructive, despite the suffering of others caused by their actions, and these children often feel no remorse for the harm they have done. In addition, Egeland and Sroufe (1981) found that children who have been mistreated are unlikely to develop secure attachment styles. The notion that some estimates indicate that up to 80% of abused children display signs of RAD (Reber, 1996) coupled with the notion that RAD may result from abuse in infancy has led many researchers to link child abuse with RAD.

#### *Animal Research*

Just as traumatic experiences in infancy may lead to lasting detrimental effects in humans, in other primate species, early traumatic experiences also have a negative impact. Young, Suomi, Harlow, and McKinney (1973) stated that separation from the mother before 1 year of age (preventing the formation of a secure attachment in infancy) and confinement in a vertical chamber produce abnormal behavior in infant monkeys. Young et al. (1973) reported that monkeys that were allowed to form secure attachments in infancy responded to reunion with other monkeys following confinement (a stressful situation) by seeking closeness, a response deemed normal and healthy, whereas monkeys that were not allowed to form secure attachments in infancy did not seek closeness with other monkeys. The authors stated that "it appeared that separation (preventing secure attachment) and chambering (a traumatic experience) inhibited their capacity to respond to reunion in the usual way" (Young et al., 1973, p. 404).

#### *Introduction to the Present Research*

Results of earlier research have suggested that abuse and neglect or any traumatic experiences that prevent the formation of a loving relationship with another produce long-term physical, mental, emotional, and behavioral effects. These effects can now be recognized and labeled as reactive attachment disorder. RAD affects and disrupts more than just the individual with the disorder. Family members find themselves unable to deal with the problems of their children with RAD and are often unable to protect the other children in the home from the dangerous actions of a sibling with RAD. Schools face the dilemma of how to manage the behavior problems of children with RAD and of how to educate them. Children with RAD tend to act out, bully, scare, and harm other children at school (Parker & Forrest, 1993). Furthermore, these children often do not fit into either regular or special education classrooms (Parker & Forrest). They also tend to seek out other antisocial children or adults, forming potentially dangerous alliances (Kirschner, 1992).

Perhaps especially disturbing is the fact that RAD follows a continuous course, persisting throughout the lives of individuals with this disorder (*DSM-IV*), as RAD typically remains impervious to traditional treatment methods (Reber, 1996). It is commonly believed that all these children need is "a little more love," but often no amount of love is enough to bring about change in children with RAD (Magid, 1989). Estimated prevalence rates extrapolated from maltreatment research indicate that approximately 1% of all children may have RAD (Richters & Volkmar, 1994). However, its ramifications are far reaching when one considers that 80% of abused or neglected children show signs of RAD (Reber, 1996).

Although researchers have addressed behavioral characteristics associated with topics related to RAD, such as child abuse (e.g., Berkowitz, 1984), no for-

mal empirical research has yet been conducted to specifically assess its behavioral correlates. We designed our present study to examine behavioral characteristics of children with this disorder by having caregivers of children with RAD and caregivers of children without RAD complete behavioral measures such as the Child Behavioral Checklist (Achenbach, 1991) as they pertain to the children themselves. We also created a new measure of maladaptive behaviors to explore specific behaviors hypothesized to be associated with this disorder.

To address dispositional characteristics of children with RAD, we assessed the personality traits of empathy and self-monitoring. Current research does indicate that children with RAD tend to be cruel to animals and other people and to show a lack of remorse for their detrimental actions, behaviors that may be related to a decreased level of empathy. The tendency for children with RAD to show indiscriminate affection toward strangers yet withdraw from attempts by family members to show affection indicates that these children may be engaging in self-monitoring; that is, they appear to be able to alter their behavior according to their own desire. Overall, this research was designed to provide a more comprehensive understanding of this disorder.

## Method

### Overview

Caregivers of children with RAD, caregivers of non-RAD children, and several of the children themselves served as participants. The parents provided information regarding the behavior and personality characteristics of their children as measured by the Reactive Attachment Disorder Scale (RADS), designed by the authors specifically for this study; the Child Behavior Checklist (CBC; Achenbach, 1991); the Junior Self-Monitoring Scale (Graziano, Leon, Lautenschlager, & Musser, 1987); and the Index of Empathy for Children and Adolescents (Bryant, 1982). Parents were given the option of asking their children to complete self-report measures, provided the children possessed adequate literacy competence. The self-report measures to be completed by the children consisted of the Junior Self-Monitoring Scale and the Index of Empathy for Children and Adolescents.

