

# Screening Measures for Children and Adolescents with Reactive Attachment Disorder

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## Abstract

This article evaluated two screening measures designed to aid in diagnosing reactive attachment disorder (RAD): the Relationships Problem Questionnaire (RPQ) and Reactive Attachment Disorder – Checklist (RAD-C). Fifty-three parents/guardians completed both rating scales. Thirteen were adoptive/foster parents of children with a prior diagnosis of RAD, 12 were adoptive/foster parents whose children did not have a diagnosis of RAD, and 28 were the biological parents of children who did not have a mental health diagnosis (control) or a history of maltreatment. Scores on the RAD-C and RPQ demonstrated internal reliability, and the correlation between the two scales was indicative of convergent validity ( $r = .86$ ). Analysis of variance with post-hoc follow-up demonstrated that both scales distinguished between children/adolescents with a diagnosis of RAD and those without ( $p < .01$ ).

## Keywords

reactive attachment disorder, assessment, rating scales, maltreatment

Reactive attachment disorder (RAD) was first introduced as a diagnostic category in the third edition of the Diagnostic and Statistical Manual: DSM – III (American Psychiatric Association, 1980). While this new diagnostic category of RAD was a useful addition in helping to better understand and differentiate among mental disorders of childhood, problems existed in terms of clear diagnostic guidelines that often lead to confusion with other diagnostic categories such as failure to thrive (Hardy, 2007). A new understanding of RAD along with more specific criteria for a diagnosis came with the publication of DSM IV and DSM-IV-TR (American Psychiatric Association, 1994; 2000). The DSM IV criteria provided a clearer distinction between RAD and other childhood psychological disorders (Hardy, 2007).

DSM-IV-TR delineates RAD as a possible diagnostic category when children develop significantly disturbed and developmentally inappropriate social relations in most settings before the age of five (American Psychiatric Association, 2000). There are two subtypes of RAD, inhibited and disinhibited. Children diagnosed with RAD, inhibited or disinhibited subtypes, experience problems developing age appropriate attachments. A child displaying the inhibited subtype lacks the ability to form developmentally appropriate attachments and is unable to either initiate or respond to others in a socially appropriate fashion. In contrast, a child who displays the disinhibited subtype of RAD lacks the ability to discriminate among people in his/her attachments. The child with disinhibited RAD often shows attachment and affection equally towards strangers and his/her primary caregivers (American Psychiatric Association, 2000; Zeanah, 2007).

A child who is diagnosed with RAD typically has a history of pathogenic care beginning before the age of five years, and often

the child has spent time in the foster care system or had multiple, unstable caregivers (Hornor, 2008; Zeanah, 2007). Disregard for the child's emotional and physiological needs along with a lack of stimulation and affection has often occurred when the child was very young. As a result the child is unable to attach properly to the primary caregiver and demonstrate problems with social relatedness (Hornor, 2008).

There is very limited research on children with RAD in comparison to other early childhood disorders, but research is beginning to emerge (Stafford & Zeanah, 2006). One of the issues in researching RAD has been the difficulty with clear, concise definitions (Chaffin et al., 2006). This lack of consensus in defining RAD is further complicated by a lack of acceptable, standardized methods for assessing and diagnosing RAD. A 2006 report by the American Professional Society on the Abuse of Children (APSAC) notes that RAD "is one of the least researched and most poorly understood disorders in the DSM" (p. 80; Chaffin et al., 2006).

A second difficulty involves discriminating between attachment disorders and other early childhood psychiatric disorders. It is often difficult to distinguish as to whether the attachment itself is the disorder or a part of another disorder especially with disinhibited type (Balbernie, 2010). To compound the issue, it can also be difficult to distinguish between RAD and other developmental disorders because RAD can be a comorbid diagnosis (Zeanah, 2007). A further complication is that by adolescence it is not likely that a clear diagnosis of RAD can be made without specifying another comorbid diagnosis (Kempth & Voeller, 2008). These children often display multiple symptoms which can meet the diagnostic criteria for additional disorders. A defining point for RAD is a disturbed and developmentally

inappropriate way of relating to others (American Psychiatric Association, 2000; Hornor, 2008; Stafford, 2006; Zeanah, 2007).

