

One piece of the puzzle: Treatment of fostered and adopted children with RAD and DSED

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Abstract

Reactive attachment disorder (RAD) and disinhibited social engagement disorder (DSED) are two interrelated diagnoses emerging from pathogenic and insufficient care during the first few years of life. They have been reported in children who were fostered or adopted after experiencing severe early deprivation through institutionalisation, as well as youth with foster care and maltreatment histories. Substantial comorbid and overlapping difficulties often coexist with both disorders, which complicates their identification. Despite a consensus that RAD and DSED are distinctive diagnoses that capture relational behaviours not elsewhere described, many questions remain about their development and treatment. Research probing underlying mechanisms for both disorders is scarce, and only a few studies exist that chronicle potential interventions. Extant treatments tend to focus on parent management training rather than attachment-based interventions and often do not incorporate assessment of the child's relational schemata and comorbid difficulties into interventions. This article expands on earlier interventions by detailing the current state of knowledge about RAD and DSED and their common comorbidities in children with foster care and adoption histories and by suggesting how to weave that knowledge into comprehensive assessment and treatment. Two case vignettes are presented.

Keywords

Adoption, comorbidity, disinhibited social engagement disorder, foster care, psychotherapy, reactive attachment disorder

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Introduction

Children who are placed in foster care or adoptive homes after experiencing early-life adversities are at greater risk of psychosocial, behavioural and cognitive difficulties than youth without histories of neglect, maltreatment or disrupted caregiving (Dahmen et al., 2012; Duncan et al., 2021; Fraley et al., 2013; Kocovska et al., 2012; Oswald, Heil and Goldbeck, 2010; Rutter et al., 2010). Contributing factors include the cumulative effects of multiple adverse experiences (Oswald, Heil and Goldbeck, 2010; Stirling and Zilberstein, 2021), genetics (Drury et al., 2012; Fraley et al., 2013), *in utero* and postnatal exposure to toxins, malnutrition or poverty (Reuben et al., 2019; Kim and Wessling-Resnick, 2014; Stirling and Zilberstein, 2021) and the quality of caregiving in the foster or adoptive home (Duncan et al., 2021; Kerr et al., 2013; Zeanah et al., 2016). Among the difficulties shown by a subset of children in this population are reactive attachment disorder (RAD) and disinhibited social engagement disorder (DSED) (DSM-5; American Psychiatric Association [APA], 2013).

RAD and DSED indicate children's social difficulties following early deprivation or maltreatment. Previously considered subtypes of the same disorder, research has since demonstrated that each is associated with different symptoms, comorbidities and trajectories (Gleason et al. 2011; Zeanah et al., 2016). RAD describes emotionally withdrawn children who do not approach caregivers for comfort when distressed. Children with DSED make overly familiar and culturally inappropriate overtures to strangers. Researchers have also found a mixed type of inhibited and indiscriminate behaviours in foster youth (Jonkman et al., 2014; Seim et al., 2020). Both RAD and DSED must begin after children are nine months old – the age at which attachments consolidate and can be observed – and, in the case of RAD, prior to the age of five. Because the disorders typically develop in early childhood, they have mostly been studied in younger children, although they are also identifiable in adolescence (Kay and Green, 2013; Seim et al., 2020).

Longitudinal studies tracking children with RAD or DSED indicate that while both tend to dissipate with improved and responsive caregiving (Drury et al., 2012), DSED persists in some children even after the formation of selective and organised attachments to caregivers (Gleason et al., 2011; Jonkman et al., 2014; Kay and Green, 2013). This suggests that, over time, social difficulties in DSED become separate from the ongoing influence of the attachment and caregiving system. The reasons why only some children develop one or the other of the disorders or show lingering symptoms under improved circumstances are unknown.

How the two disorders change and present over time remain understudied. Among those adopted after spending their first months or years institutionalised, some children who exhibited indiscriminate behaviour and social anomalies in their early years continue to evidence odd, quasi-autistic social behaviours in adolescence, as well as reduced competence in social realms that include excessive trust and self-disclosure (Guyon-Harris et al., 2019; Kennedy et al., 2017; Rutter et al., 2010). Attention-seeking behaviours and superficial social relationships have been noted in adolescent foster children diagnosed with attachment difficulties who have histories of maltreatment (Kay and Green, 2013). Whether or not these differences reflect developmental changes in the presentation of RAD and DSED, different disorders or disparate influences of institutionalisation and maltreatment requires further study.

Given the ongoing importance of relationships for healthy development, how to help adopted or fostered children showing aberrant attachment and social relationships is

a matter of concern. No evidence-based treatments exist for RAD or DSED, although some evidence-based interventions for other difficulties have shown efficacy (Buckner et al., 2008; Dickmann and Allen, 2017). In order to develop effective treatments, further case studies incorporating current research are sorely needed. This paper expands upon previous clinical reports by describing how knowledge about both disorders and their underlying mechanisms can broaden treatment options for fostered and adopted children. Two case vignettes are presented.

Comorbidities associated with RAD and DSED

Given that fostered and adopted children with RAD and DSED have suffered various adversities, potential prenatal exposures to substances and genetic inheritances that can affect their moods and development, they often present with increased rates of internalising and externalising disorders (APA, 2013; Giltaij, Sterkenburg and Schuengel, 2016; Mayes et al., 2017; Seim et al., 2020) and a range of psychiatric diagnoses (Giltaij, Sterkenburg and Schuengel, 2016; Mayes et al., 2017; Seim et al., 2020). RAD shares some overlapping symptomology with autism, such as poor eye contact, difficulties with empathy and poor understanding of social cues and communication (Davidson et al., 2015; Mayes et al., 2017; Sadiq et al., 2012). Attention-deficit/hyperactivity disorder (ADHD) commonly coexists with and can be confused for DSED when a child exhibits high levels of impulsive engagement and overfriendly behaviour that is not directed at seeking out care and comfort (Dahmen et al., 2012; Follan et al., 2011). Post-traumatic stress disorder (PTSD), anxiety and oppositional defiant disorder (ODD) are also common (Mayes et al., 2017). Several studies also indicate that a range of cognitive and functional impairments coexist with DSED, especially as children age (Gleason et al., 2011; Kay and Green, 2013; Kocovska et al., 2012), but this finding is not universal (Giltaij, Sterkenburg and Schuengel, 2016; Love, Minnis and O'Connor, 2015; Pears et al., 2010). Whether comorbid symptoms derive from the grossly negligent early care and stressful environments that led to RAD and DSED or from other factors remains unknown.

Understanding the development of RAD and DSED

While researchers agree that RAD and DSED capture important relational phenomena not accounted for in other diagnoses (Gleason et al., 2011), many questions remain about the mechanisms underlying their development. The neurobiological effects of stress, genetics and working models of attachment have all been posited as potential mediators (Dahmen et al., 2012; Rutter et al., 2010; Schoemaker et al., 2020).