### Participants

Primary participants included children with RAD ( $n = 21$ ; 13 girls, 8 boys) ranging in age from 4.5 to 19.3 years ( $M = 12.27$ ,  $SD = 4.03$ ) and non-RAD children ( $n = 21$ ; 16 girls, 5 boys) ranging in age from 4 to 24.5 years ( $M = 10.41$ ,  $SD = 6.02$ ). The mean age difference between children with RAD and non-RAD children was not statistically significant. Caregivers of children with and without RAD rated their children's characteristics. Of the 21 RAD caregivers, the mean

age was 43.86 ( $SD = 8.09$ ); 17 were adoptive parents, 2 were foster parents, and 2 were biological parents. Of the 21 non-RAD caregivers, the mean age was 37.44 ( $SD = 9.15$ ); 6 were adoptive parents, and 15 were biological parents.

Children were categorized as RAD or non-RAD based on the diagnosis of a psychologist; only children whose caregivers reported such a diagnosis were included in the RAD category. The mean age at diagnosis of children with RAD was 8 years ( $SD = 4$  years). The mean number of caregivers for children with RAD was 4.9 ( $SD = 2.39$ ); the mean for children not diagnosed with RAD was 1.43 ( $SD = 0.87$ ). This difference was significant,  $t(40) = 6.27$ ,  $p < .01$ .

### Recruitment

Potential participants were contacted through support groups for caregivers of RAD children, therapists, social service agencies, and through referral by other caregivers. Caregivers who expressed interest in participating were mailed the necessary forms. Because of the special nature of the population of interest, this kind of participant recruitment process was necessary. The participants had diverse backgrounds and resided throughout the United States. Furthermore, RAD is not common in the general population and there is no central organization for individuals diagnosed with RAD or for their caregivers. Thus, contacting potential participants through a central organization was not feasible.

Of the caregivers who were mailed questionnaires, a majority responded. Follow-up with caregivers who did not respond revealed that some of the children who were in foster homes had been moved out of those homes and that some of the children were undergoing treatment at the time of our study. This latter fact could possibly have affected their behaviors; in these instances, the caregivers could not be sure that the information they could provide would be valid.

### Materials

Although RAD is currently accepted as a disorder by the modern psychological community (*DSM-IV*), no widely used measures have yet been designed to tap behavioral characteristics specific to this disorder. Thus, we designed the RADS for the purposes of this research. This scale targets behavioral manifestations of RAD that have yet to be documented empirically as resulting specifically from RAD. We used information obtained from interviews with caregivers of children with RAD to create an 85-item questionnaire designed to assess these behavioral characteristics. The caregivers we interviewed did not serve as participants in this research.

The interview questions and subsequent items of the RADS were largely dictated by the *DSM-IV* criteria. However, whereas the *DSM-IV* criteria tend to be relatively vague, the items of the RADS are more specific, enabling a more detailed examination of the distinct behavioral characteristics of RAD. Also, we

used a supplemental background questionnaire that tapped information about variables such as the number of previous caregivers of a given child, the number of household members, and existing disorders of other family members.

In addition, parents completed the Achenbach Child Behavior Checklist (1991), the Junior Self-Monitoring Scale (Graziano et al., 1987), and the Index of Empathy for Children and Adolescents (Bryant, 1982). The questionnaires completed by the children themselves consisted of the Junior Self-Monitoring Scale (Graziano et al., 1987) and the Index of Empathy for Children and Adolescents (Bryant, 1982). Our instructions for all the scales prompted participants to describe the target children's present behavior.

### *Procedure*

A packet containing a cover letter, a set of questionnaires to be completed by the caregivers, a set of questionnaires to be completed by the children, and a sealed envelope containing the debriefing form was mailed to each participant. The questionnaires required approximately 30 min for each caregiver to complete.

We gave all the caregivers the option of asking their children to complete their own copies of the self-monitoring and empathy scales that we had used to provide self-report data from the children. We gave this option because some RAD children do not possess the skills to comprehend the questions and provide responses; thus, it would not have been possible to obtain direct self-report data from all participants. Furthermore, some caregivers might not be comfortable having their children participate in the research. Ten children with RAD and 10 non-RAD children completed their own forms. Informed consent was obtained from all participants.

