Infant-parent attachment: Definition, types, antecedents, measurement and outcome

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Attachment theory is one of the most popular and empirically grounded theories relating to parenting. The purpose of the present article is to review some pertinent aspects of attachment theory and findings from attachment research. Attachment is one specific aspect of the relationship between a child and a parent with its purpose being to make a child safe, secure and protected. Attachment is distinguished from other aspects of parenting, such as disciplining, entertaining and teaching. Common misconceptions about what attachment is and what it is not are discussed. The distinction between attachment and bonding is provided. The recognized method to assess infant-parent attachment, the Strange Situation procedure, is described. In addition, a description is provided for the four major types of infant-parent attachment, ie, secure, insecure-avoidant, insecure-resistant and insecure-disorganized. The antecedents and consequences of each of the four types of infant-parent attachment are discussed. A special emphasis is placed on the description of disorganized attachment because of its association with significant emotional and behavioural problems, and poor social and emotional outcomes in high-risk groups and in the majority of children who have disorganized attachment with their primary caregiver. Practical applications of attachment theory and research are presented.

Key Words: *Attachment; Attachment relationships; Infant-parent attachment*

L'attachement entre le nourrisson et le parent : la définition, les modèles, les antécédents, les mesures et les issues

La théorie de l'attachement est l'une des théories les plus populaires et les plus empiriques à être reliée au rôle parental. Le présent article vise à examiner certains aspects pertinents de la théorie de l'attachement et certaines observations tirées des recherches sur l'attachement. L'attachement est un aspect précis de la relation entre un enfant et un parent, dont l'objectif consiste à ce que l'enfant se sente en sécurité, sécurisé et protégé. L'attachement est différencié d'autres aspects du rôle parental, tels que la discipline, l'amusement et l'enseignement. Des idées fausses courantes sur ce qu'est l'attachement et ce qu'il n'est pas sont abordées. La distinction entre l'attachement et les liens affectifs est présentée. La méthode de la « situation étrange », reconnue pour évaluer l'attachement entre le nourrisson et le parent, est décrite. Les quatre principaux modèles d'attachement entre le nourrisson et le parent sont également décrits, soit les modèles sécure, anxieux-ambivalant, anxieux-évitant et désorganisé-désorienté. Les antécédents et les conséquences de chacun de ces quatre modèles d'attachement entre le nourrisson et le parent sont étudiés. L'attachement désorganisé est décrit de manière plus approfondie, en raison de son association avec des troubles affectifs et comportementaux marqués, avec des issues sociales et affectives négatives dans les groupes très vulnérables et chez la majorité des enfants qui présentent un attachement désorganisé avec la principale personne qui s'occupe d'eux. Des applications pratiques de la théorie de l'attachement et des recherches sont présentées.

Parents play many different roles in the lives of their children, including teacher, playmate, disciplinarian, caregiver and attachment figure. Of all these roles, their role as an attachment figure is one of the most important in predicting the child's later social and emotional outcome (1-3).

DEFINITION

Attachment is one specific and circumscribed aspect of the relationship between a child and caregiver that is involved with making the child safe, secure and protected (4). The purpose of attachment is not to play with or entertain the child (this would be the role of the parent as a playmate), feed the child (this would be the role of the parent as a caregiver), set limits for the child (this would be the role of the parent as a disciplinarian) or teach the child new skills (this would be the role of the parent as a teacher). Attachment is where the child uses the primary caregiver as a secure base from which to explore and, when necessary, as a haven of safety and a source of comfort (5).

Attachment is not 'bonding'. 'Bonding' was a concept developed by Klaus and Kennell (6) who implied that parent-child 'bonding' depended on skin-to-skin contact during an early critical period. This concept of 'bonding' was proven to be erroneous and to have nothing to do with attachment. Unfortunately, many professionals and nonprofessionals continue to use the terms 'attachment' and 'bonding' interchangeably. When asked what 'secure attachment' looks like, many professionals and nonprofessionals describe a 'picture' of a contented six-month-old infant being

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TABLE 1
Types of attachment and antecedents