Since RAD and DSED emerge from insufficient and pathogenic care, they might constitute children's attempts to satisfy attachment needs, in which case attachment theory could provide a framework for treatment. Working models of attachment are generally observable by nine months old and become internalised and generalised to other relationships (Sherman, Rice and Cassidy, 2015). Attachments remain important throughout life as adolescents and adults transfer attachment-related functions from caregivers to peers and romantic partners (Fraley et al., 2013). Three types of attachment style have been categorised: secure, insecure and disorganised. Each characterises how a child who is distressed has learned to approach a caregiver. Children with secure attachments feel confident that their direct expression of needs will receive a positive response, which enables them to turn to

caregivers for help and soothing when they are upset and to explore and learn when they are not. Children who show insecure attachments struggle to gain care and attention from intermittently or emotionally unavailable caregivers. They either dampen their relational and emotional needs (in the anxious–avoidant pattern) or heighten them (anxious–ambivalent pattern). When children show disorganised attachment styles, they waver between approach and avoidance, between craving and fearing their caregiver (Lyons-Ruth and Jacobvitz, 2008). They lack an organised strategy for eliciting care. Thus far, studies have not found a direct link between children’s attachment representations or styles and DSM-5 defined attachment disorders (Cuyvers, Vervoort and Bosmans, 2020; Schröder et al., 2019). In fact, studies suggest that children with DSED can exhibit any of those styles (Gleason et al., 2011; Zeanah et al., 2016).

Although attachment representations may not propel symptoms of RAD or DSED, they are likely to coexist in other ways. Cuyvers, Vervoort and Bosmans (2020) found that children with RAD who held a secure base script, indicative of secure attachment, showed fewer social difficulties than those without such a script. They posit that helping children use caregivers as a secure base might diminish RAD symptoms. Vervoort and colleagues’ (2014) study on children with indiscriminate social behaviours found that those children endorsed higher levels of trust than controls, although they could not determine how and why they developed that trust. A few explanations have been posited. As attachments emerge from an evolutionary drive for survival, children’s inconsistent early caregiving may lead them to seek as many interactions with others as possible to insure against further loss or abandonment (Gorter et al., 2017; Minnis et al., 2006). Children who successfully form a positive relationship with a new caregiver or adult after socially deprived circumstances may also overgeneralise their newly learned attachment behaviour (Schoemaker et al., 2020). Not enough studies of social representations in children with RAD and DSED exist to sort out the cognitive and emotional schemata underlying inhibited and disinhibited behaviours.

Neurobiological explanations for the persistence of RAD and DSED have also gained ground as researchers begin to probe associated brain changes. Shimada and colleagues (2015) studied 21 Japanese children with RAD aged 10 to 17 and found subjects showed structural abnormalities in the left primary visual cortex. The same research group also found that youth with RAD showed altered white matter tracts in the cerebral cortex and decreased activation of the striatum and thalamus during tasks associated with reward sensitivity (Makita et al., 2020; Mizuno et al., 2015). Alterations to those parts of the brain are likely to impact the processing of sensory, visual and emotional signals, emotional regulation, motivation and learning. Olsavsky and colleagues (2013) found that children with socially indiscriminate behaviours who were adopted from institutions showed reduced amygdala discrimination between parents and strangers, further demonstrating neurobiological changes affecting social behaviour.

Accumulating evidence suggests that children with RAD and DSED may have neurologically induced difficulties with recognising and decoding the visual and emotional signals used for social interactions. Lowered inhibitory control has also been viewed as a potential contributor to persistent symptoms, but only some studies show a link (Gleason et al., 2011; Gorter et al., 2017; Pears et al., 2010). However, caution must be exercised in extrapolating the results of these studies. Small sample sizes and the inability to separate out confounding variables limit their generalisability (Stirling and Zilberstein, 2021). It is unclear whether neurobiological findings are specific to RAD and DSED or derive more broadly from

deprivation, maltreatment and/or other pre-existing conditions. In addition, neurological alterations do not necessarily cause functional impairment in every subject.

Since most children who experience maltreatment or deprivation do not develop RAD or DSED, multidimensional risk factors probably underlie their development. Genetics and other pre-existing conditions may predispose certain children to react differentially to pathogenic care (Dahmen et al., 2012; Kay and Green, 2013; Stirling and Zilberstein, 2021). In institutionalised samples, genetic differences have been found in children who exhibit indiscriminate attachment behaviours while in orphanages and then cease showing them when moved to foster care (Drury et al., 2012). Prenatal drug and alcohol exposure (Stirling and Zilberstein, 2021), lead poisoning (Reuben et al., 2019), iron deficiency (Kim and Wessling-Resnick, 2014) and undernutrition (Worku et al., 2018) have also been associated with increased impulsivity, social difficulties, altered brain networks and lowered resiliency, which could prime children to develop RAD/DSED. To date, studies have not been able to control for or obtain sufficiently detailed histories of children with RAD or DSED that would allow investigation of a wide range of possible precursors.

Successful treatment of children with RAD or DSED depends on understanding the various elements driving and maintaining their symptoms. Often, multiple factors will contribute towards and coexist with the disorders, necessitating integrated and multimodal assessment and intervention.

Assessment

Diagnosing both RAD and DSED can be tricky, given the many comorbid and overlapping difficulties in children with histories of foster care or adoption. Studies indicate that many clinicians have difficulty identifying the conditions and that both over- and under-diagnosis is common (Allen and Schuengel, 2020; Woolgar and Boldack, 2015). Clinicians' tendencies to diagnose based on history rather than symptoms and their failure to differentiate between attachment and other neurodevelopmental problems account for many of the errors. Correcting for biases through comprehensive and careful assessment is critical.

Diagnostic tools for assessing RAD include interviews, observation protocols and questionnaires. Among the protocols validated by research are interviews such as the Indiscriminate Friendliness Interview (Chisholm, 1998), the Disturbances of Attachment Interview (DAI; Smyke and Zeanah., 2002) and the Reactive Attachment Disorder and Disinhibited Social Engagement Disorder Assessment (RaDA; Lehmann et al., 2020), observational protocols such as the Stranger at the Door procedure (Gleason et al., 2011) and Observation Schedule for RAD (OSR; McLaughlin, Espie and Minnis, 2010), as well as behavioural questionnaires such as the Relationship Problems Questionnaire (RPQ; Minnis, Rabe-Hesketh and Wolkind, 2002). While many of these tools are helpful in getting a sense of a child's social behaviours, difficulties exist that limit their use. Some of the protocols were developed according to the DSM-4 (APA, 1994) definitions of RAD and so do not apply to the updated diagnoses of RAD and DSED found in the DSM-5 (APA, 2013). In addition, administration of the measures requires specialised training and, for some, lengthy administration times that are not conducive to general clinical practice (Lehmann et al., 2020; Zilberstein, 2014). Few of the observational tools cover both RAD and DSED, requiring clinicians to employ multiple procedures which increase the time and expense of assessments. It is also not clear to what extent the interviews, observations and questionnaires can accurately interpret the behaviour of children in diverse and non-western cultures, in which

normative behaviours towards caregivers and strangers may differ (Keller and Bard, 2017). Nonetheless, the tools provide another avenue for helping clinicians to diagnose RAD and DSED and differentiate them from comorbid conditions.