Because of the large geographical range from which we gathered the participants, we could not monitor the procedure. To address issues relating to this fact, we instructed participants to complete the questionnaires accurately, and caregivers who asked their children to complete the self-report scales were instructed not to assist the children in choosing their responses.

## **Results**

### *Overview*

First, because the RADS is a new scale, we assessed its multidimensionality, reliability, and validity. Next, we designed analyses to examine whether children with and without RAD differed in terms of the primary measures used in this study as indicated by caregivers' ratings of the children. We examined differences in self-monitoring and empathy scores between the two groups to determine whether children with RAD reported these traits differently than did non-RAD children. Next, to test the hypothesis that children with RAD engage in

significantly more impression management when reporting their own traits, we compared self-report scores for both groups with caregiver rating scores for the dimensions of self-monitoring and empathy. Finally, we conducted an analysis to assess whether children in the RAD group had histories that included significantly more caregivers than non-RAD children.

### *RADS Development*

Because we developed the RADS for the current research, we designed analyses to assess multidimensionality, reliability, and validity. To assess multidimensionality, we conducted a principal components factor analysis on the 85 items. Factor analyses are typically conducted with larger samples. This fact should be noted as the current samples comprised 21 participants in each group. The analysis was conducted simply to provide an empirically derived sense of the underlying structure of the RADS. Given the potentially unreliable nature of conducting a factor analysis with a small sample, we combined the results from this analysis with a qualitative analysis of the data based on a priori conceptualizations of potential subscales that may underlie the RADS.

Our findings from the factor analysis revealed seven factors with eigenvalues greater than 1. The first factor, which was the only interpretable factor, accounted for 49.1% of the variability in the scale and included 74 items. This factor was interpreted as a general factor encompassing a variety of behavioral problems and included "inflicting pain upon others," "stealing," and "destruction of property." A scale made up of these 74 items was used in subsequent analyses (see Table 1). The other factors that emerged did not seem particularly meaningful or powerful. Thus, the factor analysis was primarily useful in helping reduce the number of items in the scale that represented the general dimensions of RAD behavior.

To assess interitem reliability of the RADS, we computed a Cronbach's alpha coefficient analysis ( $\alpha = .99$ ) that demonstrated sufficient reliability. To assess convergent validity, we computed correlations between the RADS and each of the subscales of the CBC (Achenbach, 1991). The RADS was positively and significantly correlated with each of the CBC subscales (see Table 2). These correlations ranged from .55 ( $p < .01$ ) between the RADS and the Somatic Complaints subscale and .90 ( $p < .01$ ) between the RADS and the Aggressive Behavior subscale. These positive correlations across all CBC subscales support the conceptualization of the RADS as a valid scale.

### *Multivariate Differences Based on Caregiver Ratings*

To examine specific differences between children with RAD and non-RAD children across the different behavioral subscales, we conducted a between-groups multivariate analysis of variance using the eight CBC subscales (Achen-

**TABLE 1. Factor Loadings for Items of the Reactive Attachment Disorder Scale (RADS)**

Item	Loading
My child likes to be touched.	.70
My child deliberately inflicts pain upon others.	.79
My child enjoys watching violent, gory television shows (even if not allowed to do so).	.69
My child urinates in inappropriate places (in drawers, on the floor, on clothes, on walls, etc.).	.51
My child is appropriately apprehensive or fearful of strangers.	.75
My child constantly asks for fluids to drink (water, juice, milk, etc).	.58
My child lies, even when it would be easier to tell the truth.	.91
My child deliberately inflicts pain upon him- or herself.	.70
My child pulls, runs his or her fingers through, or otherwise plays with his or her hair (more than that which would be appropriate).	.62
My child bangs his or her head against floors, walls, etc. when she or he is angry.	.63
My child is comfortable making eye contact with me.	.76
My child seems to like to take medication.	.64
My child steals from others.	.89
My child displays inappropriate sexual behavior.	.76
My child will drink until she or he gets sick, if allowed to do so.	.54
My child is inappropriately demanding and clingy.	.54
My child chews on inappropriate items such as bed linens, wooden furniture, etc.	.52
My child enjoys getting other children in trouble.	.85
My child plays well and appropriately with other children.	.78
My child scrapes things such as walls and furniture with sharp objects (paper clips, safety pins, etc).	.62
My child deliberately inflicts pain upon animals.	.74
My child displayed sexual behavior at an inappropriate age.	.50
My child takes all of what she or he wants, without regard for the wants or needs of others.	.92
My child readily takes responsibility for his or her actions.	.66
My child seems to need more than others to feel equal to them (for example, if all the children have three cookies, my child needs to have five cookies to feel equal).	.72
My child takes bites which are too big for his or her mouth.	.82
My child likes to have things in his or her mouth (pen caps, etc.).	.72
My child is overly concerned about his or her own minor injuries.	.71
My child will eat until she or he gets sick, if allowed to do so.	.65
My child is fascinated with fire.	.64
My child is a very genuinely loving child.	.87
My child prefers to play with children younger than him- or herself.	.75

