

CHAPTER 27

Attachment Disorders in Early Childhood

Julianna Finelli
Charles H. Zeanah, Jr.
Anna T. Smyke

“Attachment” describes the human infant’s tendency to seek comfort, support, nurturance, and protection selectively from a small number of caregivers. Based on experiences of regular interactions with adult caregivers, infants learn gradually to seek comfort and protection not from just anyone but selectively, from caregivers on whom they have learned they can rely. According to attachment theory, infants’ behaviors with these caregivers are guided by their “internal working models” of relationships, a heuristic term describing a set of tendencies to experience and behave in intimate relationships in particular ways; that is, as early as the first year of life, infants begin to construct expectations about how they and others with whom they interact will feel and behave. The internal working model is more than a set of expectations, however, as it includes selective attention to incoming social information and salient social cues, feelings elicited during intimate interactions with others, memories of similar feelings in previous interactions and relationships, and the infant’s own behavioral responses to others. Attachment is considered a vital component of social and emotional development in the early years, and individual differences in the quality of attachment relationships are believed to be important early indicators of infant mental health. John Bowlby (1952, p. 11), who elaborated attachment theory, declared in the mid-20th

century that “essential for mental health is that an infant and young child should experience a warm, intimate and continuous relationship with his mother (or mother substitute . . .) in which both find satisfaction and enjoyment.”

The propensity for human infants to form selective attachments is believed to be so strong that only in highly unusual and maladaptive caregiving environments do attachments fail to develop. For young children raised in species-atypical rearing conditions, however, seriously disturbed and developmentally inappropriate ways of relating may evolve. Examples of atypical environments include institutions (i.e., orphanages), frequent changes of caregivers (as sometimes happens in foster care), neglectful or abusive caregiving, or being raised by insensitive or unresponsive caregivers. In these extreme situations, young children may develop clinical disorders of attachment.

In this chapter, we review the construct of attachment disorders, with an emphasis on reactive attachment disorder and disinhibited social engagement disorder. Although derived from descriptive studies dating back at least to the 1940s, these disorders have been subjected to systematic study only in the past decade or so, and are still often misunderstood (Chaffin et al., 2006). Therefore, we review developmental perspectives on attachment, as well as the phenomenology, correlates, epidemiology, and

course of reactive attachment disorder and disinhibited social engagement disorder. Finally, we consider assessment and treatment of reactive attachment disorder and disinhibited social engagement disorder.

Developmental Perspectives on Attachment

The capacity to form an attachment is not present at birth but develops gradually over the first year of life. For the first 2 months after birth, infants are not well developed socially, spending most of their time sleeping, eating, and crying. At around 2 months of age, they become dramatically more social, exhibiting a responsive “social” smile, as well as cooing responsively and making more sustained eye-to-eye contact. They seem more interested in social interaction and are willing to interact readily with adults. Although infants in the first 6 months are able to distinguish among different interactive partners, they do not express an obvious preference for one caregiver over another.

This lack of obvious preference changes at around 7–9 months of age. At that point, infants begin to exhibit stranger wariness and separation protest, two behaviors that herald the onset of “focused” or “selective” attachment. “Stranger wariness” varies from mild reticence to outright distress, but it contrasts with the infant’s selective seeking of comfort, support, nurturance, and protection. “Separation protest” describes the infant’s reaction to actual or anticipated separation from an attachment figure. Once infants have developed the cognitive capacity to exhibit separation protest and stranger wariness, they may form new attachments with any caregivers with whom they have significant and sustained interactive experiences.

It is important to emphasize that infants are likely to recognize and may even be comfortable with a larger number of caregivers than

those to whom they are attached. Bowlby (1969) emphasized that play partners are not necessarily attachment figures. We may think of a continuum of infants’ behavior with caregivers, beginning with recognition/familiarity, followed by familiarity/comfort, then comfort/pleasure, then pleasure/reliance and finally reliance/preference (see Figure 27.1). Only at the level of reliance/preference may we say infants have fully formed attachments to caregivers.

Though older children can sustain attachment relationships over time and space, in the first 3 years or so of life, the young child needs actual interaction with caregivers in order to become attached to them. This has important implications both for custody and visitation and for infants in foster care.

Classifications of Attachment

Attachment is most often assessed in the early years of life with a procedure known as the Strange Situation Procedure (SSP). This observational paradigm involves a series of interactions between a young child, an attachment figure, and a stranger (Ainsworth, Blehar, Waters & Wall, 1978). The procedure was designed to examine the young child’s balance between attachment and exploratory behaviors, primarily through comparing the child’s behavior with the attachment figure and with the unfamiliar adult. Because separation from the attachment figure activates the young child’s need for closeness and comfort, the SSP includes two brief separations and reunions that allow direct observation of the child making use of the caregiver to regulate his or her emotions during this moderately stressful experience.

Based on the organization of child’s attachment behaviors and the balance between the child’s tendency to seek proximity to the attachment figure and to move away from the attachment figure and explore, it is possible to derive an overall classification of attachment

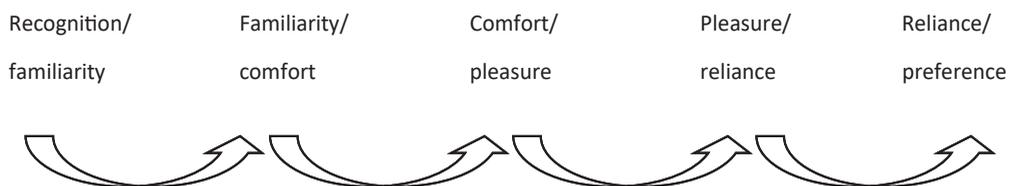


FIGURE 27.1. Continuum of behaviors relevant to development of attachment relationships.

between the child and caregiver. Ainsworth and colleagues (1978) described three major patterns of attachment. Children who expressed distress directly, sought comfort unhesitatingly, and responded to comfort readily were classified as “securely” attached to their caregivers. Children who showed little distress on separation and little need for closeness or comfort on reunion were classified as “avoidantly” attached to their caregivers. Finally, children who showed intense distress but could not be comforted on reunion were classified as “resistantly” (sometimes referred to as “ambivalently”) attached to their caregivers. Essentially, these patterns represent balanced (“secure”), diminished (“avoidant”) and excessive (“resistant”) activation of the child’s need for comfort when stressed. A fourth classification was later added by Main and colleagues (Main & Hesse, 1990; Main & Solomon, 1990). They described “disorganized” attachment, a heterogeneous set of behaviors that involves various aberrant behaviors and/or mixed strategies comprising incoherent combinations of secure, avoidant, and resistant attachment behaviors. Disorganized attachment is the classification that is most predictive of concurrent and subsequent psychopathology (Lyons-Ruth & Jacobvitz, 2016).

Important work by Sroufe and colleagues (see Sroufe, 2005; Weinfield, Sroufe, Egeland, & Carlson, 2008) established the construct validity of the SSP for the assessment of the quality of parent–child attachment in young children. The disorganized classification, in particular, extended the value of observing the young child’s behavior in the SSP to clinical populations of young children. Indeed, the SSP is now considered quite useful in attachment-based interventions such as the Circle of Security (Dozier & Bernard, Chapter 31, this volume), but the emphasis is on specific behaviors rather than overall classification. The SSP has been used in hundreds of studies of attachment around the world and still is widely considered the “gold standard” for assessing quality of attachment in the early years. Nevertheless, it is important that these classifications not be confused with diagnoses nor that the SSP be confused with a clinical assessment.