Practice parameters established by the American Academy of Child and Adolescent Psychiatry (Zeanah et al., 2016) recommend multi-modal evaluation that includes direct observation along with exploration of a child's current and historical behaviours and experiences with caregivers and strangers. Clinicians should strive to ask about and observe whether and how children use the caregiver in times of distress and whether they attempt to use unfamiliar adults in similar or different ways. Screening tools can be used as part of this process or modified to obtain comparable information (Zilberstein, 2014). Assessment also needs to include the safety and appropriateness of the child's current placement. As caregivers are critical to children's growth and high-quality caregiving has been shown to encourage the remediation of attachment difficulties in children, assessment should include observing a caregiver's skills and their responses to and understanding of a child's attachment bids. Getting a sense of how a child understands attachments and social relationships through play, observation and discussion can also be helpful (Zilberstein, 2014).

Effective diagnosis and treatment depend upon differentiating RAD or DSED from comorbid disorders or those with similar presentations, such as autism, ADHD, PTSD and depression, and also recognising when comorbidity exists. Psychotherapists should consider whether and in what ways parenting skills, a child's cognitive, genetic or other conditions, attachment style and/or representations, impulsivity and difficulty with social cueing contribute to symptoms. Careful assessment of when and how social behaviours arise and present themselves and how a child characterises and interacts with caregivers and others in situations that activate the attachment system is necessary.

Treatment

Given the limited research available on RAD and DSED, it is not surprising that evidence-based treatments have not yet emerged. As various aetiologies and mechanisms appear to underlie RAD and DSED, they should be considered heterogeneous disorders requiring multi-modal treatments. Youth exhibiting aberrant attachment and/or social cognitions may need different interventions than those who demonstrate neurocognitive deficits. For some, psychoeducation and behavioural interventions may suffice. For others, focusing on relational knowledge and social cueing may be required.

Several case studies of children who have experienced foster care or adoption describe the use of evidence-based treatments developed for other disorders as interventions for RAD and DSED. Buckner and colleagues (2008) used Behavior Management Training (Barkley, 1997) to target parenting skills and improve the behaviours of a seven-year-old adopted girl who showed indiscriminate attachment, poor social skills, defiance and inadequate hygiene. Dickmann and Allen (2017) describe using Parent-Child Interaction Therapy (McNeil and Hembree-Kigin, 2010) with a five-year-old fostered girl diagnosed with DSED and ADHD. A combination of psychoeducation, behavioral reinforcement, support for positive parenting and rehearsal of rules for social contact were used.

A case study of an adolescent diagnosed with RAD who had a history of foster and residential care describes a youth with severe difficulties (Lyon, 2008). Comorbidities included irritability, aggression, flashbacks, nightmares, impulsive and hyperactive behaviours, involuntary urination, limited intellectual functioning and poor judgement.

In utero exposure to drugs and/or alcohol was suspected but could not be confirmed. Treatments consisted of medication, individual verbal, play and pet therapy, teaching of self-control strategies and family therapy. Notably, assessments and treatments for RAD were not distinguished from other needs. Also lacking in each of the case studies above is significant discussion of how to target RAD or DSED behaviours while addressing comorbidity.

No published studies record treatments in which attachment-based interventions have been applied to RAD or DSED, although they have been used to treat children with trauma histories and relational difficulties who have not been formerly assessed for RAD or DSED (i.e., Dyadic Developmental Psychotherapy – Hughes, 2017; Child Parent Psychotherapy – Lieberman and Van Horn, 2008). Attachment-based interventions generally involve helping caregivers increase sensitive caregiving and attunement to children's emotional communications and attachment needs (Zilberstein, 2014). This involves teaching caregivers to read, reflect upon and respond with empathy to the child's affects and place boundaries on the child's behaviours. In doing so, caregivers also learn to recognise their own affective states which influence how they respond to their children's cues and miscues. Older children or adolescents may also need help recognising their own attachment patterns and learning new ways to cue needs and feelings. Since RAD shows an association with caregiving quality and children's limited attachment behaviours, attachment-based interventions could benefit that population (Cuyvers, Vervoort and Bosmans, 2020). As DSED does not necessarily indicate problematic attachment, attachment-based interventions would only be relevant when attachment difficulties coexisted.

Case vignettes

The following case studies demonstrate the treatment dilemmas posed by children with RAD and DSED who have been fostered and/or adopted. Names, family constellations and some details of the children's history have been changed to protect confidentiality.

Measures

The Disturbances of Attachment Interview (DAI; Smyke and Zeanah, 2002) is a semi-structured interview answered by the primary caregiver about how and when the child responds to them and to unfamiliar adults. Each item is scored according to whether the behaviour is shown clearly, sometimes or rarely. Scores are obtained for non-attachment/inhibited attachment (RAD), non-attachment/disinhibited, indiscriminate behaviour (DSED) and secure base distortions, which is a category separate from RAD or DSED. The DAI has been shown to have strong internal validity (Gleason et al., 2011).

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) is a brief questionnaire administered to parents, teachers and youths. The parent version is standardised for children aged two and older. The tool consists of five subscales: emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems and prosocial behaviour. The caregiver scale has been shown to be valid and reliable across age, gender and ethnicity, although some discrepancies have been found in the interpretation of peer and conduct difficulties in non-western cultures (Yasong, Kou and Coghill, 2008).

The PTSD Checklist – child/parent form (PCL-C/PR; Daviss et al., 2000) assesses the DSM-5 symptoms of PTSD. It can be completed by either a child or parent. Each item is scored on a scale from 0 (never) to 4 (very often) and the scores are summed. The checklist is

a revised version of the better-studied PTSD checklist for civilians (PLC-C; Blanchard et al., 1996) which has shown good psychometric properties. Preliminary studies on the reliability and validity of the PCL-C/PR are promising (Daviss et al., 2000).

Case study I

At three years old, Dylan was found wandering alone and undressed in his neighbourhood and was subsequently removed from his mother's care. His father had disappeared at birth, and his mother had a history of substance use, although it is unclear whether she used during pregnancy. Numerous reports of domestic violence by the mother's partners left unanswered questions about what Dylan had witnessed and experienced. When Dylan was removed, the home was filthy, food scarce and strangers purportedly came and went at all hours.