There are limited assessment tools available to aid in diagnosing RAD, and only recently have guidelines been developed for the assessment process (AACAP, 2005). Checklist and questionnaires have been developed, but there is little published pertaining to the reliability and validity of these measures. Presently RAD is typically diagnosed through using a battery of measures that have limited or no data on reliability and validity for use with RAD (Boris, Zeanah, Larrieu, Scheeringa, & Heller, 1998; Boris, Hinshaw-Fuselier, et al., 1998; Chaffin et al., 2006). Scales not specific to RAD but developed for overall assessment as well as structures observations are often used when determining if the child meets the criteria for RAD.

Extensive intakes regarding the child's history of relationships along with parent/caregiver interviews are also conducted. This allows for a more comprehensive examination of the child's attachment characteristics (Sheperis et al., 2003; Zeanah et al., 2000). However, concerns have been expressed with this approach in that large numbers of children are misdiagnosed (Chaffin et al., 2006). A series of three questionnaires are often administered when considering the diagnosis of RAD. A few instruments are specific to RAD, but the majority are measures used to aid in the diagnosis of a variety of other childhood disorders in addition to RAD.

The purpose of the current study was to assess two rating scales in regard to aiding in the diagnosis of RAD: The Reactive Affective Disorder Checklist (RAD-C) and the Relationships Problem Questionnaire (RPQ). The RAD-C was developed for the current study based upon DSM-IV-TR criteria for a diagnosis of RAD (Hall, 2007). The RPQ (Minnis, Rabe-Hesketh, & Wolkind, 2002) has been used in Great Britain to aid in the diagnosis of RAD but data on the scale is limited. Parents/caregivers of all three groups of children were asked to complete both measures with respect to their children's/adolescents' behavior. Questions proposed in the current study included the following. 1) Would the RAD-C and RPQ demonstrate internal reliability as measured by coefficient alphas? 2) Would there be a significant and positive relationship between scores on the RAD-C and RPQ? 3) Would scores on the RAD-C and RPQ be able to discriminate between children/adolescents who had a prior diagnosis of RAD and those who did not?

## ■ METHOD

### PARTICIPANTS

Seventy-one parents/caregivers initially agreed to participate in the study. However, complete data sets were obtained for only 53 of the participants with 17 having incomplete data sets. Based on intake information and prior histories, three groups were designated. The first group was comprised of children/adolescents who had a prior diagnosis of RAD. The diagnosis of RAD, disinhibited subtype, had been made by a mental health practitioner specializing in attachment disorders, and these children/adolescents were receiving mental health counseling (RAD=13; 6 boys and 7 girls). The mean age of the children/adolescents in the RAD group was 10.15 years (SD=4.33) with a range of 5 to 19 years. The second group was comprised of

children/adolescents who had been either adopted or were in the foster care system. Records and intake histories of these children/adolescents did not indicate any problems in developing appropriate attachments (non-RAD=12; 6 boys and 6 girls). The mean age of children/adolescents in the non-RAD group was 9.92 years (SD=4.62) with a range of 5 to 19 years. The third group represented a control group of children/adolescents who had no history of attachment disorder, had never been in foster care system, and had lived with one or both biological parents since birth (control=28; 12 boys and 16 girls). The mean age of the control group was 9.48 years (SD=2.53) with a range of 6 to 15 years. Race/ethnicity for the children/adolescents was as follows: 23 were African-American, 23 Caucasian, 1 Native American, 4 Hispanic/Latino, and 2 indicated bi-racial as race/ethnicity.