Quality of caregiving			Strategy to deal with distress		Type of attachment
Sensitive	Loving	→	Organized	→	Secure
Insensitive	Rejecting	→	Organized	→	Insecure-avoidant
Insensitive	Inconsistent	→	Organized	→	Insecure-resistant
Atypical	Atypical	→	Disorganized	→	Insecure-disorganized

breastfed by their mother who is in a contented mood; they also often erroneously imply that breastfeeding per se promotes secure attachment. Others picture 'secure attachment' between a nine-year-old boy and his father as the father and son throw a ball in the backyard, go on a fishing trip or engage in some other activity. Unfortunately, these 'pictures' have little, if anything, to do with attachment, they are involved with other parental roles (eg, their role as a caregiver in the case of the breastfeeding mother and as a playmate in the case of the father and son playing catch in the backyard). One might ask why the distinction between attachment and 'bonding' matters. The answer may lie in the fact that 'bonding' has not been shown to predict any aspect of child outcome, whereas attachment is a powerful predictor of a child's later social and emotional outcome.

TYPES OF ATTACHMENT AND THEIR ANTECEDENTS

There are four types of infant-parent attachment: three 'organized' types (secure, avoidant and resistant) and one 'disorganized' type (Table 1). The quality of attachment that an infant develops with a specific caregiver is largely determined by the caregiver's response to the infant when the infant's attachment system is 'activated' (eg, when the infant's feelings of safety and security are threatened, such as when he/she is ill, physically hurt or emotionally upset; particularly, frightened). Beginning at approximately six months of age, infants come to anticipate specific caregivers' responses to their distress and shape their own behaviours accordingly (eg, developing strategies for dealing with distress when in the presence of that caregiver) based on daily interactions with their specific caregivers (7-9). Three major patterns of responses to distress have been identified in infants, which lead to three specific 'organized' attachment patterns.

Infants whose caregivers consistently respond to distress in sensitive or 'loving' ways, such as picking the infant up promptly and reassuring the infant, feel secure in their knowledge that they can freely express negative emotion which will elicit comforting from the caregiver (9). Their strategy for dealing with distress is 'organized' and 'secure'. They seek proximity to and maintain contact with the caregiver until they feel safe. The strategy is said to be 'organized' because the child 'knows' exactly what to do with a sensitively responsive caregiver, ie, approach the caregiver when distressed. Infants whose caregivers consistently respond to distress in insensitive or 'rejecting' ways, such as ignoring, ridiculing or becoming annoyed, develop a strategy for dealing with distress that is also 'organized', in that they avoid their caregiver when distressed and minimize displays of negative emotion in the presence of the caregiver (9). The strategy is said to be 'organized' because the child 'knows' exactly what to do with a rejecting caregiver, ie, to avoid the caregiver in times of need. This avoidant strategy is also 'insecure' because it increases the risk for developing adjustment problems. Infants whose caregivers respond in inconsistent, unpredictable and/or 'involving' ways, such as expecting the infant to worry about the caregiver's own needs or by amplifying the infant's distress and being overwhelmed, also use an 'organized' strategy for dealing with distress; they display extreme negative emotion to draw the attention of their inconsistently responsive caregiver. The strategy is said to be 'organized' because the child 'knows' exactly what to do with an inconsistently responsive caregiver, ie, exaggerate displays of distress and angry, resistant responses, 'hoping' that the marked distress response cannot possibly be missed by the inconsistently responsive caregiver. However, this resistant strategy is also 'insecure' because it is associated with an increase in the risk for developing social and emotional maladjustment.

Approximately 15% of infants in low psychosocial risk and as many as 82% of those in high-risk situations do not use any of the three organized strategies for dealing with stress and negative emotion (9). These children have disorganized attachment. One recently identified pathway to children's disorganized attachment includes children's exposure to specific forms of distorted parenting and unusual caregiver behaviours that are 'atypical' (10,11). Atypical caregiver behaviours, also referred to as "frightening, frightened, dissociated, sexualized or otherwise atypical" (10), are aberrant behaviours displayed by caregivers during interactions with their children that are not limited to when the child is distressed. There is evidence to suggest that caregivers who display atypical behaviours often have a history of unresolved mourning or unresolved emotional, physical or sexual trauma, or are otherwise traumatized (eg, post-traumatic stress disorder or the traumatized victim of domestic violence) (12).