*(table continues)***TABLE 1. Continued**

Item	Loading
My child has killed animals.	.55
My child misbehaves when I most want him or her to behave.	.83
My child engages in control battles.	.79
My child does not seem to know when she or he is full (has had enough to eat).	.73
My child has nervous twitches or movements.	.61
My child is able to control impulses.	.52
My child defecates in inappropriate places (on the floor, in drawers, on clothes, etc.).	.50
My child shreds paper for no apparent reason.	.63
My child purposely pulls the strings on bed linens, clothing, etc., to damage the objects.	.73
My child takes medication without permission.	.62
My child always asks for seconds at meals, no matter how much she or he is given the first time.	.63
My child is more affectionate with strangers than with me.	.85
My child has accused me of abuse or neglect in order to obtain sympathy from others.	.86
My child is destructive toward his or her own belongings.	.88
My child does well in school.	.64
My child could be accurately described as an "instigator" (instigates squabbles between others).	.88
My child takes things without permission, even when she or he could have had them if she or he had asked.	.90
My child learns from his or her mistakes.	.87
My child flirts or is otherwise sexually promiscuous at an inappropriate age.	.66
My child saves "trophies" from things she or he has stolen (empty candy wrappers, etc.).	.73
My child manipulates others by acting cute or charming.	.84
My child sees him- or herself as a victim.	.91
My child is verbally abusive.	.79
My child is a light sleeper.	.61
My child seems to enjoy the sight of blood/gore (on television, on others, on animals, etc.).	.79
My child smears or otherwise plays in feces.	.50
My child experiences developmental delays (language skills, cognitive skills are below average for his or her age).	.53
My child sleeps well at night.	.62
My child is physically abusive to me, and hurts me "accidentally" on purpose.	.78

*(table continues)*

TABLE 1. *Continued*

Item	Loading
My child tells half-truths (for example, she or he says she or he did not have a blanket all night, but fails to mention that she or he threw his or her blanket, which is why she or he did not have a blanket).	.91
My child engages in cause and effect thinking.	.88
My child screams inappropriately when she or he is mad.	.69
My child asks persistent "nonsense" questions.	.81
My child is well behaved when there are visitors at our house.	.58
My child respects the property of others.	.71
My child is "sneaky."	.89
My child has many friends.	.86
My child is manipulative.	.89
My child is destructive toward the belongings of others.	.88
My child likes to be hugged.	.78
My child does not seem to have a conscience.	.86
Sometimes I am afraid of my child.	.81

Note. Items from the original RADS that did not load strongly onto this primary factor are not included in this table.

TABLE 2. Zero-Order Correlations Between the Reactive Attachment Disorder Scale (RADS) and the Subscales of the Child Behavior Checklist (CBC) ( $N = 42$ )

CBC subscale	RADS
Anxiety/Depression	.76**
Aggressive Behavior	.90**
Delinquent Behavior	.84**
Attention Problems	.85**
Somatic Complaints	.55**
Social Problems	.81**
Withdrawal	.73**
Thought Problems	.80**

\*\* $p < .01$ .

bach, 1991) and the RADS as dependent variables. Multivariate significance was demonstrated across this set of nine dependent variables,  $\Lambda(7, 34) = .17, p < .01$ . Thus, 83% ( $1 - \Lambda$ ) of the variability in the dependent variables was accounted for by group membership. Further, univariate significance between the two groups

of children was revealed for each independent variable (see Table 3). Specifically, children with RAD were rated significantly higher than non-RAD children on the dimensions of general behavioral problems, social problems, withdrawal, somatic complaints, anxiety/depression, thought problems, attention problems, delinquent behavior, and aggressive behavior.