A number of studies have demonstrated increased risk for anxiety disorders, disruptive behavior disorders, dissociative disorders, substance use, delinquency, and personality disorders among children with insecure and especially disorganized attachments to their pri-

mary caregivers (Deklyen & Greenberg, 2016; Lyons-Ruth & Jacobvitz, 2016). Thus, SSP classifications of secure, avoidant, resistant, and disorganized are risk and protective factors for disorders rather than diagnostic entities themselves. Secure attachment appears to be especially important as a protective factor in high-risk samples (e.g., Tharner et al., 2012). Still, it seems increasingly clear that taken alone, classifications of attachment have more limited long-term predictive power, whereas when considered with other variables, they appear to be important, if not vital, considerations (Sroufe, 2005).

Given the ubiquity of attachment for human infants, an important clinical challenge is to distinguish between typically appearing variants of attachment and actual clinical disorders of attachment. For this, we turn to a consideration of the clinical perspective on attachment disorders.

Clinical Presentation of Attachment Disorders

Attachment disorders were first described formally in the psychological literature in 1980 with the publication of the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III; American Psychiatric Association, 1980). Since then, the criteria have been revised in more recent nosologies [the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association, 2013); the International Classification of Diseases (ICD-10; World Health Organization, 1992); Research Diagnostic Criteria-Preschool Age (American Academy of Child and Adolescent Psychiatry [AACAP] Task Force on Research Diagnostic Criteria: Infant Preschool, 2003); and the *Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood* (DC:0–5; Zero to Three, 2016)]. Nevertheless, only in the past two decades have there appeared studies focused explicitly on the diagnostic criteria.

The phenomenology of attachment disorders was derived from descriptive studies of young children raised in extreme caregiving environments, such as children who have been maltreated or those who have been reared in institutional settings (Goldfarb, 1945; Main & George, 1979; Spitz, 1945; Wolkind, 1974). Drawing on these studies, Tizard and Rees (1975) reported

that at age 4 years, a majority of young children (18/26) who had been raised in residential nurseries in the United Kingdom since birth exhibited aberrant attachment behaviors. A group of eight children was described as emotionally withdrawn and unresponsive, and another group of 10 children was described as indiscriminate, attention seeking, and socially superficial.

These two phenotypes became subtypes of one attachment disorder, reactive attachment disorder, though ICD-10 defined reactive attachment disorder as comprising emotionally withdrawn/inhibited behavior and defined disinhibited attachment disorder as indiscriminate social behavior associated with social boundary violations. DSM-5 followed the lead of ICD-10, separating the two disorders and naming them reactive attachment disorder (RAD) and disinhibited social engagement disorder (DSED). Two distinct disorders are in line with recent research, which suggests that although both disorders arise in conditions of social neglect, they differ significantly in their phenotypic characteristics, course, associated comorbidities, and response to treatment interventions (Zeanah & Gleason, 2010, 2015). Studies using confirmatory factor analyses have supported the validity of the two-factor model (Lehman, Breivik, Heiervang, Havik, & Havik, 2016; Oosterman & Schuengel, 2007; Vervoort, DeSchipper, Bosmans, & Verschuere, 2013). However, the classification of RAD and DSED as two distinct disorders remains a point of contention. Lyons-Ruth (2015) argues for the importance of the at-

tachment framework in understanding DSED, given research that implicates disturbed development of selective attachment relationships. Similarities and differences in the two disorders are summarized in Table 27.1.

Further keeping in line with the literature, DSM-5 focuses the criteria for RAD on disturbed or absent *attachment* behaviors, rather than on general social behaviors (as in DSM-IV and ICD-10), and focuses the criteria for DSED on aberrant social behaviors. This change is consistent with studies that have identified lack of attachment behaviors as the core deficit in RAD (Boris et al., 2004; Gleason et al., 2011; Zeanah, Smyke, Koga, Carlson, & the BEIP Core Group, 2005), and indiscriminate social behaviors as the core deficit in DSED (Lawler, Hostinar, Mliner, & Gunnar, 2014; Soares et al., 2014; Tizard & Hodges, 1978; Zeanah, Smyke, & Dumitrescu, 2002).

In addition to the disturbed attachment and social behaviors that form the core of contemporary descriptions of attachment disorders, DSM-5 specifies that the etiology of attachment disorders is extremes of insufficient caregiving. Indeed, RAD has been reported only in children with histories of either maltreatment or institutional rearing, though this may be because the insufficient care criterion is required. A direct assessment of individual differences in quality of the caregiving environment and individual differences of RAD found moderate associations between caregiving quality and signs of RAD, but no association between caregiv-

TABLE 27.1. Similarities and Contrasts between RAD and DSED

Attachment disorder	RAD	DSED
Etiology	Linked etiologically to social deprivation/neglect	Linked etiologically to social deprivation/neglect
Maltreatment	Identified in neglected children	Identified in neglected children
Institutional care	Identified in children raised in institutions	Identified in children raised in institutions
Children adopted from institutions	Not identified	Not identified
SSP classifications/behavior	Related to attachment behavior in SSP (not attachment classifications)	Not related to attachment behavior or classifications in the SSP
Intervention	Very responsive to enhanced caregiving	Less responsive to enhanced caregiving
Sensitive period	No evidence	Suggestive evidence

ing and signs of DSED (Zeanah et al., 2005), though this was within the relatively deprived context of an institution. Other studies have found an association between indiscriminate behavior and caregiving quality (Love, Minnis, & O'Connor, 2015).

Reactive Attachment Disorder

RAD is characterized by minimal or no discriminated attachment behavior, even at times when the child's attachment behaviors should be activated. Phenomenologically, it is characterized by the absence of organized attachment behaviors, reduced social engagement and reciprocity, and emotion regulation difficulties (i.e., low levels of positive affect, outbursts of irritability, unexplained fear and hypervigilance). Children with this pattern seek comfort either inconsistently or not at all, even when distressed, and are not easily soothed when they do become distressed.

The criteria for RAD in formal nosologies have changed somewhat over time. In recent nosologies (i.e., DSM-5 and DC:0-5), criteria for RAD have focused more specifically on disturbed or absent attachment behaviors as the core behavioral disturbance rather than disturbed social behaviors more generally.

There have been some attempts to assess convergent validity of caregiver reports of RAD using behavioral observations. For example, young children living in institutions who had signs of RAD also were rated by observers to have almost nonexistent attachments based on the children's behavior in the SSP (Zeanah et al., 2005).

Disinhibited Social Engagement Disorder

The essence of DSED is the failure to exhibit developmentally expectable reticence around unfamiliar adults. This is manifested by the child's lack of reticence about engaging socially with them, failure of the child to check back with the caregiver in unfamiliar settings and instead tending to wander off, and the child's willingness to approach, interact with, and "go off" with a stranger. Developmentally, stranger wariness appears early in the second half of the first year of life. Though individual differences are evident, some degree of stranger wariness is evident in all typically developing children. In DSED, wariness around strangers is absent or substantially diminished.