MEASUREMENT

The three 'organized' strategies (secure, avoidant and resistant) are assessed in the Strange Situation (SS) (7), a 20 min laboratory procedure where patterns of infant behaviour toward the caregiver following two brief separations are categorized as

secure or insecure (avoidant or resistant). The SS can be used when infants are 12 to 20 months old. Infants with secure attachment greet and/or approach the caregiver and may maintain contact but are able to return to play, which occurs in 55% of the general population (9). Infants with insecure/avoidant attachment fail to greet and/or approach, appear oblivious to their caregiver's return and remain focused on toys, essentially avoiding the caregiver, which occurs in 23% of the general population (9). Infants with insecure/resistant attachment are extremely distressed by the separations and cannot be soothed at reunions, essentially displaying much distress and angry resistance to interactions with the caregiver, which occurs in 8% of the general population (9).

As with the 'organized' strategies, disorganization is measured using the SS, and the Main and Solomon's (13,14) scoring scheme for disorganization. When distressed, infants who used a disorganized strategy for dealing with distress display unusual or disorganized behaviours in the SS, including misdirected or stereotypical behaviour, simultaneous display of contradictory behaviours, stilling and freezing for substantial periods, and direct apprehension or even fear of the parent. Such behaviours are particularly meaningful when they are intense and occur in the presence of the parent (9,14). They reflect an inability of the infant with disorganized attachment to find a solution to fear and distress, so the infants (momentarily) display bizarre or contradictory behaviour. Infants with disorganized attachment face an unsolvable dilemma: their haven of safety is also the source of their fear and distress (9). When infants face this dilemma, the three 'organized' strategies are not efficient in restoring feelings of safety and security in the presence of the attachment figure (13,15).

OUTCOME

Longitudinal research has shown that having a 'loving' primary caregiver and developing 'organized and secure' attachment to a primary caregiver acts as a protective factor against social and emotional maladjustment for infants and children (16,17). Attachment insecurity (avoidant and resistant) has been proven to be a risk factor for later development, but its high base rate in the normal population (approximately 40%) has reduced its predictive value for psychopathology (2).

Of the four patterns of attachment (secure, avoidant, resistant and disorganized), disorganized attachment in infancy and early childhood is recognized as a powerful predictor for serious psychopathology and maladjustment in children (2,18-24). Children with disorganized attachment are more vulnerable to stress (25,26), have problems with regulation and control of negative emotions (9), display oppositional, hostile, aggressive behaviours and coercive styles of interaction (20,27-31). Disorganized attachment is over-represented in groups of children with clinical problems and those who are victims of maltreatment (eg, nearly 80% of maltreated infants have disorganized attachment) (32-34). The combination of disorganization and a parental rating of a difficult temperament is a potent predictor of aggressive behaviour in children at five years of age (35). In addition, disorganized attachment in infancy has been linked to internalizing and externalizing problems in the early school years (20,36), poor peer interactions and unusual or bizarre behaviour in the classroom (37), and higher teacher ratings of dissociative behaviour and internalizing symptoms in middle childhood (19). Concurrent disorganized/controlling behaviour rated in the preschool and early school years related to oppositional defiant disorders in boys (38), parent-rated externalizing and internalizing problems (30), and high levels of teacher-rated social and behavioural difficulties in class (39,40). Children classified as disorganized with their primary caregiver at ages five to seven years have lower mathematics attainment at eight years of age (39). These academic problems appear to be mediated through effects on self-esteem and confidence in the academic setting (2). Children with disorganized attachment have low self-esteem (41), and at nine years of age are more often rejected by peers (42,43).

Adolescents who had disorganized attachment with their primary caregiver during infancy have higher levels of overall psychopathology at 17 years of age (19), and those classified as disorganized at five to seven years of age exhibit impaired formal operational skills and self-regulation at 17 years of age (44). Finally, children with disorganized attachment are vulnerable to altered states of mind, such as dissociation in young adulthood (19,45). A meta-analysis of 12 studies (n=734) addressing the association of disorganization and externalizing behaviour problems (9), found effect sizes ranging from 0.54 to 0.17, with a mean correlation coefficient of 0.29. The presence of negative findings suggests that the relation is not straightforward: Lyons-Ruth (28) found that 25% of children with disorganized attachment in infancy were not disturbed at seven years of age. Nonetheless, it appears that the majority of children with disorganized attachment suffer adverse outcomes.