#### Differences in Trait Measures

Next, we conducted several  $t$  tests to examine differences between the two groups of children on the trait dimensions of self-monitoring and empathy (as rated by caregivers) and computed discrepancy scores for both empathy and self-monitoring. These scores represented the mean difference between caregiver ratings and self-ratings for cases in which both child and caregiver completed the measures.

Children with RAD,  $M = 13.90, SD = 3.63$ , were rated significantly higher in self-monitoring than non-RAD children,  $M = 10.10, SD = 4.33, t(40) = 3.09, p < .05$ . Also, children with RAD were rated significantly lower in empathy,  $M = 5.90, SD = 4.65$ , than non-RAD children,  $M = 15.33, SD = 4.80; F(1, 40) = 41.84, p < .01$ .

To assess differences in the traits of self-monitoring and empathy between the two groups on the basis of the children's self-reports, we computed independent-means  $t$  tests for each of these variables. As with caregiver reported data,

TABLE 3. Means and Standard Deviations for RAD and Non-RAD Children Across the Reactive Attachment Disorder Scale (RADS) and the Child Behavior Checklist (CBC) Subscales, as Rated by Caregivers ( $N = 42$ )

Scale/subscale	RAD ( $n = 21$ )		Non-RAD ( $n = 21$ )		Univariate $F(1, 40)$
	$M$	$SD$	$M$	$SD$	
CBC					
Anxiety/Depression	11.67	3.83	2.57	4.88	45.13**
Aggressive Behavior	26.00	7.88	7.29	10.50	42.66**
Delinquent Behavior	9.57	4.34	2.86	5.62	18.75**
Attention Problems	11.19	4.60	3.57	5.13	25.55**
Somatic Complaints	3.19	3.49	1.29	2.05	4.65*
Social Problems	8.19	3.34	1.76	2.10	53.23**
Withdrawal	6.48	4.33	2.00	3.73	12.88**
Thought Problems	4.67	2.90	1.24	3.05	13.16**
RADS	253.10	51.42	127.90	65.65	47.93**

\* $p < .05$ . \*\* $p < .01$ .

children with RAD scored significantly lower in empathy,  $M = 11.90$ ,  $SD = 3.45$ , than non-RAD children,  $M = 17.80$ ,  $SD = 2.78$ ;  $t(18) = 4.21$ ,  $p < .01$ . We obtained no significant differences for the self-monitoring variable.

Although the differences in empathy scores between caregiver and self-ratings paralleled each other (i.e., children with RAD scored significantly lower in empathy than non-RAD children in both analyses), the difference seems larger based on caregiver ratings (mean difference between RAD and non-RAD = 9.43) than on children's self-ratings (mean difference between RAD and non-RAD = 5.90). This finding suggests that children with RAD may be engaging in self-monitoring strategies whereby they are presenting themselves as more socially desirable than may be warranted (compared with control children). To test whether this discrepancy between caregiver and self-ratings on the empathy dimension was significantly larger for children with RAD than for non-RAD children, we computed an empathy discrepancy variable by subtracting caregiver from self-ratings for each empathy item and then summing these individual item discrepancies to create a composite empathy discrepancy variable. Children with RAD scored significantly higher,  $M = 6.00$ ,  $SD = 5.27$ , than non-RAD children,  $M = 1.70$ ,  $SD = 1.70$ ;  $t(18) = 2.46$ ,  $p < .05$ , suggesting they did, in fact, engage in self-monitoring strategies more than did their control counterparts.

#### *Caregiver History Differences*

According to conceptualizations of RAD in the extant literature (e.g., Reber, 1996), children with RAD are defined by having a history of several primary caregivers across childhood; presumably this pattern leads to the attachment problems associated with such children. To test whether RAD participants in the current research demonstrated this defining feature of the disorder, we conducted a between-groups  $t$  test. Children with RAD in the current sample did have significantly more caregivers,  $M = 4.90$ ,  $SD = 2.39$ , compared with non-RAD children,  $M = 1.43$ ,  $SD = .87$ ;  $t(40) = 6.27$ ,  $p < .05$ .

#### **Discussion**

It is apparent from the results of this research that children diagnosed with RAD display significantly more violent and detrimental behavioral and personality difficulties than non-RAD children and on a more frequent and more intense basis than do non-RAD children. Specifically, children with RAD are rated significantly higher than non-RAD children on the dimensions of general behavioral problems (items specified in Table 1), social problems, withdrawal, somatic complaints, anxiety/depression, thought problems, attention problems, delinquent behavior, and aggressive behavior.