At least three different interviews with caregivers have operationalized indiscriminate behavior in young children (Chisholm, 1998; O'Connor & Rutter, 2000; Smyke, Dumitrescu, & Zeanah, 2002). Despite some differences in definition, these three different approaches actually showed substantial convergence (inter-correlations ranging from 0.64 to 0.97) when used to assess a group of young children living in institutions (Zeanah et al., 2002). There also have been naturalistic (Gleason et al., 2014), clinic (Boris et al., 2004), and laboratory observational measures of indiscriminate behavior (Lawler et al., 2014; Lyons-Ruth, Bureau, Riley, & Atlas-Corbett, 2009). There is some evidence that observational measures also converge with caregiver report measures (Gleason et al., 2011; O'Connor, Marvin, Rutter, Olrick, & Britner, 2003).

Recent studies have attempted to elucidate the nature of the social deficits in DSED. Miellet, Caldara, Gillberg, Raju, and Minnis (2014) found altered facial processing in children with DSED. Specifically, children with indiscriminate friendliness had lower interparticipant agreement on evaluations of face attractiveness and trustworthiness, and did not show the expected correlation between trustworthiness and attractiveness judgments.

Epidemiology

Attachment disorders are rare in young children. In a sample of more than 300 two- to 5-year-old children drawn from pediatric clinics in North Carolina, there were no cases of RAD or DSED (Egger et al., 2006). Even in disadvantaged samples of young children, the disorder seems to be rare. For example, Boris and colleagues (2004) reported that there were no cases of RAD (or what is now called DSED) among impoverished young children attending a Head Start program, and only two of 25 homeless young children met ICD-10 criteria for disinhibited attachment disorder.

Among samples of maltreated children, the disorder seems to be more common. In one retrospective study, clinicians who were administered a structured interview reported that 35% of young children coming into foster care had met criteria for RAD (Zeanah et al., 2004). Oosterman and Schuengel (2007) showed that signs of both emotionally withdrawn and indiscriminate social types of RAD were evident

in preschool children in foster care. In a study of 6- to 8-year-old children from a deprived population in the United Kingdom, Minnis and colleagues (2013) found a prevalence of RAD (based on DSM-IV criteria, and including both inhibited and disinhibited subtypes) of 1.40%; all but one of the subjects with a definite diagnosis of RAD had histories of maltreatment, as did all but two of the subjects with a borderline diagnosis of RAD. The authors noted that it was impossible to determine maltreatment histories for the other three subjects.

Signs of RAD and DSED have been readily identified among young children living in institutions. Smyke and colleagues (2002) reported some signs of both RAD and DSED in almost three-fourths of young children being raised in a large institution in Bucharest, Romania. In another sample of institutionalized young children, most had incompletely developed attachments and clinically significant signs of both types of attachment disorders (Zeanah et al., 2005).

Differential Diagnosis

Though some of the signs and symptoms of RAD and DSED are similar to those of other disorders, the diagnosis is usually clear because of the distinctive clinical features and the history of social neglect. Nevertheless, in clinical settings, it may be challenging to know historical details about a particular child, which means that careful assessments are necessary to distinguish RAD and DSED from other disorders. Other clinical problems associated with severe neglect, such as language and cognitive delays, may co-occur and sometimes complicate the clinical picture.

Reactive Attachment Disorder

The mostly likely clinical entity that can be challenging to distinguish from RAD is autism spectrum disorders (ASD). DSM-5 (American Psychiatric Association, 2013) precludes a diagnosis of RAD in the presence of ASD. Though the disorders share impairments in social responsiveness and evidence of deprivation (e.g., stereotypies), there are also important differences. Although deprived caregiving conditions characterize RAD, the deprivation in ASD is likely disorder induced. Thus, whereas ASD usually occurs in adequate caregiving environ-

ments, RAD cannot. Furthermore, there is no reason to expect selective deficits in imaginative play, deficits in the initiation or response to joint attention, or deviant language development (e.g., echolalia) in RAD, whereas these are common, if not pathognomonic, in ASD. In addition, persistently restricted, repetitive, and stereotyped patterns of behaviors, interests, and activities ought to be more characteristic of ASD than of RAD. Despite these distinctions, Davidson and colleagues (2015) found that 62% of their sample of 64 children with ASD met criteria for “likely RAD” on a semistructured parent interview based on DSM-IV criteria (and included both “inhibited” and “disinhibited” subtypes). However, for all but one of those children, structured observational assessments were able to identify clear features that were more indicative of ASD. In another study, Sadiq and colleagues (2012) focused on social communication difficulties in children with RAD compared to children with ASD and typically developing children. They found that the profile of social impairments differed between the groups, but the RAD group showed even greater difficulties with rapport, social relationships, and use of context than the ASD group. The authors highlighted the importance of multidisciplinary and observational assessment in correctly discriminating between the disorders. Anxiety disorders also may include substantial inhibition, but positive affect is apparent with caregivers, and selective attachment behaviors ought to be present.

Disinhibited Social Engagement Disorder

The insufficient care criterion is particularly important in distinguishing indiscriminate/disinhibited RAD from conditions such as Williams syndrome and fetal alcohol syndrome, both of which have been reported to be associated with indiscriminate social behavior (Jacobson & Jacobson, 2003; Jones et al., 2000). In addition, some children with attention-deficit/hyperactivity disorder (ADHD) may be socially impulsive. If the child has clear signs of ADHD including general impulsivity and also shows indiscriminate behavior with unfamiliar adults, both ADHD and DSED may be present. In a study of international adoptees using adoptive parents’ reports, Elovainio, Raaska, Sinkkonen, Mäkipää, and Lapinleimu (2015) found that both DSED and RAD were associated with ADHD; DSED also was associated with higher

externalizing and total problem scores on the Child Behavior Checklist (CBCL), while RAD was associated with higher internalizing, externalizing, and total problem scores.

Clinical Course

One of the important considerations for disorders in early childhood is their predictive validity, but longitudinal studies of signs of attachment disorders are uncommon. Evidence regarding the predictive validity of attachment disorders comes from the study of Tizard and colleagues of young children in British residential nurseries (Hodges & Tizard, 1989; Tizard & Hodges, 1978; Tizard & Rees, 1975), from studies of children adopted out of institutions and from the Bucharest Early Intervention Project (BEIP), and a randomized controlled trial of foster care versus care as usual, for children who experienced early institutional rearing (Zeanah, Humphreys, Fox, & Nelson, 2017).

Reactive Attachment Disorder

The emotionally withdrawn/inhibited type of RAD has not been evident in follow-up studies of children adopted out of institutions (see Chisholm, 1998; O'Connor et al., 2003). In the BEIP, however, there was continuity of signs of this type of RAD during the first 8 years of life (Gleason et al., 2011), especially for children who remained in institutions. When children with RAD are placed in more favorable environments, however, signs of the disorder seemed to dissipate, since they are not reported in postadoption samples (Chisholm, 1998; O'Connor et al., 2003; Rutter et al., 2007).