### MEASURES

**Relationships Problem Questionnaire (RPQ):** The RPQ was developed by Minnis et al., (2002) to aid in the diagnosis of RAD. To date there has been limited information on the reliability or validity of the RPQ, and the research that has been conducted has been in Great Britain. The initial study on the RPQ was with 121 foster families with 182 children in central Scotland. Test-retest reliability was assessed by having the caregivers complete the questionnaire twice with the second completion being done within three to five weeks after the first completion. Inter-rater reliability was also assessed by having both male and female caregivers complete the questionnaire separately. Analysis found the questionnaire to have good internal consistency as measured by Chronbach's alpha (.70), inter-rater reliability (.81) and test-retest reliability (.78) according to Minnis et al. (2002).

Factor and cluster analyses were also performed on data from a UK study of over 15,000 twins with parents completing the RPQ (Young, Reekie, Gray, Ronald, & Minnis (2006). Factor analysis was used to refine the questionnaire, and cluster analysis was used to identify possible RAD and non-RAD group in the sample. Eighteen items comprised the RPQ and related to RAD behavior. The cluster analysis indicated the scale was able to differentiate between children with and without RAD. The RPQ identified 80 (.06%) of the children in the study as possible RAD cases. A cut-off score of 33 was recommended based on the analysis.

**Reactive Attachment Disorder Checklist (RAD-C):** The RAD-C (Hall, 2007) was developed for the study based on the DSM-IV criteria to be completed by the current primary caregiver. The RAD-C is composed of 17 questions regarding the child's/adolescent's typical behavior. Each question was answered on a scale of 1 to 5, 1 indicating 'almost never' and 5 indicating 'almost always'. In addition to the 17 questions, there were nine questions the parent/guardian checked off if they were applicable to the child's behavior when younger. The scale was specifically developed for use in the current study, and therefore no information exists on the reliability or validity of the scale.

### PROCEDURES

Participants in the RAD group were recruited from local departments of social services (DSS) and/or mental health professionals. Caregivers/parents were informed of the study by the DSS

**Table 1. Descriptive Statistics of RAD-C and RPQ based on Group**

Groups	RPQ			RAD-C		
	Mean (SD)	Min	Max	Mean (SD)	Min	Max
RAD	26.62 (9.29)	16	46	53.92 (10.67)	41	79
Non-RAD	10.08 (8.71)	2	27	29.17 (9.26)	21	46
Control	5.32 (5.39)	0	23	27.93 (8.32)	15	42

representative and/or the mental health professional. If caregivers (either foster or adoptive parents) indicated they were interested in participating and gave permission to be contacted, they then met with one of the researchers. If the caregiver(s) agreed to participate, a consent form from the caregiver and an assent forms from the child/adolescent was obtained prior to any data being collected. For children/adolescents in foster care, additional consent was obtained from a guardian appointed by DSS. The decision to participate was voluntary and caregivers were informed that the decision to participate or not participate would in no way impact any services they or their children/adolescents were receiving through DSS and/or their mental health facility. Participants in the non-RAD group were obtained from DSS, mental health professionals, and parents/caregivers in the community. Participation in the study followed the same procedures as described above.

Participants in the control group were obtained from community agencies (i.e., Boys and Girls Club). The agencies made parents aware of the study and if they indicated that they wished to know more about the study, they were contacted by one of the researchers. All parents in the control group had children/adolescents who were living with one or both biological parents and had been since birth. Participation was voluntary, and the decision to participate or not participate in no way influenced the services/programs children/adolescents or their parents were receiving. Consent forms from the parents and assent forms from children/adolescents were obtained prior to any data being collected. Once parents/caregivers gave their consent to participate, researchers scheduled times to meet with them and have them complete the surveys for the study.

Parents/caregivers or social workers were asked to complete a questionnaire regarding their children/adolescents. The information questionnaire asked for demographic information (i.e., age, race/ethnicity, gender) along with residential and adoption history. It was completed by the parent, social worker or legal guardian who knew the child's past and current behavior and was capable of filling out the information accurately. The decision was made to ask social workers familiar with the children/adolescents' early histories to complete the demographic information if the foster parent, adoptive parent or caregiver

had limited knowledge of the children/adolescents' early childhood environment. In some cases, social workers at DSS were able to provide more accurate details in terms of age at the time of removal from biological home, incidents of abuse or neglect, and number of prior placements. The parents/caregivers of children/adolescents in the RAD and non-RAD groups completed the RAD-C and RPQ regarding the child/adolescent's current behavior patterns. The biological parent(s) of children in the control group completed the demographic information sheet as well as both rating scales. The research complied with APA ethical standards for research with human participants, and it had received prior approval from the East Carolina University Institutional Review Board.