Now aged three-and-a-half and in his third foster home, Dylan appeared to have few skills. He did not know how to eat with utensils and disliked brushing his teeth or taking baths. He scared easily, flinching at loud noises and retreating from new people and situations. Faced with the slightest frustration, he dissolved into inconsolable rages, screaming, kicking and hitting himself and others. Rarely did he ask for or accept emotional assistance. When his foster carers tried to hold or comfort him, they risked being hurt. His foster carers' initial ratings on the SDQ put Dylan in the abnormal range on all measures: emotional problems, conduct difficulties, hyperactivity and peer problems. On the DAI, he scored in the clinical range for inhibited attachment. The PCL-C/PR was not administered as his disorganised presentation and lack of communication about internal states made it impossible to obtain an accurate score.

Clinical observation showed similar patterns. When Dylan entered the consulting room with his foster mother, he did not greet the clinician or show interest in her. He examined the toys in the room, pulling them out and fiddling with them, but abandoned each without initiating elaborative play. When spoken to, he looked at the therapist but rarely answered. When the therapist engaged him in simple play, he appeared interested and seemed to understand the therapist's suggestions for what the toys might do but quickly lost focus. When a toy pinched his finger he showed little reaction, but when asked to show his finger to his foster mother so that she could check if it was okay, he obliged and accepted her warmth and care.

Initial assessment showed a young boy who qualified for a diagnosis of RAD due to his lack of approach with caregivers. He also showed signs of emotional dysregulation, anxiety, behavioural difficulties, inattention and hyperactivity. His history of neglect and trauma, which included insufficient care, placement changes and the possibility of witnessing and experiencing violence, likely contributed to his fears, inattention and dysregulation. However, his limited ability to communicate made it impossible to assess whether he showed intrusive remembering or avoidance that would qualify him for a diagnosis of PTSD. It is also possible that some of his impulsivity, inattention, dysregulation and social difficulties derived from exposure to toxins *in utero*, ADHD or genetic inheritance.

The clinician wondered how much the development of a secure attachment with his foster carers, and the opportunity to learn new skills within that relationship, would ameliorate his symptoms. Treatment first centred on helping Dylan form an attachment by teaching him to cue his foster carers when he felt hurt, scared, wanted affection or needed help. The therapist also worked with his caregivers to help them recognise his attachment bids and find ways to engage him in positive and soothing activities, especially when he showed disorganised and

confusing behaviours. The foster carers were guided in showing and communicating a high degree of empathy towards Dylan's probable feelings and motivations, as well as setting boundaries on his behaviours. Many of the communications revolved around calming and helping him understand the impact of his surmised traumatic triggers and fears and providing reassurance that he was safe. When the foster carers had difficulty understanding or responding empathically and firmly to his feelings and behaviours, the therapist explored what underlying feelings and cognitions had been triggered in them and how to work with those dynamics.

Over the following months, Dylan became better able to signal to his foster carers, and he became less anxious and more in control of his behaviour. By four years old, he used his carers well for help and soothing, especially when reminded to do so, although at times he still dysregulated quickly. Although lessened, impulsive behaviours continued and required substantial supervision and redirection. He also became interested in strangers. He started to ask questions of unknown adults at the grocery store and on the playground. He approached other children's parents and tried to hold their hands or asked them for food. When questioned about this behaviour, he noted that he wanted more parents and more love. When asked why he needed more, he simply said, 'More is always better'.

Standardised measures reflected his gains and ongoing struggles. On the SDQ, he continued to show elevated hyperactivity scores but had moved to the borderline range on the other measures. On the DAI, his score on the inhibited attachment range dropped to normal, but his indiscriminate attachment behaviour scores elevated to the clinical range. Although he no longer qualified for a diagnosis of RAD, he had begun to show indiscriminate behaviours indicative of DSED.

DSED behaviours were addressed through psychoeducation and boundaries on the behaviours (Buckner et al., 2008; Dickmann and Allen, 2017), as well as reflection on his underlying delight in feeling love and care. Dylan was taught social norms and the potential dangers of approaching people he did not know. He was presented with a diagram consisting of concentric circles, which symbolised closeness and distance in relationships and defined which behaviours were acceptable with whom (see Figure 1). The inner circle consisted of the family with whom he lived, next came the extended family, then teachers and other helpers, friends and, finally, strangers. A continuum of behaviours was outlined from the centre outwards in which different types of touch and verbal exchanges were permissible. Close contact diminished as relationships moved further afield. In the strangers' circle, no communication was allowed without the permission of a trusted adult. Dylan appeared to understand the concepts, and his foster carers reviewed the chart with him repeatedly and rewarded him for following it. He was also given various strategies for holding onto the love and care of his carers. They 'filled him up' with hugs and kisses before school and at bedtime and stored heart pictures in his pocket. Indiscriminate behaviour stopped within weeks.

By five years old, Dylan showed appropriate behaviours with familiar and unfamiliar adults and had made numerous other gains. He no longer showed signs of RAD or DSED. All of his scores on the DAI dropped to the normal range, and his scores on the SDQ appeared normal except for an abnormal hyperactivity score and a borderline social score. When probed on his knowledge of how to handle social situations, Dylan could recognise others' feelings and motivations and describe good solutions to problems, even though he could not always put them into practice. For instance, he would surmise that his foster mother was angry and respond angrily himself, without first ascertaining her mood. When this occurred during a therapy session, he was asked what made him think she was

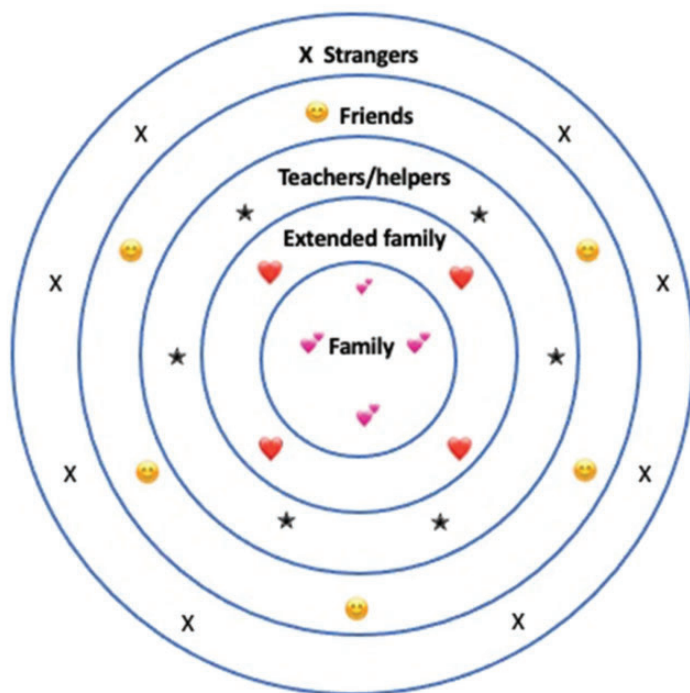


Figure 1. What is a close relationship?

angry and he replied, ‘Because I thought she would be’. He admitted that he had not paid attention to her face or tone when making this assessment. When the pair repeated what happened, and he looked and listened more closely, he agreed that she was not cross. Impulsivity and forgetfulness about social cueing, rather than deficits in social knowledge, appeared to underlie his symptoms. His social lapses and difficulties with inhibitory control signalled the need for ongoing treatment for ADHD.