SUMMARY AND PRACTICAL APPLICATIONS

A discussion of intervention in situations where there are difficulties in the infant-parent attachment relationship is beyond the scope of the present article; however,

- The quality of the infant-parent attachment is a powerful predictor of a child's later social and emotional outcome.
- By definition, a normally developing child will develop an attachment relationship with any caregiver who provides regular physical and/or emotional care, regardless of the quality of that care. In fact, children develop attachment relationships even with the most neglectful and abusive caregiver. Therefore, the question is never, 'is there an attachment between this parent and this child?' Instead, the question is, 'what is the quality of the attachment between this parent and this child?'

- Children develop a hierarchy of attachments with their various caregivers. For example, a child with three different caregivers (mother, father and nanny) will have a specific attachment relationship with each caregiver based on how that specific caregiver responds to the child in times when the child is physically hurt, ill or emotionally upset; particularly, when frightened. If the mother reacts in loving ways most of the time, the child will develop an organized and secure attachment with the mother. That same child could develop an organized, insecure and avoidant attachment with the father if the father reacts in rejecting ways to the child's distress most of the time. That same child could develop a disorganized attachment with the nanny if the nanny displays atypical behaviours during interactions with the child and has unresolved mourning or trauma.
- In situations with multiple foster placements, neglect or institutionalization, children may develop disorders of nonattachment (49).
- Reactive attachment disorder (RAD) is a special problem. The diagnosis of RAD, whether using criteria from the *International Classification of Diseases: Clinical Descriptions and Diagnostic Guidelines* (46) or *Diagnostic and Statistical Manual of Mental Disorders, 4th edition* (47), was developed without the benefit of data, and research evidence to support its validity are still sparse (2). Zeanah and his colleagues (48,49) criticized the criteria for RAD as inadequate to describe children who have seriously disturbed attachment relationships rather than no attachment relationships. Another significant problem with the psychiatric diagnosis of RAD is that it suggests that the attachment difficulties lie within the child (ie, it is the child who receives the psychiatric diagnosis), when in fact, attachment involves the relationship between a child and caregiver. Finally, to my knowledge, there is no convincing empirical evidence to suggest that RAD is associated with any of the four types of attachment (secure, avoidant, resistant and disorganized).
- Will letting an infant cry during the first six months of life affect the attachment relationship between that infant and the caregiver who lets the infant cry? Many child protection workers and health and mental professionals recommend that parents place a child safely in a crib when frustrated or angry instead of shaking the baby. Such a recommendation should continue to be made; however, one should closely monitor how frequently the parent needs to place the child in the crib and not respond. It is also acceptable for a child to cry when intrusive medical procedures need to be done to save the life of a child, treat a sick infant or give immunizations. Although, it may be advisable to have the primary caregiver present and promptly hold and comfort the infant. However, letting a baby cry because it is 'good for their lung development' (as some parents argue clinically), because it will 'spoil' the baby or because the baby needs to find their own ways to self-soothe might not be advisable during the first six months of life. Similarly, it is acceptable to let a baby cry during the second six months of life when the crying is not related to attachment (eg, when the child is not physically hurt, ill or frightened/emotionally distressed). Therefore, it is acceptable, from an attachment perspective, to use the Ferber method (50) or another sleep method, but only if the child does not have an ear infection, teething, etc.
- During the first six months of life, promptly picking up a baby who is crying is associated with four major outcomes by the end of the first year of life. First, the baby cries less. Second, the baby has learned to self-soothe. Third, if the baby needs the caregiver to soothe him/her, the baby will respond more promptly. And finally, the caregiver who responded promptly and warmly most of the time (not all the time; nobody can respond ideally all of the time) to the baby's cries, will have created secure, organized attachment with all of the associated benefits.

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