A more recent person-centered longitudinal analysis of the BEIP showed four patterns of RAD in children from early childhood to early adolescence: a persistently elevated, a rapidly decreasing, a persistently low, and an absent cluster (Guyon-Harris et al., in press). Not surprisingly, most children in the rapidly decreasing pattern were from the group randomized to foster care. Also, most children in the persistently elevated group were from the group of children who had more prolonged institutional rearing. Later age of placement into families and greater percent time in institutional care were each associated with prolonged, elevated signs of RAD. The absent group, however, in-

cluded some children who had experienced more prolonged institutional rearing, emphasizing that not all children who experience serious deprivation develop RAD.

Disinhibited Social Engagement Disorder

DSED seems to be more persistent than RAD following deprivation. Tizard and Rees (1975) first described indiscriminate behavior in 4-year-old children with a history of institutional rearing. These signs persisted when the children were 8 years of age (Hodges & Tizard, 1978). At age 16 years, adolescents in this sample who had demonstrated indiscriminate behavior with caregivers at ages 4 and 8 years were more indiscriminate with peers at 16 years (Hodges & Tizard, 1989). In addition, signs of indiscriminate behavior have been noted to be quite persistent in longitudinal studies of children adopted out of institutions (Chisholm, 1998; O'Connor et al., 2003) and in one study of foster children exposed to pathogenic care (Jonkman et al., 2014). Rutter and colleagues (2007) reported moderate stability in signs of indiscriminate behavior in children adopted out of Romanian institutions into the United Kingdom between ages 6 and 11 years. They also identified children who showed persistent signs of DSED from early childhood through mid-adolescence and noted that virtually all were adopted after 6 months of age. In the BEIP, children with a history of institutional rearing continued to show signs of the indiscriminate type of RAD through 8 years of age, even if they had been placed in foster care (Smyke et al., 2012).

Similar to RAD, a person centered longitudinal analysis of DSED in children followed in BEIP yielded patterns of elevated, persistently low, early decreasing, and minimal (Guyon Harris et al., 2018). As with RAD, even some children who experienced severe and prolonged institutional rearing showed no signs of DSED, highlighting that a small subset of severely deprived children did not develop signs of DSED. The elevated pattern mostly comprised children with more prolonged institutional exposure, and the early decreasing pattern occurred primarily in children who were removed from depriving institutions and placed before 2 years of age into foster care. The persistently low profile also was a mixture of children with more and less institutional exposure. Elevated and stable low patterns were associated with having expe-

rienced more placement disruptions, later age of placement into families, and more time in institutional care compared to courses of decreasing and minimal signs of DSED.

Taken together, these results suggest that both RAD and DSED show moderate stability over time. The difference seems to be that RAD continues to be evident only if adverse caregiving environments continue, whereas DSED persists in some children even after caregiving environments improve.

Assessment

In order to diagnose RAD or DSED, the AACAP Practice Parameters recommend a minimum of careful interviewing of the child's primary caregiver about signs of RAD or DSED and observations of the child's interactions with that caregiver and with an unfamiliar adult (Zeanah, Cheshner, Boris, & AACAP Committee on Quality Issues, 2016). Structured and unstructured methods of both inquiry and observation of a child's attachment and exploratory behaviors are available (Zeanah, Berlin, & Boris, 2011).

Inquiring about the child's attachment behaviors is most important. Establishing that the child has preferred adult caregivers to whom he or she turns for comfort, support, nurturance, and protection is important. Inquiring about the child's pattern of seeking and responding to comfort, protesting separation, being reticent with unfamiliar adults, and checking back in unfamiliar settings are all important. The clinician should gather a detailed history, for example, about the child's pattern of comfort seeking, beginning with the onset of stranger wariness and progressing through to the time of assessment. In addition to comfort seeking, the clinician should inquire about separation protest, which peaks at around 18 months of age but typically continues into the preschool years. Data about the child's behavior in child care settings or schools may be useful as an indication of the child's typical behavior in the absence of the parent/caregiver. Teacher reports of extreme withdrawal or indiscriminate behavior could raise suspicion about RAD or DSED. Structured interviews to assess RAD (Smyke et al., 2002) and DSED (Chisholm 1998; O'Connor et al., 2003; Smyke et al., 2002) provide more systematic inquiry.

Observational data are especially valuable in making the diagnosis of RAD and DSED.

Asking the caregiver to elicit attachment behaviors and separate from the child by leaving the room often provides useful data. Observing the child's approach to and interaction with the clinician permits an *in vivo* examination of the child's behavior with strangers. Comparing the child's behavior with familiar and unfamiliar adults is necessary for diagnosis. One observational procedure specifically designed for assessing signs of RAD and DSED was proposed by Boris and colleagues (2004) and is included in the AACAP Practice Parameters (Zeanah et al., 2016). Other observational laboratory paradigms for recording signs of DSED also have been studied (Bruce, Tarullo, & Gunnar, 2009; Lawler et al., 2014).

Ideally, a complete assessment involves more than one observation of the child, with interviews helping to determine how typical the observed behavior is. Videotaping both observational procedures and interviews allows the clinician to review relevant data with parents.

Although the SSP has significant constraints on its use diagnostically, as part of a comprehensive assessment it may have value (Zeanah et al., 2011). In fact, indiscriminate behavior during the SSP has been coded formally (Lyons-Ruth et al., 2009). As part of a clinical assessment, however, it is best used to inform an understanding of how the child's attachment behaviors are organized toward the parent or caregiver rather than to derive a classification of attachment.

Intervention

To date, the only intervention studies regarding RAD or DSED per se have been in samples of children with histories of institutional rearing. These interventions were designed to change caregiving practices within institutional settings or to remove children from institutions and place them in families.

Interventions within Institutions

McCall and colleagues (St. Petersburg–USA Orphanage Research Team, 2008) conducted an ambitious intervention to change the quality of caregiving within institutions for young children in Russia. Using a quasi-experimental design, this group provided training to promote more sensitive/responsive caregiving, and structural changes to support positive relation-

ships between children and caregivers, predominantly by decreasing the number of caregivers per child. In one institution for young children, both of these changes were implemented; in a second, only training was provided; and in a third, no intervention was implemented.

Although the study included no direct assessments of attachment disorders, the investigators found that nondisabled children in an institution who received training plus structural changes displayed more positive emotions, a greater number of emotions, and more activity during free play and reunions following brief separation, and they showed more negative emotions when their caregiver left and returned. They also found that children in institutions who received training and structural changes displayed substantially more proximity-seeking and contact-maintaining attachment behavior and less avoidant attachment behavior with their caregivers than did children in the other groups.

Smyke and colleagues (2002) studied young children in a large institution in Romania. They examined signs of RAD and DSED in children on a standard care unit and in children on a "pilot" unit. These children then were compared to children living with their parents but attending community child care settings. Whereas children on the standard care unit had many different caregivers in a week, children on the pilot unit had caregivers drawn from a pool of four women on the day and evening shifts; that is, without changing the ratio of caregivers to children (roughly 1:12), the investigators were able to evaluate the specific effect of reducing the number of caregivers for each child.