Case study 2

Six-year-old Kayla lived with her drug-addicted and alcoholic birth mother and father for the first four years of her life. During that time, she suffered severe neglect and witnessed frequent domestic violence. After her removal, she lived in four foster homes before coming to her pre-adoptive placement. Kayla’s pre-adoptive parents described her as at times friendly, sociable and eager to please, while at other times aggressive and defiant. When disappointed or told, ‘No’, she would punch and yell at them. When feeling ill or hurt, she struggled to ask for help, although she accepted it when her pre-adoptive parents explained what they were doing and why. Driving around town with her pre-adoptive parents, Kayla sometimes mentioned that an attendant looked like her birth father or that a piece of clothing reminded her of her birth mother. At those times, she became noticeably fearful. Her social worker reported that all of Kayla’s observed behaviours occurred in previous homes, so they appeared to have begun before she turned five.

Neuropsychological testing illuminated numerous cognitive struggles. Kayla scored in the borderline range for expressive language, working memory and processing speed and the low average for receptive language. Mastering early academic subjects was difficult, and she found school stressful. She also struggled with inattention and showed poor comprehension of social situations. Although hesitant to engage with adults, she tended to become overly friendly with children, making intrusive bids for attention and when they were denied, reacting by swearing or aggression. On the DAI, Kayla scored slightly over the cut-off for inhibited attachment and showed an elevated score for secure base distortions, which showed attachment difficulties not accounted for in the RAD or DSED diagnoses. On the SDQ, she showed elevated scores on all measures: emotional, conduct, hyperactivity and peer problems. Her scores on the PCL-P/R put her in the clinical range for PTSD symptoms. Difficulties with fine and gross motor skills interfered with her ability to dress herself and complete schoolwork.

In the psychotherapy office, Kayla's attachment behaviours became more evident. Sitting on her pre-adoptive father's lap, she inadvertently elbowed him in the shoulder, causing him to jerk. She startled when he moved, punched him on the cheek, jumped off his lap and cowered under a chair. She emerged seconds later, glanced cautiously at her father, crawled back on his lap and kissed him repeatedly. The episode seemed to suggest modes of interacting in which fears and cravings were intertwined. Kayla both desired relationships and expected that they would lead to hurt. When her father reacted to her jab, her history of trauma in interpersonal relationships is likely to have triggered a dysregulated, fearful response and worries of retaliation. Scared of what he might do, she hid. Her fears, however, activated her attachment system, causing her to seek out his nurture and protection. This cycle of fear and craving, of approach and avoidance, dominated her relationships with her pre-adoptive parents and made it difficult for her to form satisfying relationships with them.

Based on her behaviour and the results of the standardised measures, Kayla was diagnosed with RAD, PTSD, ADHD and learning and motor difficulties. Given her global needs, dysregulation and low IQ, questions also arose as to whether *in utero* alcohol and drug exposure underlaid some of her difficulties, but a definitive diagnosis could not be made. Although Kayla qualified for a diagnosis of RAD, given her limited bids for comfort, fears about closeness and reluctance to accept nurturing except after receiving supports and explanations, understanding her behavioural and relational patterns was more beneficial to treatment.

Kayla's pre-adoptive parents felt confused by her contradictory behaviours but were deeply committed and able to stay positive when interacting with her. With the therapist's help, they learned to attune to her needs and fears and offer reassurance, nurture and soothing. Kayla was responsive to hugs and gentle rocking, but only after her parents explained what they were doing and how it might help, and demonstrated that it would not hurt. Kayla's limited intellectual functioning and impulsivity also complicated treatment. She tended to misunderstand statements and other cues or jump to conclusions that were not intended. Usually those were negative cognitions, such as that she was bad, stupid or in trouble. The parents and therapist made sure to speak simply, slowly and repetitively on subjects, as well as to ask what Kayla understood and offer clarification. Kayla was also taught about soothing and safety through dolls, which were used to play out and resolve problems she encountered at home, as well as to practise expressions of needs and feelings and reception of supportive parental responses.

Kayla and her pre-adoptive parents were able to use the interventions to strengthen their relationship. Within a few months, Kayla was cueing her needs to her parents and accepting their comfort. Traumatic triggers and dysregulation decreased as Kayla gained confidence in her parents' ability to love and protect her and as the therapist helped her organise and feel distance from her traumatic memories. However, other problems persisted. Although less often, Kayla continued to have episodes of dysregulation and aggression, usually brought on by school stresses or disappointments. She had trouble understanding why loving caregivers would not give in to her every desire and why she should not hurt people when she felt hurt. Continuous exploration and remediation of her relational schemas were needed.

Efforts were also made to teach her calming and coping skills. While she could utilise them well in the office, she rarely remembered to use them elsewhere. Reminders were posted around the house and her pre-adoptive parents prompted her to use them, especially when difficulties began. Charts with pictures enabled her to point out what she was feeling or needed when words eluded her. She was also given the chance for 'do-overs' when appropriate. The interventions helped her to practise self-expression and regulatory behaviours and to gain better emotional and behavioural control. Over the course of two years, standard measures showed a diminution of her RAD and PTSD symptoms to the normal range, although social and cognitive challenges as well as ADHD continued to limit her functioning.

Kayla remained indiscriminate with peers, showing a willingness to engage with anyone, even those who belittled and took advantage of her. She repeatedly misread social cues that would help her know who wanted to engage and what they were feeling and intending. She struggled with social judgement and walked into a neighbour's unlocked house when wanting to play, rather than knocking on the door and asking. Constant vigilance and instruction were needed for her to learn and follow social norms, which she rarely generalised from one situation to the next. Therapy increasingly focused on helping her to understand social situations and to practise the steps and cueing involved in forming relationships. Given that her indiscriminate behaviours occurred only with children, she did not fit the criteria for a DSED diagnosis.