## ■ RESULTS

In order to assess internal reliability cronbach's alpha were computed for scores on each measure. Chronbach's alpha provides an assessment of how well each set of items measures a construct. It provides a coefficient of reliability (consistency). As an average inter-item correlation increases so does cronbach's alpha. This provides evidence that items are measuring the same underlying construct (Nunnally & Bernstein. 1994). Reliability coefficients of .70 or higher are considered to be acceptable. Chronbach's alpha for the RAD-C was .93 suggesting a strong internal reliability. Chronbach's alpha for the RPQ was .91, again indicating strong internal reliability.

A Pearson correlation analysis was performed for the RAD-C and the RPQ. The correlation between the RPQ and RAD-C was positive and significant,  $r = .86$ . Table 1 presents the means, standard deviations, minimum and maximum scores for the three groups on the RAD-C and RPQ.

Two Analyses of Variance (ANOVAs) were performed in order to determine if the checklists were able to significantly distinguish between groups with significance set at .05. The first ANOVA was performed with group (RAD, non-RAD and control) as the independent variable and RPQ scores as the dependent variable. Results of the ANOVA indicated a significant effect for group,  $F(2,50) = 38.27, p < .01$ . There was a significant difference among the groups in relation to scores on the RPQ. Post-hoc analyses using the least significant difference (LSD)

**Table 2. Post-hoc comparisons for the Least Significant Difference among Groups for RPQ**

	Mean Differences 1	Mean Differences 2	Mean Differences 3
RAD ( $n = 13$ )	<u>16.53*</u>	<u>21.29*</u>	
Non-RAD ( $n = 12$ )			4.76
Control ( $n = 29$ )			

\*Post-hoc comparisons that were found to be significant at .05 level or greater are underlined

**Table 3. Post-hoc comparisons for the Least Significant Difference among Groups for RAD-C**

	Mean Differences 1	Mean Differences 2	Mean Differences 3
RAD ( $n = 13$ )		<u>24.76*</u>	<u>25.99*</u>
2 Non-RAD ( $n = 12$ )			1.24
3 Control ( $n = 29$ )			

\*Post-hoc comparisons that were found to be significant at .05 level or greater are underlined

indicated that the RAD group had significantly higher scores on the RPQ than either the non-RAD or control groups. There was not, however, a significant difference between the non-RAD group and control groups (see Table 2).

The second ANOVA was performed with group again serving as the independent variable and RAD-C scores as the dependent variable. A significant difference was found among the groups based on parent responses to the RAD-C,  $F(2,51) = 30.43, p < .01$ . Post-hoc analysis using LSD indicated that the RAD group had significantly higher scores than on the RAD-C than either the non-RAD or control groups. Scores for the non-RAD and control groups did not demonstrate a significant difference from one another (see Table 3).

While the RPQ and RAD-C as completed by the parents/caregivers/social workers demonstrated the ability to differentiate between children/adolescents with and without RAD, there was also overlap among the scores for the three groups. Figures 1 and 2 represent rating scores for the three groups and are presented below.

Overlap among the three groups can be seen in Figure 1, but the RAD group's ratings were higher overall. There were two outliers in the non-RAD group and one in the control group with a score above 20. Two of the children/adolescents identi-

fied as RAD obtained scores below 20. From the data in the current study, looking at scores that fell between 15 and 20 more carefully would be advisable from a clinical standpoint. Using the cut-off score of 33 as recommended by Young et al., (2006) would potentially eliminate children/adolescents from further evaluation who might be dealing with attachment problems typically associated with RAD. It should also be noted that the children/adolescents in the RAD group were in therapy for attachment issues, and this could be a factor in lower scores.