Although the current description of RAD may not include such phenomena as increased somatic complaints, withdrawal, and anxiety/depression, it must be

recognized that knowledge regarding disorders such as RAD is never complete, and new information that may contribute to the conceptualization of the disorder may be revealed by continual research. Information revealed by research but not outlined in the current study of RAD should be addressed in future research to assess its validity.

In addition, children with RAD are rated as having less empathy and as engaging in more self-monitoring activities than non-RAD children. RAD children rated themselves significantly higher in empathy than did their caregivers, and the discrepancy between the self-ratings and the caregiver ratings was significantly larger for children with RAD than for non-RAD children. This evidence suggests that children with RAD may consciously attempt to present themselves in a socially desirable manner rather than an accurate manner. Because of this significant tendency to engage in (perhaps) conscious self-monitoring behavior, these individuals pose unique problems for people who deal with them (e.g., family members, social workers, psychiatrists). The evidence presented in the current research pertaining to this behavior may benefit those who interact with them.

Previous research describing RAD has generally been qualitative in nature. In the current study, we used quantitative research methods to gain a better understanding of this disorder. However, the current research was limited in certain ways. We generally focused on behavioral and dispositional characteristics of children with RAD. This quantitative understanding of the nature of these individuals should be particularly helpful. However, in the present study we did not address the antecedents of this disorder in detail. Future research that examines its antecedents in a careful, quantitative manner could prove most helpful in both treatment and prevention. Specifically, careful research into the attachment-related underpinnings should be particularly fruitful.

The implications of the current findings may be far reaching, considering the disturbing effects that may affect family and other members of society. Although no effective treatments for RAD have yet been developed (*DSM-IV*), its impact may continue throughout the lives of the affected children. Many of them commit criminal acts as adults if the behavioral patterns of childhood persist into adulthood. Further research regarding the antecedents, general effects, and long-term consequences of RAD is greatly needed. A more complete understanding should result in treatment programs to assist these children, their families, and society as a whole.

#### *Limitations and Issues Pertaining to Future Research*

Given the exploratory nature of this research, several logistical issues presented themselves. For instance, the current research was designed to address RAD across a wide age range. This attempt was driven at least partly by the *DSM-IV* diagnosis that includes a broad age range including all ages up to 18. Including such a range in the current research allowed for a somewhat compre-



hensive examination but also served as a limitation in that this factor makes it difficult to tease apart maturational effects that may co-vary with effects attributable to this disorder. Future RAD research would benefit by focusing on a relatively narrow age range to address this issue.

Although the present research serves an important descriptive function, it does not adequately address etiological concerns. Researchers and theorists in the field of RAD point to faulty attachment patterns between children and caregivers in early childhood as the ultimate roots of this disorder. One potential outcome associated with faulty attachment patterns is that children experiencing such patterns will end up not living with both biological parents. However, such a family structure may also play a causal role in leading to poor attachments. Thus, faulty attachment patterns and atypical, sub-optimal family structure situations are deeply intertwined. The current work is unable to separate these two important variables.

In the present study, none of the children with RAD lived with both biological parents, and on the basis of the current findings, such children display a variety of disturbing and detrimental behaviors. However, several potential causes may be at the root of this outcome. Faulty attachment history may play a role, but atypical family structure alone may contribute independently to the disturbing psychological and behavioral outcomes as well. Because true experimentation on this topic would not be possible for ethical reasons, teasing apart these potential causes may not be fully possible.

Perhaps future studies could examine children diagnosed with RAD who do live with their biological parents. A comparison among these children and other children with RAD who have dissimilar family attachment histories could be informative with regard to the role of family structure. In addition, perhaps longitudinal research examining actual attachment patterns, independent of family structure, could be conducted to shed further light on the etiology of RAD.

Another concern has to do with the fact that this research primarily relied on data based on caregiver observations. Future research could attempt to reveal possible caregiver biases that may affect results. For example, one area of inquiry could pertain to whether the differences in empathy scores between children with RAD and non-RAD children are related in part to biases of caregivers who may perceive children with RAD as less empathetic than non-RAD children, regardless of the actual behavior of the children. Future researchers should also examine the information regarding RAD that was revealed in this research that is not listed in the current conceptualization of the disorder, such as increased somatic complaints, withdrawal, and anxiety or depression.