Smyke and colleagues (2002) reported that, not surprisingly, institutionalized children had significantly more signs of both RAD and DSED than children living with parents. Of note, they also found that children on the standard unit had more signs of RAD and DSED than children on the pilot unit. Anecdotally, the investigators noted that caregivers on the pilot unit seemed to be more psychologically invested in the children compared to caregivers on the standard care unit. For example, each of the groups of children on the pilot unit had a name (e.g., "puppies," "kittens," "cubs," or "bunnies"), and the caregivers often referred to "my child" during structured interviews. This was in striking contrast to the absence

of such references on the standard caregiving unit.

International Adoption Studies

Two longitudinal studies of children adopted out of Romanian institutions have reported findings regarding RAD. Chisholm (1998) reported on two groups of children adopted from Romania into Canada. Children in the first group ($N = 46$) were adopted after eight or more months of institutional care. Those in the second group ($N = 30$) were adopted after less than 4 months of institutional care. These groups were compared to another group of 46 typically developing Canadian children with no history of adoption. The groups were assessed initially at a median of 11 months and later at a median of 39 months following adoption. Attachment was assessed by parental report.

O'Connor and Rutter (2000) assessed 165 children adopted from Romania into the United Kingdom. Of these, 111 were adopted prior to age 6 months, and 54 were adopted between ages 24 and 42 months. They were compared to 52 children without histories of maltreatment who had been adopted within the United Kingdom prior to age 6 months.

Despite design differences, there was a convergence of findings in these two studies. First, there were no reports of children with signs of RAD, but a substantial minority of children in both samples had signs of DSED. In fact, signs of indiscriminate behavior are among the most commonly reported social abnormalities in young children with histories of institutional rearing. These findings suggest that signs of DSED persist even after the environment improves. Both studies also suggested that risk for indiscriminate behavior increased with increasing length of time in institutional rearing. For example, O'Connor and Rutter (2000) found that children who exhibited indiscriminate behavior at age 6 years had experienced deprivation twice as long (22 months) as children exhibiting no signs of indiscriminate behavior (11 months).

Despite these important findings, the limitations of adoption studies are that they do not include assessments of individual differences in the preadoptive caregiving environments, nor are they able to determine anything about the children's possible attachments within the institutions. In addition, they are somewhat less

representative of institutionally reared children, since those adopted are likely to be selected based on nonrandom factors.

The Bucharest Early Intervention Project

The most intentional intervention study of RAD and DSED conducted to date is the BEIP (Zeanah et al., 2003). This randomized controlled trial (RCT) of foster care as an alternative to institutional care was conducted with young children living in Romanian institutions. Children ranged from 6–30 months of age at the time of recruitment. They were assessed comprehensively, then randomly assigned to care as usual or foster care. The RCT continued until the children were 54 months of age. At that point, the foster care network was turned over to local government authorities. The children were followed up at ages 8 and 12 years.

The goal of the BEIP intervention was to test a model of foster care that was effective, affordable, replicable, and culturally sensitive. Furthermore, the foster care was designed to be informed by the latest clinical and research findings (see Nelson, Fox, & Zeanah, 2014; Smyke, Zeanah, Fox, & Nelson, 2009). Three project social workers were recruited and trained to provide a variety of services to foster parents and the children for whom they cared. In addition to initial training, the social workers also received regular weekly consultation/supervision from experienced clinicians in the United States who worked with young, maltreated children. The goal was to have the social workers orchestrate foster care around the needs of the children for stable, consistent, and emotionally available caregivers. The aim was to have the foster parent become emotionally invested in the child and advocate on the child's behalf as if he or she were the foster parent's own child. The social workers supported, monitored, and intervened with foster parents as needed.

Results of the BEIP indicated that at the trial's completion, signs of RAD were reduced substantially by placement in foster care, and the response to placement was both early and sustained (Humphreys, Nelson, Fox, & Zeanah, 2017; Smyke et al., 2012). In fact, signs of RAD in the foster care group were indistinguishable from those in the community group at each assessment point during the trial and at follow-up. Eight years after the completion of the trial, when children were 12 years old, children origi-

nally in the foster care group still showed significantly fewer signs of RAD than those randomized to care as usual.

Longitudinal analysis of children who had experienced varying amounts of institutional rearing and never-institutionalized children revealed four patterns of signs of RAD: persistent elevated, persistent low, early decreasing, and absent (Guyon-Harris et al., in press). Age at which a child was first placed into a family—foster, adoptive, or biological—proved predictive of profiles. Children in the “early decreasing” profile were placed at younger ages compared to children in the “persistent elevated” and “persistent low” profiles. Therefore, stable, even mildly elevated RAD signs over time are associated with longer periods in institutional care before being placed into families.

Related to this metric, differences between profiles were also found for percentage of time in institutional care through age 54 months. Spending a greater percentage of time in institutional care early in life was associated with stable moderate to high courses of RAD signs across development, whereas spending less time in care was associated with either no signs of RAD over time or a dramatic drop in symptoms followed by sustained absence of signs (Guyon Harris et al., in press).

In contrast, signs of DSED responded to placement somewhat more modestly (Smyke et al., 2012), though there were still significantly fewer signs of DSED in children randomized to foster care 8 years after the RCT concluded. Interestingly, elevated and stable low to moderate courses were associated with greater placement disruptions, even those that occurred between 54 months and 12 years of age. Persistence of signs also was associated with a child's later age of placement into a family, and more time in institutional care compared to courses of decreasing and minimal signs of DSED.

Smyke and colleagues (2012) found that children removed from institutions and placed into foster homes prior to age 24 months had reductions in signs of DSED compared to those placed after 24 months. In addition, in the English and Romanian Adoptees Study found that children with persistent signs of DSED were adopted after rather than before 6 months of age. This evidence is compatible with the notion of a sensitive period for DSED, suggesting that significantly more benefit will derive from envi-

ronmental enhancement if it is provided earlier rather than later.

Implications for Clinicians

Based on results to date, it is clear that the first priority of treatment is to establish a safe and stable caregiving environment with a warm and consistent caregiver. Treatment of RAD begins by carefully assessing the relationship between the primary caregiver and child. The first question is whether the child has an attachment figure. If not, then treatment means helping the child to establish an attachment relationship. Secure attachments are fostered by caregivers who are emotionally available, sensitive, and responsive, valuing the child as a unique individual and placing the needs of the child ahead of their own needs. These features are important for all children but especially for those who lack an attachment relationship and must begin to create one (Zeanah et al., 2011).

Stovall-McClough and Dozier (2004) reported that attachment behaviors of young children in foster care begin to organize around their new primary caregiver within days to weeks of placement, based on diary ratings kept by foster parents. If young children have a strong propensity to form attachments, then in species-typical rearing conditions (i.e., in families), such attachments should form readily. This premise is supported by all studies conducted to date, including studies of children being raised within institutions, internationally adopted children, and young children in foster care. Even children who have experienced significant neglect appear to be capable of forming secure attachments, especially if their caregivers are securely attached (Dozier, Stovall, Albus, & Bates, 2001). Adjunctive treatment may be necessary in some cases, with a focus on the relationship between the child and primary caregiving adult. The chief goal of the treatment is helping the child to learn through repeated interactions with the adult caregiver that the caregiver can be relied upon to provide comfort, support, nurturance and protection. Associated problems, such as cognitive and language delays, aggression, or posttraumatic symptoms, should also be addressed with appropriate therapeutic interventions.