The examination of Figure 2 presents a similar profile as Figure 1 in that there was minimal overlap among the three groups rating scores, but that the RAD group's ratings were higher overall. There were three scores in the non-RAD group and three in the control group with a score above 40. None of the children/adolescents identified as RAD obtained scores below 40. From the data, it would be advisable to look at scores that fell between 40 and 50 on this scale more carefully from a clinical standpoint.

## DISCUSSION

The purpose of this study was to analyze the internal reliability and validity of the RPQ and RAD-C. Chronbach's alpha scores for both measures indicated strong internal consistency sup-

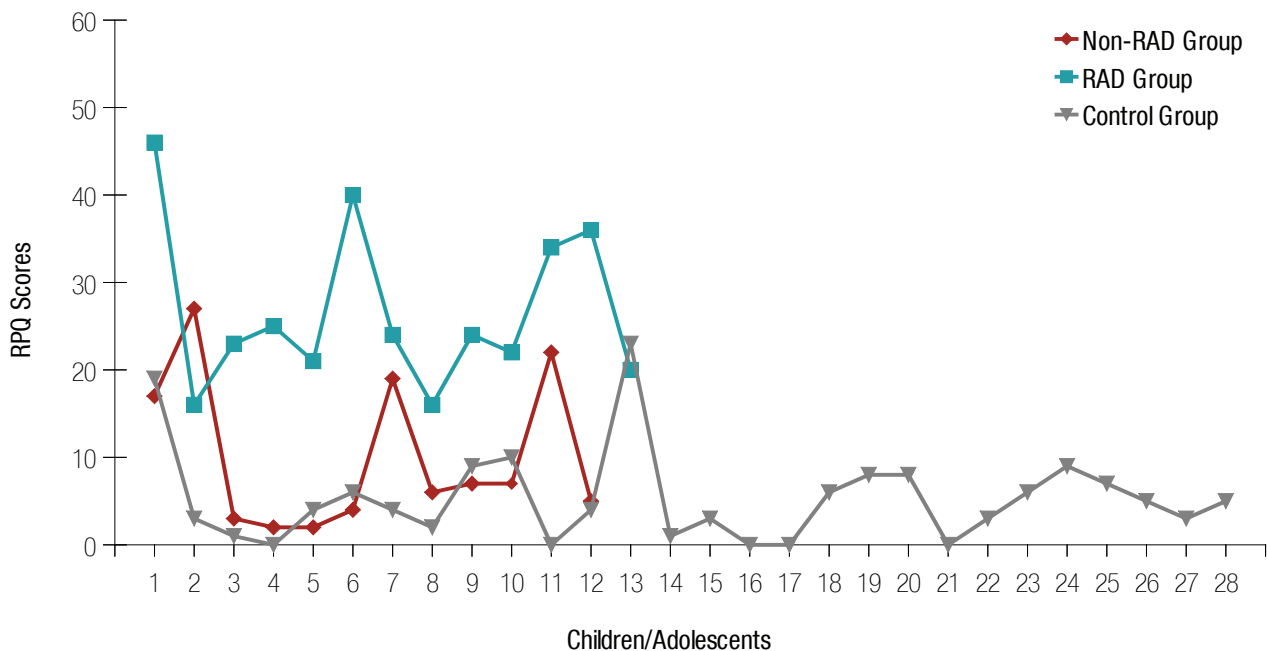


Figure 1. RPQ Parent/Caregiver/Social Worker Ratings for Children/Adolescents in RAD, non-RAD, and Control Groups