Kayla's family moved away and left treatment when she was nine years old but returned to visit the therapist when she was 16. In the intervening years, Kayla had made many good adjustments, gaining emotional regulation and social skills. But many of her previous difficulties continued. Neuropsychological testing showed no improvements in cognitive domains, and she remained indiscriminately trusting and friendly with peers, leading her to experience numerous rejections and hurts. She made a few friends, mostly with other youth with disabilities, but the relationships tended to be superficial. Impulsivity and poor judgement continued to get her into trouble, even though she took medication for ADHD. Her relationships with her parents remained strong and she continued to use them for help and support, but she lacked insight into what made them trustworthy so she could not extend that secure base script to other relationships.

Discussion

The two cases presented here exemplify many of the clinical dilemmas associated with treating RAD and DSED in foster and adoptive children. Both Dylan and Kayla exhibited numerous difficulties and comorbidities that complicated their presentations, including PTSD, ADHD and neurocognitive struggles. Possible aetiological factors included *in utero* substance exposure, genetics, trauma, insufficient care and placement disruptions.

In order to diagnose and treat RAD and DSED symptoms, social and attachment behaviours needed to be carefully assessed and distinguished from impulsivity and other contributing factors.

Extant case studies have favoured behavioural over attachment-based interventions for children with RAD, but these cases show how working on the attachment system can reduce RAD behaviours (Cuyvers, Vervoort and Bosmans, 2020). Deciphering Kayla's disorganised attachment style and underlying cognitions proved critical to her forming a secure attachment and resolving attachment-related fears and inhibitions. Without uncovering what interfered with her developing a secure attachment and practising new ways of relating, it is unlikely she would have improved. Dylan also benefitted from attachment-based interventions that helped both him and his foster parents understand and cue his needs so that he could internalise attachment security. As children employ various strategies for interacting in attachment relationships and regulating distress, probing attachment behaviours and social representations can be helpful in formulating interventions (Zilberstein, 2014).

While the development of secure attachments reduced Dylan and Kayla's dysregulation and other difficulties, it did not abolish them. This is in keeping with research showing that a range of difficulties can continue even after secure attachments are formed (Kocovska et al., 2012; Rutter et al., 2010). When the sources of dysregulation and executive function difficulties lie outside of the attachment system, either because of pre-existing or comorbid conditions or the decoupling of symptoms from attachment, alleviating one problem will not necessarily improve others. Additional interventions are needed. In the cases discussed here, interventions helping the carers/adoptive parents to act as attachment figures were used in conjunction with tools that taught the children to self-regulate and express their attachment needs, as well as treatments for ADHD and social knowledge. Kayla, whose neurocognitive challenges interfered with her generalising lessons learned in one setting or relationship to others, required extensive cueing and practise across milieus. If comprehensive assessment had not included how attachment behaviours, neurocognitive functioning and impulsivity interacted, interventions could not have been modified and combined to address those issues.

RAD and DSED have been associated with structural brain alterations that may affect social decoding in some children (Makita et al., 2020; Mizuno et al., 2015; Shimada et al., 2015). Impulsivity and disinhibition have also been posited as underlying instigators of social difficulties in children with DSED (Gorter et al., 2017; Pears et al., 2010). Dylan showed the ability to decode social cues but his impulsiveness limited his application of that skill. Kayla, on the other hand, exhibited challenges with normative social understanding, including difficulty comprehending the visual, verbal and emotional signals others gave, which probably derived from neurobiological factors. The different aetiologies of their social difficulties led to alternate interventions. Dylan could make use of psychoeducational, symbolic and behavioural interventions to eliminate DSED behaviours. Kayla required years of social instruction and, even then, continued to engage in odd, indiscriminate and superficial relationships, similar to those described in other studies of fostered and adopted youth (Guyon-Harris et al., 2019; Kay and Green, 2013; Kennedy et al., 2017; Rutter et al., 2010).

Like other children who experience foster care, Dylan exhibited symptoms of both RAD and DSED (Jonkman et al., 2014; Seim et al., 2020), although in his case they did not occur simultaneously. In fact, Dylan developed DSED after RAD resolved, and its appearance seemed associated with that shift. According to his verbalisation that 'More is always

better', he may have generalised his trusting relationship with his foster carers to other adult relationships (Schoemaker et al., 2020; Vervoort et al., 2014), perhaps to ensure continued care in the event of further placement disruptions (Gorter et al., 2017; Minnis et al., 2006). Not only did he exhibit DSED along with improved use of his carers for support, nurture and soothing, he may also have developed this condition precisely because he enjoyed feeling safe and nurtured. For Dylan, understanding the cognitive schemata underlying his actions meant that, along with other interventions, psychoeducational and behavioural interventions could be used that are similar to what has been described in other case studies (Buckner et al., 2008; Dickmann and Allen, 2017).

Kayla's presentation and social difficulties appear more complex. Despite showing indiscriminate behaviours as a child, she did not qualify for a diagnosis of DSED because the behaviours did not extend to adult relationships. As an adolescent, she continued to show odd and indiscriminate social behaviours combined with superficial peer relationships. Because in adolescence and adulthood peers are often used as attachment figures, the question emerges as to whether her behaviours constituted DSED symptoms. The constancy and intractability of her social difficulties, even with intervention, bring up the question as to whether they derived from her early experience (a necessary condition for diagnosis of RAD and DSED), a fetal alcohol spectrum disorder, inborn difficulties or a combination of each (Stirling and Zilberstein, 2021). Research has not yet sorted out these dilemmas.

Conclusion and further directions

Case studies and treatment reports suggest that both RAD and DSED are amenable to intervention (Buckner et al., 2008; Dickmann and Allen, 2017) but when symptoms persist, other comorbid or aetiological factors may be contributing. Since children in foster care or adopted out of adverse environments tend to exhibit difficulties in numerous domains (Oswald, Heil and Goldbeck, 2010; Rutter et al., 2010), it is not surprising that tremendous comorbidity exists with both disorders (Gleason et al., 2011; Mayes et al., 2017; Zeanah et al., 2016). As a consequence, assessments and treatments must address not just the difficulties associated with RAD and DSED, but also co-existing problems.

The best available evidence suggests that RAD may respond well to attachment interventions (Cuyvers, Vervoort and Bosmans, 2020; Gleason et al., 2011) while DSED can persist outside of the attachment system, which would require other approaches. Behavioural and psychoeducational treatments have been effective in reducing indiscriminate behaviours in a few cases (Buckner et al., 2008; Dickmann and Allen, 2017) as well as in the current vignettes. But since extant research, as well the cases described here, suggest that RAD and DSED may be heterogenous disorders with various underlying drivers, a mixture of interventions are likely to be needed.