Increasing evidence indicates that RAD is analogous to absent or nearly absent preferred attachments. This may explain why it has been described only in young children in extremely

adverse caregiving environments (Zeanah et al., 2004, 2005) and not in children who have been removed and placed in more optimal caregiving environments (Chisholm, 1998; O'Connor & Rutter, 2000). It is so crucial for children to form and sustain attachments to caregiving adults that they seem to retain the capacity to do so once environments improve.

For DSED, the evidence is somewhat different. Measures of indiscriminate behavior clearly diverge from other measures of attachment quality, and in fact, indiscriminate behavior has been identified in children who lack attachments, those with insecure and disorganized attachments, and even in some children with secure attachments (Chisholm, 1998; O'Connor et al., 2003; Zeanah et al., 2005). DSED is less responsive than RAD to enhanced caregiving (Smyke et al., 2012).

Relational Disorders of Attachment

The preceding discussion of attachment disorders focuses on RAD and DSED, which by definition are within-the-child disorders. Clinically impairing relationship-specific disturbances of attachment also have been described (Lieberman & Pawl, 1988; Lieberman & Zeanah, 1995; Zeanah & Boris, 2000; Zeanah, Mammen, & Lieberman, 1993). The basic premise underlying these forms of attachment disorders is that the child has an attachment relationship with a discriminate caregiver, but that the attachment relationship is seriously disturbed. Lieberman and Pawl (1988) deemed these disturbances "secure base distortions." Later, several disturbed relationship patterns were described, including "self-endangering," "vigilant/hypercompliant," and "role-reversed" (Zeanah & Boris, 2000). These descriptions defined disorders that existed *between* rather than *within* individuals.

There is considerable evidence that a child's pattern of attachment to one caregiver may be different from the pattern of attachment to another caregiver. van IJzendoorn and Wolff (1997) conducted a meta-analysis of such studies involving mother-infant and father-infant attachment in 950 families. They found a very modest but significant concordance ($\phi = 0.17$, $p < .05$), indicating that attachment to mother and attachment to father are largely independent. Some have advocated for inclusion of attachment relationship disorders as disorders *be-*

tween individuals rather than *within* individuals (Zeanah, 1996; Zeanah & Boris, 2000; Zeanah et al., 1993). Nevertheless, the previously described secure base distortions have not been examined systematically, and validity data supporting them are lacking.

Still, the recently defined relationship-specific disorder of infancy and early childhood (Zero to Three, 2016) does provide a means by which severely disturbed attachment relationships may be identified. Relationship-specific disorder requires only functionally impairing symptomatology in the young child that is evident in the context of one caregiving relationship but not others. Thus, if the disturbed attachment behavior is specific to one particular relationship, then each of the disturbed attachment relationships described earlier—self-endangering, vigilant/hypercompliant, and role-reversed—would meet criteria for relationship-specific disorder of infancy and early childhood. This disorder is derived from clinical observations and decades of attachment research on relationship specificity (Zeanah & Lieberman, 2016), but as a new disorder, it has not yet been subjected to assessments of reliability and validity.

Summary and Future Directions

Insufficient care such as that in social neglect and institutional care increases the risk for disorders of attachment in young children. Furthermore, within groups of young children raised in institutions, higher ratings of quality of care are related to increased probability of children having more fully developed attachments, as well as reduced likelihood of having RAD. There is more limited evidence, however, that individual differences in signs of DSED are related to individual differences in quality of care, though, clearly, severe deprivation does seem to be associated with the ontogenesis of indiscriminate behavior.

Placement of institutionalized young children in families seems to reduce signs of RAD and DSED, with perhaps more consistent effects on reducing signs of RAD. Studies of children adopted out of institutions, for example, have found virtually no children with significant signs of RAD. Findings to date have suggested that RAD and DSED are remediable if children are placed in more appropriate caregiving environments, although additional interventions for children with DSED may be indicated. A

case report, for example, described adaptation of parent–child interaction therapy to a young child with DSED (Dickmann & Allen, 2017).

Based on available evidence, it appears that it is never too late for a child to form an attachment. Nevertheless, we do not yet know about potential long-term impairments in the quality of attachments that young children who have had RAD or DSED in early childhood subsequently develop. Certainly, results from O'Connor and colleagues (2003) and Marcovitch and colleagues (1997) have suggested that these children are at increased risk for unhealthy and atypical attachments in early childhood, even after they are placed in enhanced caregiving environments.

Other challenges remain for the field. For example, we have little understanding of the reasons that similar conditions of risk give rise to the very different clinical pictures of RAD and DSED. In addition, which aspects of caregiving are most crucial in remediating signs of disturbance remain to be determined. Also, little is understood about the neural substrate underlying attachment processes. A clearer understanding might help to resolve some of the current dilemmas.

Progress in these and related areas will enhance our understanding of the family and social context of attachment disorders and continue to fill in details of Bowlby's illuminating insights.

REFERENCES

- AACAP Task Force on Research Diagnostic Criteria: Infancy and Preschool. (2003). Research diagnostic criteria for infants and preschool children: The process and empirical support. *Journal of the American Academy of Child and Adolescent Psychiatry*, *42*, 1504–1512.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment*. Hillsdale, NJ: Erlbaum.
- American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: Author.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: Author.
- Boris, N. W., Hinshaw-Fuselier, S. S., Smyke, A. T., Scheeringa, M., Heller, S. S., & Zeanah, C. H. (2004). Comparing criteria for attachment disorders: Establishing reliability and validity in high-risk samples. *Journal of the American Academy of Child and Adolescent Psychiatry*, *43*, 568–577.