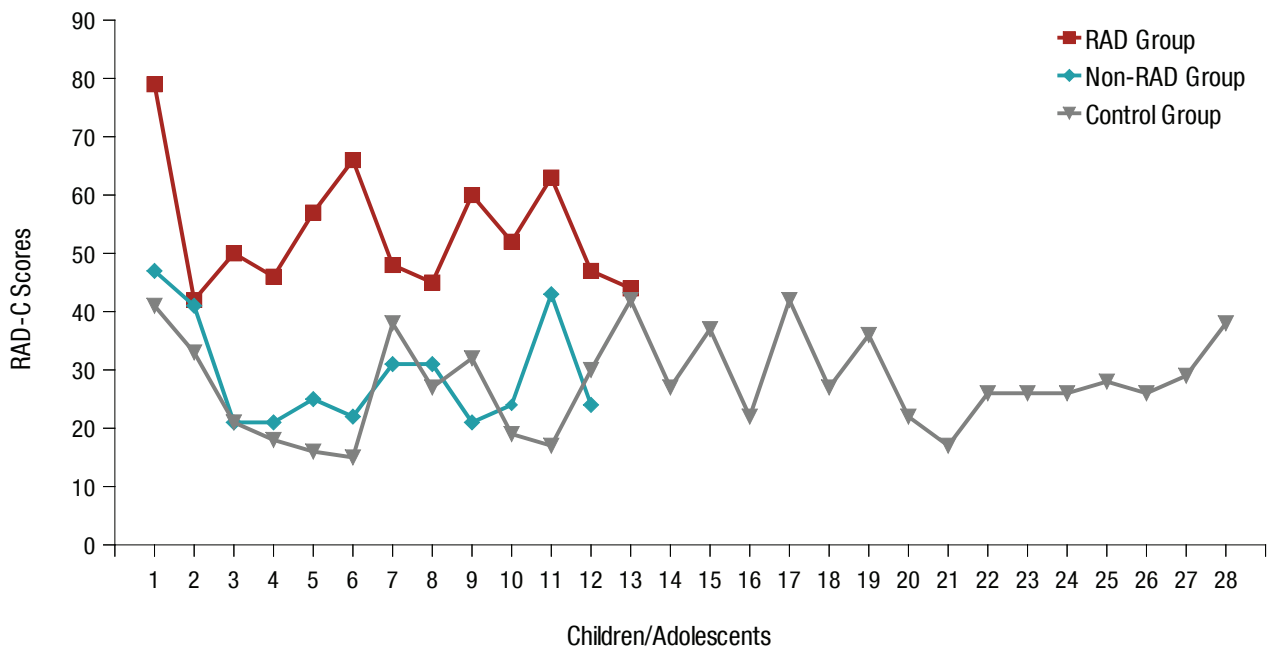


Figure 2. RAD-C Parent/Caregiver/Social Worker Ratings for Children/Adolescents in RAD, non-RAD, and Control Groups

porting the use of both the RPQ and RAD-C as possible screening instruments in the diagnosis of RAD. Both the RPQ and RAD Checklist focused on the defining characteristics described in the DSM IV TR (American Psychological Association, 2000). Previously there had been no information on the RAD-C and only limited information for RPQ in U.K. populations.

Correlations indicated a significant and positive relationship between the two measures. Convergent validity is how well two measures meant to identify the same characteristic correlate with one another. There was high convergent validity in this study between the RPQ and the RAD-C.

The scores for children/adolescents based on the RPQ and RAD-C were also significantly higher for the RAD group than for either non-RAD or control group with the non-RAD and control groups not differing significantly from one another. Both scales demonstrated the ability to discriminate between children/adolescents whose behaviors were more consistent with RAD. While statistical significance was found, clinical significance is of equal importance. Problems have been noted with the diagnosis of RAD in general in that many behaviors noted for RAD may also overlap with other disorders (Balbernie, 2010; Kempf & Voeller, 2008). Issues in the misdiagnosis of RAD have also been cited where children/adolescents are diagnosed with this disorder when they exhibit less severe symptoms than would be typical of RAD (O'Connor, Rutter, Beckett, Keaveney, & Kreppner, 2000). The RPQ and RAD-C look promising as screening measures, but care needs to be taken to insure a diagnosis of RAD is not made on the results of either measure alone. To diagnosis RAD, a comprehensive evaluation with more than one measure and pertinent to more than one situation needs to be done.