In-depth understanding of both RAD and DSED remains limited. Sufficient data for formulating and determining the utility of treatments cannot be generated from a few case studies. Sorely needed are further case studies and research that explores the underlying mechanisms and how to address them clinically. Studies should strive to understand the different emotional and cognitive schemata held by children with RAD and DSED and how they influence their social behaviour (Cuyvers, Vervoort and Bosmans, 2020; Vervoort et al., 2014). Neurobiological studies can also provide important information about pathways to the evolution and maintenance of RAD and DSED, but larger sample sizes will be needed to distinguish which neurobiological features are associated with those disorders and which

may be more generally the result of deprivation, maltreatment, foster care or other adversities. Longitudinal studies that track changes to children's inhibited and disinhibited social behaviours over time, and the factors associated with those changes, could also be beneficial in crafting more complex and targeted interventions.

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References

- Allen B and Schuengel C (2020) Attachment disorders diagnosed by community practitioners: A replication and extension. *Child and Adolescent Mental Health* 25(1): 4–10.
- American Psychiatric Association (APA) (1994) *Diagnostic and Statistical Manual of Mental Disorders*, 4th edn (DSM-4). Washington, DC: APA.
- APA (2013) *Diagnostic and Statistical Manual of Mental Disorders*, 5th edn (DSM-5). Washington, DC: APA.
- Blanchard E, Jones-Alexander J, Buckley T and Forneris CA (1996) Psychometric properties of the PTSD Checklist (PCL). *Behavioral Research and Therapy* 34: 669–673.
- Barkley RA (1997) *Defiant Children: A Clinician's Manual for Assessment and Parent Training*, Vol. 264, 2nd edn. New York: Guilford Press.
- Buckner J, Lopez C, Dunkel S and Joiner T (2008) Behavior management training for the treatment of reactive attachment disorder. *Child Maltreatment* 13(3): 289–297.
- Chisholm K (1998) A three-year follow-up of attachment and indiscriminate friendliness in children adopted from Romanian orphanages. *Child Development* 69: 1092–1106.
- Cuyvers B, Vervoort E and Bosmans G (2020) Reactive attachment disorder symptoms and prosocial behavior in middle childhood: The role of Secure Base Script knowledge. *BMC Psychiatry* 20: article no. 524.
- Dahmen B, Putz V, Herpertz-Dahlmann B and Konrad K (2012) Early pathogenic care and the development of ADHD-like symptoms. *Journal of Neural Transmission* 119: 1023–1036.
- Davidson C, O'Hare A, Mactaggart F, Green J, Young D, Gillberg C and Minnis H (2015) Social relationship difficulties in autism and reactive attachment disorder: Improving diagnostic validity through structured assessment. *Research in Developmental Disabilities* 40: 63–72.
- Daviss W, Mooney D, Racusin R, Ford J, Fleischer A and McHugo G (2000) Predicting post-traumatic stress after hospitalization for pediatric injury. *Journal of the American Academy of Child and Adolescent Psychiatry* 39: 576–583.
- Dickmann C and 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* 29(1): 19–29.
- Drury S, Gleason M, Theall K, Smyke A, Nelson C, Fox N and Zeanah C (2012) Genetic sensitivity to the caregiving context: The influence of 5httlpr and BDNF val66met on indiscriminate social behavior. *Physiology and Behavior* 106: 728–735.

- Duncan M, Woolgar M, Ransley R and Fearon P (2021) Mental health and behavioural difficulties in adopted children: A systematic review of post-adoption risk and protective factors. *Adoption & Fostering* 45(4): 414–429.
- Follan M, Anderson S, Huline-Dickens S, Lidstone E, Young D, Brown G and Minnis H (2011) Discrimination between attention deficit hyperactivity disorder and reactive attachment in school aged children. *Research in Developmental Disabilities* 32: 520–526.
- Fraley R, Roisman G, Booth-LaForce C, Owen M and Holland A (2013) Interpersonal and genetic origins of adult attachment styles: A longitudinal study from infancy to early adulthood. *Journal of Personality and Social Psychology* 104(5): 817–838.
- Giltaij HP, Sterkenburg PS and Schuengel C (2016) Adaptive behaviour, comorbid psychiatric symptoms, and attachment disorders. *Advances in Mental Health and Intellectual Disabilities* 10(1): 82–91.
- Gleason M, Fox N, Drury S, Smyke A, Egger H, Nelson C, Gregas M and Zeanah C (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(3): 216–231.
- Goodman R (1997) The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 38: 581–586.
- Gorter B, Helder E, Oh Y and Gunnoe M (2017) Are disinhibited social behaviors among internationally adopted children mediated by the attachment environment or by children's difficulties with inhibitory control? *Adoption Quarterly* 20(4): 291–308.
- Guyon-Harris K, Humphreys K, Fox N, Nelson C and Zeanah C (2019) Signs of attachment disorders and social functioning among early adolescents with a history of institutional care. *Child Abuse & Neglect* 88: 96–106.
- Hughes D (2017) Dyadic Developmental Psychotherapy (DDP): An attachment-focused family treatment for developmental trauma. *Australian and New Zealand Journal of Family Therapy* 38(4): 595–605.
- Jonkman C, Oosterman M, Shuengel C, Bolle E, Boer F and Lindauer R (2014) Disturbances in attachment: Inhibited and disinhibited symptoms in foster children. *Child and Adolescent Psychiatry and Mental Health* 8: 21–28.
- Kay C and Green J (2013) Reactive Attachment Disorder following early maltreatment: Systematic evidence beyond the institution. *Journal of Abnormal Child Psychology* 41: 571–581.
- Keller H and Bard K (2017) *The Cultural Nature of Attachment: Contextualizing Relationships and Development*. Cambridge, MA: MIT Press.
- Kennedy M, Kreppner J, Knights N, Kumsta R, Maughan B, Golm D, Hill J, Rutter M, Schlotz W and Sonuga-Barke E (2017) Adult disinhibited social engagement in adoptees exposed to extreme institutional deprivation: Examination of its clinical status and functional impact. *The British Journal of Psychiatry* 211: 289–295.
- Kerr D, Leve L, Harold G, Natsuaki M, Neiderhiser J, Shaw D and Reiss D (2013) Influences of biological and adoptive mothers' depression and antisocial behavior on adoptees' early behavior trajectories. *Journal of Abnormal Child Psychology* 4: 723–734.
- Kim J and Wessling-Resnick M (2014) Iron and mechanisms of emotional behavior. *The Journal of Nutritional Biochemistry* 25(11): 1101–1107.
- Kocovska E, Puckering C, Follan M, Smillie M, Gorski C, Barnes J, Wilson P, Young D, Lidstone E, Pritchett R, Hockaday H and Minnis H (2012) Neurodevelopmental problems in maltreated children referred with indiscriminate friendliness. *Research in Developmental Disabilities* 33(5): 1560–1565.
- Lehmann S, Monette S, Egger H, Breivik K, Young D, Davidson C and Minnis H (2020) Development and examination of the Reactive Attachment Disorder and Disinhibited Social Engagement Disorder Assessment Interview. *Assessment* 27(4): 749–765.