- Bowlby, J. (1952). *Maternal care and mental health*. Geneva: World Health Organization.
- Bowlby, J. (1969). *Attachment*. New York: Basic Books.
- Bruce, J., Tarullo, A. R., & Gunnar, M. R. (2009). Disinhibited social behavior among internationally adopted children. *Development and Psychopathology, 21*, 157–171.
- Chaffin, M., Hanson, R., Saunders, B. E., Nichols, T., Barnett, D., Zeanah, C., et al. (2006). Report of the APSAC Task Force on Attachment Therapy, reactive attachment disorder, and attachment problems. *Child Maltreatment, 11*, 76–89.
- Chisholm, K. (1998). A three-year follow-up of attachment and indiscriminate friendliness in children adopted from Romanian orphanages. *Child Development, 69*, 1092–1106.
- Davidson, C., O'Hare, A., Mactaggart, F., Green, J., Young, D., Gillberg, C., et al. (2015). Social relationship difficulties in autism and reactive attachment disorder: Improving diagnostic validity through structured assessment. *Research in Developmental Disabilities, 40*, 63–72.
- Deklyen, M., & Greenberg, M. T. (2016). Attachment and psychopathology in childhood. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (3rd ed., pp. 639–666). New York: Guilford Press.
- Dickmann, C. R., & Allen, B. (2017). Parent-child interaction therapy for the treatment of disinhibited social engagement disorder: A case report. *Evidence-Based Practice in Child and Adolescent Mental Health, 2*, 19–29.
- Dozier, M., Stovall, K. C., Albus, K. E., & Bates, B. (2001). Attachment for infants in foster care: The role of caregiver state of mind. *Child Development, 72*, 1467–1477.
- Egger, H. L., Erkanli, A., Keeler, G., Potts, E., Walter, B. K., & Angold, A. (2006). Test-retest reliability of the Preschool Age Psychiatric Assessment (PAPA). *Journal of the American Academy Child Adolescent Psychiatry, 45*, 538–549.
- Elovainio, M., Raaska, H., Sinkkonen, J., Mäkipää, S., & Lapinleimu, H. (2015). Associations between attachment-related symptoms and later psychological problems among international adoptees: Results from the FinAdo study. *Scandinavian Journal of Psychology, 56*, 53–61.
- Gleason, M. M., Fox, N. A., Drury, S., Smyke, A., Egger, H. L., Nelson, C. A., et al. (2011). Validity of evidence-derived criteria for reactive attachment disorder: Indiscriminately social/disinhibited and emotionally withdrawn/inhibited types. *Journal of the American Academy of Child and Adolescent Psychiatry, 50*, 216–231.
- Gleason, M. M., Fox, N. A., Drury, S. S., Smyke, A. T., Nelson, C. A., & Zeanah, C. H. (2014). Indiscriminate behaviors in previously institutionalized young children. *Pediatrics, 133*, 657–665.
- Goldfarb, W. (1945). Psychological privation in infancy and subsequent adjustment. *American Journal of Orthopsychiatry, 14*, 247–255.
- Guyon-Harris, K. L., Humphreys, K. L., Degnan, K., Fox, N. A., Nelson, C. A., & Zeanah, C. H. (in press). A prospective study of reactive attachment disorder following early institutional care: Considering variable- and person-centered approaches. *Attachment and Human Development*.
- Guyon-Harris, K. L., Humphreys, K. L., Fox, N. A., Nelson, C. A., & Zeanah, C. H. (2018). Course of disinhibited social engagement disorder from early childhood to early adolescence. *Journal of the American Academy of Child and Adolescent Psychiatry, 57*, 329–335.
- Hodges, J., & Tizard, B. (1978). The effect of early institutional rearing on the development of eight year old children. *Journal of Child Psychology and Psychiatry, 19*, 99–118.
- Hodges, J., & Tizard, B. (1989). Social and family relationships of ex-institutional adolescents. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 30*, 77–97.
- Humphreys, K. L., Nelson, C. A., Fox, N. A., & Zeanah, C. H. (2017). Signs of reactive attachment disorder and disinhibited social engagement disorder at age 12 years: Effects of institutional care history and high-quality foster care. *Development and Psychopathology, 29*, 677–686.
- Jacobson, S., & Jacobson, J. (2003). FAS/FAE and its impact on psychosocial child development. In R. E. Tremblay, R. G. Barr, & R. D. V. Peters (Eds.), *Encyclopedia on early childhood development* (pp. 1–7) [Online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development. Retrieved from www.excellenceearlychildhood.ca/documents/jacobsonangxp.pdf.
- Jones, W., Bellugi, U., Lai, Z., Chiles, M., Reilly, J., Lincoln, A., et al. (2000). Hypersociability in Williams syndrome. *Journal of Cognitive Neuroscience, 12*, 30–46.
- Jonkman, C. S., Oosterman, M., Schuengel, C., Bolle, E. A., Boer, F., & Lindauer, R. J. L. (2014). Disturbances in attachment: Inhibited and disinhibited symptoms in foster children. *Child and Adolescent Psychiatry and Mental Health, 8*, 21.
- Lawler, J. M., Hostinar, C. E., Mliner, S. B., & Gunnar, M. R. (2014). Disinhibited social engagement in post-institutionalized children: Differentiating normal from atypical behavior. *Development and Psychopathology, 26*, 451–464.
- Lehman, S., Breivik, K., Heiervang, E. R., Havik, T., & Havik, O. E. (2016). Reactive attachment disorder and disinhibited social engagement disorder in school-aged foster children: A confirmatory approach to dimensional measures. *Journal of Abnormal Child Psychology, 44*, 445–457.
- Lieberman, A., & Pawl, J. (1988). Clinical applications of attachment theory. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment* (pp. 375–398). Hillsdale, NJ: Erlbaum.
- Lieberman, A., & Zeanah, C. H. (1995). Disorders of attachment in infancy. In K. Minde (Ed.), *Infant psychiatry* (pp. 571–588). Philadelphia: Saunders.

- Love, L., Minnis, H., & O'Connor, S. (2015). Factors associated with indiscriminate friendliness in high-risk children. *Infant Mental Health Journal, 36*, 427–445.
- Lyons-Ruth, K. (2015). Commentary: Should we move away from an attachment framework for understanding disinhibited social engagement disorder (DSED)? A commentary on Zeanah and Gleason (2015). *Journal of Child Psychology and Psychiatry, 56*, 223–227.
- Lyons-Ruth, K., Bureau, J. F., Riley, C. D., & Atlas-Corbett, A. F. (2009). Socially indiscriminate attachment behavior in the Strange Situation: Convergent and discriminant validity in relation to caregiving risk, later behavior problems, and attachment insecurity. *Development and Psychopathology, 21*, 355–372.
- Lyons-Ruth, K., & Jacobvitz, D. (2016). Attachment disorganization from infancy to adulthood: Neurobiological correlates, parenting contexts, and pathways to disorder. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (3rd ed., pp. 667–695). New York: Guilford Press.
- Main, M., & George, C. (1979). Social interactions of young abused children: Approach, avoidance, and aggression. *Child Development, 50*, 306–318.
- Main, M., & Hesse, E. (1990). Parents' unresolved traumatic experiences are related to infant disorganized attachment status: Is frightened and/or frightening parental behavior the linking mechanism? In M. T. Greenberg, D. Cicchetti, & M. E. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 161–182). Chicago: University of Chicago Press.
- Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth Strange Situation. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 121–160). Chicago: University of Chicago Press.
- Marcovitch, S., Goldberg, S., Gold, A., Washington, J., Wasson, C., Krekewich, K., et al. (1997). Determinants of behavioural problems in Romanian children adopted into Ontario. *International Journal of Behavioral Development, 20*, 17–31.
- Miellet, S., Caldara, R., Gillberg, C., Raju, M., & Minnis, H. (2014). Disinhibited reactive attachment disorder symptoms impair social judgments from faces. *Psychiatry Research, 215*, 747–752.
- Minnis, H., Macmillan, S., Pritchett, R., Young, D., Wallace, B., Butcher, J., et al. (2013). Prevalence of reactive attachment disorder in a deprived population. *British Journal of Psychiatry, 202*, 342–346.
- Nelson, C. A., Fox, N. A., & Zeanah, C. H. (2014). *Romania's abandoned children: Deprivation, brain development and the struggle for recovery*. Cambridge, MA: Harvard University Press.
- O'Connor, T. G., Marvin, R. S., Rutter, M., Olrick, J. T., & Britner, P. A. (2003). Child–parent attachment following early institutional deprivation. *Development and Psychopathology, 15*, 19–38.
- O'Connor, T. G., & Rutter, M. (2000). Attachment disorder behavior following early severe deprivation: Extension and longitudinal follow-up. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*, 703–712.
- Oosterman, M., & Schuengel, C. (2007). Autonomic reactivity of children to separation and reunion with foster parents. *Journal of the American Academy of Child Adolescent Psychiatry, 46*, 1196–1203.
- Rutter, M., Colvert, E., Kreppner, J., Beckett, C., Castle, J., Groothues, C., et al. (2007). Early adolescent outcomes for institutionally-deprived and non-deprived adoptees: I. Disinhibited attachment. *Journal of Child Psychology and Psychiatry, 48*, 17–30.
- Sadiq, F. A., Slator, L., Skuse, D., Law, J., Gillberg, C., & Minnis, H. (2012). Social use of language in children with reactive attachment disorder and autism spectrum disorders. *European Child and Adolescent Psychiatry, 21*, 267–276.
- Smyke, A. T., Dumitrescu, A., & Zeanah, C. H. (2002). Disturbances of attachment in young children: I. The continuum of caretaking casualty. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*, 972–982.
- Smyke, A. T., Zeanah, C. H., Fox, N. A., & Nelson, C. A. (2009). A new model of foster care for young children: The Bucharest early intervention project. *Child and Adolescent Psychiatric Clinics of North America, 18*, 721–734.
- Smyke, A. T., Zeanah, C. H., Gleason, M. M., Drury, S. S., Fox, N. A., Nelson, C. A., et al. (2012). A randomized controlled trial comparing foster care and institutional care for children with signs of reactive attachment disorder. *American Journal of Psychiatry, 169*, 508–514.
- Soares, I., Belsky, J., Oliveira, P., Silva, J., Marques, S., Baptista, J., et al. (2014). Does early family risk and current quality of care predict indiscriminate social behavior in institutionalized Portuguese children? *Attachment and Human Development, 16*, 137–148.
- Spitz, R. A. (1945). Hospitalism: An inquiry into the genesis of psychiatric conditions in early childhood. *Psychoanalytic Study of the Child, 1*, 53–74.
- Sroufe, L. A. (2005). Attachment and development: A prospective longitudinal study from birth to adulthood. *Attachment and Human Development, 7*, 349–367.
- St. Petersburg–USA Orphanage Research Team. (2008). The effects of early social-emotional-relationship experience on the development of young orphanage children. *Society for Research in Child Development Monograph, 73*(3), vii–viii, 1–262, 294–295.
- Stovall-McLough, K. C., & Dozier, M. (2004). Forming attachments in foster care: Infant attachment behaviors during the first 2 months of placement. *Development and Psychopathology, 16*, 253–271.
- Tharner A., Luijk, M. P., van IJzendoorn, M. H., Bakermans-Kranenberg, M. J., Jaddoe, V. W., Hofman, A., et al. (2012). Infant attachment, parenting stress,