It is important to provide research on assessment measures

in order to help establish accepted standardized means to aid in the diagnosis of RAD. Kempf and Voeller (2008) note that by the time the child reaches adolescence, it is highly unlikely that a diagnosis of RAD only will be made. It is far more probably that comorbid diagnoses will occur. An additional complication of this is that by this time other diagnoses may take precedence and symptoms/behaviors associated with RAD could be missed and pertinent information overlooked (Kempf & Voeller, 2008). We need to have appropriate assessment instruments to help identify this disorder more effectively leading to interventions beginning in childhood.

The APSAC Task Force (Chaffin et al., 2006) proposed some basic guidelines on the assessment of RAD. The recommendations were comprehensive and provided important professional considerations in the diagnosis of RAD. These recommendations included: assessing patterns of behavior over time; consideration of cultural issues; sampling behaviors across situations and not limited to problem areas with parents/caregivers; and a careful choice of checklists that have acceptable data on measurement. They also recommended: choosing evaluators with expertise and skill in this specific area; considering other more common disorders and/or explanations; including family/caregivers in the assessment process; and not making a diagnosis of RAD solely on the basis of early life experiences such as maltreatment, trauma, institutionalization, removal from biological parent(s), and/or early pathogenic care.

Certain limitations of the current study need to be noted. The sample size was limited, and the RAD group was represented by disinhibited subtype only. Some individuals decided not to participate in the study and other individuals began the study but did not complete all of the necessary forms. There is not a large population of children/adolescents who are currently di-

agnosed with RAD which makes it difficult to obtaining participants. As noted in the study by Young et al. (2006) out of 15,000 twins surveyed with the RPQ in Great Britain, 80 (.06%) were identified as possibly meeting the diagnostic criteria for RAD. The age range in the sample was also large. In the future it would be helpful to have information on both children's groups and adolescent groups. Also as noted in the results section, the children/adolescents in the RAD group were in therapy for attachment issues. This might have been a factor in scores on the RPQ falling below the suggested cutoff (Young et al., 2006). Follow-up research is needed with children/adolescents in therapy and those who have not received therapeutic interventions.

Questions arise as to potential differences in the participants who did volunteer in all three groups in comparison to those who chose not to participate or not complete the study. The study also relied on the prior diagnosis of RAD by a mental health professional specializing in attachment disorders. Screening was done with non-RAD and control groups to help rule out any prior diagnoses, but this relied heavily on parental report. It is possible that a child or adolescent could have been experiencing attachment difficulties without having been diagnosed. Future research needs to focus on more experimental controls and multiple informants on behavior patterns.

Additional research on the RPQ and RAD-C is needed. Providing an opportunity for test-retest reliability and inter-rater reliability for both the RPQ and RAD-C would provide further support for the assessment measures. A larger sample size would allow for a more in-depth analysis of results. In the future researchers with a larger sample size may be able to distinguish differences amongst sex, race and age in children who have been diagnosed as RAD as well as providing information on disinhibited and inhibited subtypes. In the current study, the children/adolescents in the RAD group were exclusively composed of the disinhibited subtype so there was no information on how the scales would work for the inhibited subtype. Longitudinal research is needed on outcomes for these children and adolescents. It would also be advantageous to look at children and adolescents with only a diagnosis of RAD and those with comorbid diagnoses.

In conclusion, more research is needed on assessment of RAD that includes multiple assessments in more than one environment and if possible, information needs to be obtained from more than one informant. Research is beginning in this area, and assessment packages including standardized observations

are being evaluated (McLaughlin, Espie, & Minnis, 2010). Problems currently exist with under identification of children and adolescents when a diagnosis of RAD would help provide added insight to their behaviors and/or treatment options. An equally difficult problem also exists with over identification where some children and adolescents may be identified as RAD when their behaviors/symptoms are more reflective of attachment problems and not attachment disorder (McLaughlin, et al., 2010; O'Conner et al., 2000). Two scales that show promise in aiding in the diagnosis by serving as possible screening measures are the RPQ and RAD-C.

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