## REFERENCES

- Achenbach, T. M. (1991). *Manual for the Child Behavior Checklist/4-18 and 1991 profile*. Burlington, VT: University of Vermont, Department of Psychiatry.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Berkowitz, L. (1984). Physical pain and the inclination to aggression. In K. S. Flannelly, F. J. Blanchard, & D. C. Blanchard (Eds.), *Biological perspectives on aggression* (pp. 27-47). New York: Liss.
- Bowlby, J. (1952). *Maternal care and mental health* (2nd ed.). New York: Schocken.
- Bowlby, J. (1969). *Attachment & loss* (Vol. 1). New York: Basic Books.
- Bowlby, J. (1973). *Attachment & loss* (Vol. 2). New York: Basic Books.
- Brodzinsky, D. M., Schechter, D. E., Braff, A. M., & Singer, L. M. (1984). Psychological and academic adjustment in adopted children. *Journal of Consulting and Clinical Psychology, 4*, 582-590.
- Bryant, B. K. (1982). An index of empathy for children and adolescents. *Child Development, 53*, 413-425.
- Cicchetti, D., & Beeghly, M. (1987). Symbolic development in maltreated youngsters: An organizational perspective. *New Directions for Child Development, 36*, 47-68.
- Derivan, A. T. (1982). Disorders of bonding in failure to thrive. In P. J. Accardo (Ed.), *Failure to thrive in infancy and early childhood* (pp. 91-103). Baltimore: University Park.
- Egeland, B., & Sroufe, L. A. (1981). Attachment and early maltreatment. *Child Development, 52*, 44-52.
- Graziano, W. G., Leon, C., Lautenschlager, G. J., & Musser, L. M. (1987). Self-monitoring in children: A differential approach to social development. *Developmental Psychology, 23*, 571-576.
- Hanson, R. F., & Spratt, E. G. (2000). Reactive attachment disorder: What we know about the disorder and implications for treatment. *Child Maltreatment: Journal of the American Professional Society on the Abuse of Children, 5*, 137-145.
- Kirschner, D. (1992). Understanding adoptees who kill: Dissociation, patricide, and the psychodynamics of adoption. *International Journal of Offender Therapy and Comparative Criminology, 36*, 323-333.
- Lewis, D. O. (1992). From abuse to violence: Psychophysiological consequences of maltreatment. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*, 383-391.
- Magid, K. (1989). *Incapable of love*. (Cassette recording). Lakewood, CO: K. M. Productions.
- Magid, K., & McKelvey, C. A. (1987). *High risk: Children without a conscience*. Golden, CO: M & M Press.
- Parker, K. C., & Forrest, D. (1993). Attachment disorder: An emerging concern for school counselors. *Elementary School Guidance and Counseling, 27*, 209-215.
- Rayfield, S. (1990, August 19). Giving from the heart. *Maine and New Hampshire Sun Journal*, pp. 7-14.
- Reber, K. (1996). Children at risk for reactive attachment disorder: Assessment, diagnosis, and treatment. *Progress: Family Systems Research and Therapy, 5*, 83-98.
- Richters, M. M., & Volkmar, F. R. (1994). Reactive attachment disorder of infancy or early childhood. *Journal of the American Academy of Child and Adolescent Psychiatry, 33*, 328-332.
- Tibbits-Kleber, A. L., & Howell, R. J. (1985). Reactive attachment disorder of infancy (RAD). *Journal of Clinical Child Psychology, 14*, 304-310.
- Waters, E. (1978). The reliability and stability of individual differences in infant-mother attachments. *Child Development, 49*, 483-494.
- Widom, C. S. (1989). The cycle of violence. *Science, 244*, 160-166.
- Wilson, S. L. (2001). Attachment disorders: Review and current status. *The Journal of Psychology, 135*, 37-51.

Young, L. D., Suomi, S. S., Harlow, H. F., & McKinney, W. T., Jr. (1973). Early stress and later response to separation in rhesus monkeys. *American Journal of Psychiatry*, *130*, 400-405.

Zeanah, C. H. (1996). Beyond insecurity: A reconceptualization of attachment disorders in infancy. *Journal of Consulting and Clinical Psychology*, *64*, 42-52.

*Original manuscript received March 23, 2001*

*Final revision accepted July 10, 2002*