- and child emotional and behavioral problems at age 3 years. *Parenting Science and Practice*, 12, 261–281.
- Tizard, B., & Hodges, J. (1978). The effect of early institutional rearing on the development of eight year old children. *Journal of Child Psychology and Psychiatry*, 19, 99–118.
- Tizard, B., & Rees, J. (1975). The effect of early institutional rearing on the behavior problems and affectional relationships of four-year-old children. *Journal of Child Psychology and Psychiatry*, 16, 61–73.
- van IJzendoorn, M. H., & Wolff, M. S. (1997). In search of the absent father—Meta-analysis of infant–father attachment: A rejoinder to our discussants. *Child Development*, 68, 604–609.
- Vervoort, E., De Schipper, J. C., Bosmans, G., & Verschuere, K. (2013). Screening symptoms of reactive attachment disorder: Evidence for measurement invariance and convergent validity. *International Journal of Methods in Psychiatric Research*, 22, 256–265.
- Weinfeld, N. S., Sroufe, L. A., Egeland, B., & Carlson, E. A. (2008). The nature of individual differences in infant–caregiver attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2nd ed., pp. 78–101). New York: Guilford Press.
- Wolkind, S. N. (1974). The components of “affectionless psychopathy” in institutionalized children. *Journal of Child Psychology and Psychiatry*, 15, 215–220.
- World Health Organization. (1992). *The ICD-10 classification of mental and behavioral disorders: Clinical descriptions and diagnostic guidelines*. Geneva: Author.
- Zeanah, C. H. (1996). Beyond insecurity: A reconceptualization of attachment disorders of infancy. *Journal of Consulting and Clinical Psychology*, 64, 42–52.
- Zeanah, C. H., Berlin, L., & Boris, N. W. (2011). Practitioner review: Clinical applications of attachment theory and research for infants and young children. *Journal of Child Psychology and Psychiatry*, 52, 819–833.
- Zeanah, C. H., & Boris, N. W. (2000). Disturbances and disorders of attachment in early childhood. In C. H. Zeanah, Jr. (Ed.), *Handbook of infant mental health* (2nd ed., pp. 353–368). New York: Guilford Press.
- Zeanah, C. H., Chesher, T., Boris, N. W., & American Academy of Child and Adolescent Psychiatry (AACAP) Committee on Quality Issues (CQI). (2016). Practice parameter for the assessment and treatment of children and adolescents with reactive attachment disorder and disinhibited social engagement disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 55, 990–1003.
- Zeanah, C. H., & Gleason, M. M. (2010). *Reactive attachment disorder: A review for DSM-5*. Unpublished manuscript, Tulane University, New Orleans, LA.
- Zeanah, C. H., & Gleason, M. M. (2015). Annual research review: Attachment disorders in early childhood—clinical presentation, causes, correlates, and treatment. *Journal of Child Psychology and Psychiatry*, 56, 207–222.
- Zeanah, C. H., Humphreys, K. L., Fox, N. A., & Nelson, C. A. (2017). Alternatives for abandoned children: Insights from the Bucharest Early Intervention Project. *Current Opinion in Psychology*, 15, 182–188.
- Zeanah, C. H., & Lieberman, A. (2016). Defining relational pathology in early childhood: The diagnostic classification of mental health and developmental disorders of infancy and early childhood DC:0–5 approach. *Infant Mental Health Journal*, 37, 509–520.
- Zeanah, C. H., Mammen, O., & Lieberman, A. (1993). Disorders of attachment. In C. H. Zeanah, Jr. (Ed.), *Handbook of infant mental health* (pp. 332–349). New York: Guilford Press.
- Zeanah, C. H., Nelson, C. A., Fox, N. A., Smyke, A. T., Marshall, P., Parker, S., et al. (2003). Effects of institutionalization on brain and behavioral development: The Bucharest Early Intervention Project. *Development and Psychopathology*, 15, 885–907.
- Zeanah, C. H., Scheeringa, M. S., Boris, N. W., Heller, S. S., Smyke, A. T., & Trapani, J. (2004). Reactive attachment disorder in maltreated toddlers. *Child Abuse and Neglect*, 28, 877–888.
- Zeanah, C. H., Smyke, A. T., & Dumitrescu, A. (2002). Attachment disturbances in young children: II. Indiscriminate behavior and institutional care. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 983–989.
- Zeanah, C. H., Smyke, A. T., Koga, S., Carlson, E., & the BEIP Core Group. (2005). Attachment in institutionalized and community children in Romania. *Child Development*, 76, 1015–1028.
- Zero to Three. (2016). *Diagnostic classification of mental health and developmental disorders of infancy and early childhood: DC:0–5*. Washington, DC: Author.