- Lieberman A and Van Horn P (2008) *Psychotherapy with Infants and Young Children: Repairing the Effects of Stress and Trauma on Early Attachments*. New York: Guilford Press.
- Love L, Minnis H and O'Connor S (2015) Factors associated with indiscriminate friendliness in high-risk children. *Infant Mental Health Journal* 36(4): 427–445.
- Lyon G (2008) Posttraumatic stress disorder and reactive attachment disorder: Outcome in an adolescent. *Journal of Child and Adolescent Psychopharmacology* 18(6): 641–646.
- Lyons-Ruth K and Jacobvitz D (2008) Attachment disorganization, genetic factors, parenting contexts and developmental transformation from infancy to adulthood. In: Cassidy J and Shaver P (eds) *Handbook of Attachment: Theory, Research and Clinical Applications*, 2nd edn. New York: Guilford Press, pp. 666–697.
- Makita K, Takiguchi S, Naruse H, Shimada K, Morioka S, Fujisawa T, Shimoji K and Tomoda A (2020) White matter changes in children and adolescents with reactive attachment disorder: A diffusion tensor imaging study. *Psychiatry Research: Neuroimaging* 303: article no. 111129.
- Mayes S, Calhoun S, Waschbusch D, Breaux R and Baweja R (2017) Reactive attachment/disinhibited social engagement disorders: Callous-unemotional traits and comorbid disorders. *Research in Developmental Disabilities* 63: 28–37.
- McLaughlin A, Espie C and Minnis H (2010) Development of a brief waiting room observation for behaviours typical of reactive attachment disorder. *Child and Adolescent Mental Health* 15(2): 73–79.
- McNeil CB and Hembree-Kigin L (2010) *Parent–Child Interaction Therapy*, 2nd edn. New York: Springer.
- Minnis H, Rabe-Hesketh S and Wolkind S (2002) Development of a brief, clinically relevant, scale for measuring attachment disorders. *International Journal of Methods in Psychiatric Research* 11(2): 90–98.
- Minnis H, Marwick H, Arthur J and McLaughlin A (2006) Reactive attachment disorder – A theoretical model beyond attachment. *European Child and Adolescent Psychiatry* 15(6): 336–342.
- Mizuno K, Takiguchi S, Yamakazaki M, Asano M, Kato S, Kuriyama K, Watanabe Y, Sadato N and Tomoda A (2015) Impaired neural reward processing in children and adolescents with reactive attachment disorder: A pilot study. *Asian Journal of Psychiatry* 17: 89–93.
- Olsavsky AK, Telzer EH, Shapiro M, Humphreys KL, Flannery J, Goff B and Tottenham N (2013) Indiscriminate amygdala response to mothers and strangers after early maternal deprivation. *Biological Psychiatry* 74: 853–860.
- Oswald S, Heil K and Goldbeck L (2010) History of maltreatment and mental health problems in foster children: A review of the literature. *Journal of Pediatric Psychology* 35: 462–472.
- Pears K, Bruce J, Fisher P and Kim H (2010) Indiscriminate friendliness in maltreated foster children. *Child Maltreatment* 15(1): 64–75.
- Reuben A, Schaefer J, Moffitt T, Broadbent B, Harrington H, Houts R, Ramrakha S, Poulton R and Caspi A (2019) Association of childhood lead exposure with adult personality traits and lifelong mental health. *JAMA Psychiatry* 64(4): 418–425.
- Rutter M, Sonuga-Barke E, Beckett C, Bell C, Kreppner J, Kumsta R, Schlotz W, Stevens SE and Bell CA (2010) Deprivation-specific psychological patterns: Effects of institutional deprivation. *Monographs of the Society for Research in Child Development* 75(1): 1–252.
- Sadiq FA, Slator L, Skuse D, Law J, Gillberg C and Minnis H (2012) Social use of language in children with reactive attachment disorder and autism spectrum disorders. *European Journal of Child and Adolescent Psychiatry* 21: 267–276.
- Schoemaker N, Vermeer H, Juffer F, Spies R, Van Ee E, Maras A and Alink L (2020) Indiscriminate friendliness in foster children: Associations with attachment security, foster parents' sensitivity, and child inhibitory control. *Developmental Child Welfare* 2(2): 92–109.
- Schröder M, Ludtke J, Fux E, Izat Y, Bolten M, Gloger-Tippelt G, Suess G and Schmid M (2019) Attachment disorder and attachment theory – Two sides of one medal or two different coins? *Comprehensive Psychiatry* 95: article no. 152139.

- Seim A, Jozefiak T, Wichstrom L and Kaye N (2020) Validity of reactive attachment disorder and disinhibited social engagement disorder in adolescence. *European Child and Adolescent Psychiatry* 29: 1465–1476.
- Sherman L, Rice K and Cassidy J (2015) Infant capacities related to building internal working models of attachment figures: A theoretical and empirical review. *Developmental Review* 37: 109–141.
- Shimada K, Takiguchi S, Mizushima S, Fujisawa T, Saito D, Kosaka H, Okazawa H and Tomoda A (2015) Reduced visual cortex grey matter volume in children and adolescents with reactive attachment disorder. *Neuroimage: Clinical* 9: 13–19.
- Smyke A and Zeanah C (2002) *Disturbances of Attachment Interview*. New Orleans: Tulane University.
- Stirling J and Zilberstein K (2021) Under the influence: Fetal alcohol exposure and its interplay with the neurobiology of childhood trauma. *APSAC Advisor* 33(1): 16–28.
- Vervoort E, Bosmans G, Doumen S, Minnis H and Verschueren K (2014) Perceptions of self, significant others, and teacher–child relationships in indiscriminately friendly children. *Research in Developmental Disabilities* 35: 2802–2811.
- Woolgar M and Boldack E (2015) Attachment disorders versus more common problems in looked after and adopted children: Comparing community and expert assessments. *Child and Adolescent Mental Health* 20(1): 34–40.
- Worku B, Abessa T, Wondafrash M, Vanvuchelen M, Bruckers L, Kolsteren P and Granitzer M (2018) The relationship of undernutrition/psychosocial factors and developmental outcomes of children in extreme poverty in Ethiopia. *BMC Pediatrics* 18: article no. 45.
- Yasong D, Kou J and Coghill D (2008) The validity, reliability and normative scores of the parent, teacher and self report versions of the Strengths and Difficulties Questionnaire in China. *Child and Adolescent Psychiatry and Mental Health* 2(1): article no. 8.
- Zeanah C, Chesher T, Boris N and the American Academy of Child and Adolescent Psychiatry Committee on Quality Issues (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(11): 990–1003.
- Zilberstein K (2014) The use and limitations of attachment in child therapy. *Psychotherapy* 51(1): 93–103.

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