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Attachment at an Early Age (0-5) and its Impact on Children's Development

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Introduction

What is attachment? Children are considered to be attached if they tend to seek proximity to and contact with a specific caregiver in times of distress, illness and tiredness.[1] Attachment to a protective caregiver helps infants to regulate their negative emotions in times of stress and distress and to explore the environment, even if it contains somewhat frightening stimuli. Attachment, a major developmental milestone in the child's life, remains an important issue throughout the lifespan. In adulthood, attachment representations shape the way adults feel about the strains and stresses of intimate relationships, in particular parent-child relationships, and the way in which the self is perceived.

Development of attachment

Attachment is suggested to develop in four phases.[1] In the first phase — indiscriminately orienting and signalling to people — the baby seems "tuned" to certain wave-lengths of signals from the environment. These signals are mostly of human origin (e.g. the sound of voices).

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During the second phase, probably first by smell and then by sight, the baby develops preference for one or more caregivers — the phase of orienting and signalling to one or several specific persons. Not until the infant is able to show active attachment behaviour, such as actively seeking proximity to and following the attachment figure, does the infant enters the third phase, the phase of attachment proper — staying near a specific person by means of signalling and movement. Children enter the fourth phase of the goal-corrected partnership when they can imagine the parent or caregiver's plans and perceptions and fit their own plans and activities according to these.

Explaining individual differences in attachment

Ainsworth et al.[2] observed one-year-old infants with their mothers in a standardized stressful separation procedure, the Strange Situation Procedure (SSP). The reactions of the infants to their reunion with the caregiver after a brief separation were used to assess how much trust the children had in the accessibility of their attachment figure.

The procedure consists of eight episodes, of which the last seven ideally take three minutes but they have to be curtailed when the infant is crying for more than 15 to 20 seconds. Infants are confronted with three mildly stressful components: an unfamiliar environment, interaction with a stranger, and two short separations from the caregiver.

Three patterns of attachment can be distinguished on the basis of infants' reactions to the reunion with the parent or other caregiver. Infants who focus their attention on the parent and actively seek proximity on reunion, communicate their feelings of stress and distress openly and then readily redirect their attention on the environment and continue exploration are classified as secure (B). Infants who do not seem to be distressed and ignore or avoid focusing their attention too explicitly on the caregiver after being reunited (although physiological research shows their heightened attention and arousal)[3] are classified as insecure-avoidant (A). Infants who exclusively focus their attention on the caregiver and combine strong contact maintenance with contact resistance, or remain inconsolable without being able to return their attention to the environment, are classified as insecure-ambivalent (C). Besides the classic tripartite ABC classifications, Main and Solomon[4] proposed a fourth classification, disorganized attachment (D), which is assigned in combination with one of the three organized cateories and is suggested to indicate fearful attention to the caregiver who may be experienced as frightening, frightened or extremely neglecting.

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An overview of all American studies with non-clinical samples (21 samples with a total of 1,584 infants, conducted between 1977 and 1990) shows that about 67% of the infants were classified as secure, 21% as insecure-avoidant and 12% as insecure-ambivalent.[5] A central issue in attachment theory and research is what causes some infants to develop an insecure attachment relationship while other infants feel secure.

Research Context

The basic model of explaining individual differences in attachment relationships assumes that sensitive or insensitive parenting determines infant attachment (in-)security. Ainsworth[2] and colleagues originally defined parental sensitivity as the ability to perceive and interpret children's attachment signals correctly and respond to these signals promptly and adequately. Lack of responsiveness or inconsistent sensitivity has indeed been found to be associated with insecurity in children, and consistent sensitive responsiveness with secure bonds.[6]

However, some proponents of the behavioural genetic approach have declared most correlational findings on child development to be seriously flawed because they are based on traditional research designs focusing on between-family comparisons, which confound genetic similarities between parents and children with supposedly shared environmental influences.[7] Harris,[8] for example, claims that there is an urgent need to radically rethink and de-emphasize the role of parents in child development. Plomin9 more recently argued that parents matter but do not make a difference in shaping their children's developmental trajectories –except at conception. Despite the prevalence of this current of thought, attachment theory continues to emphasize the important role of parental sensitivity, for some good reasons. Twin studies and molecular-genetic studies on attachment security in infancy did not show a substantial genetic component, and randomized intervention studies documented the causal –if not exclusive- role of sensitivity.

Key Research Questions

Crucial research questions explore the heritability of attachment, the causal role of sensitive parenting in the development of infant attachment security, and intergenerational transmission of attachment suggesting a transmission gap. The question of heritability has been addressed in twin studies comparing attachments of mono- and dizygotic twins within the same family. Furthermore, the causal question has been examined in experimental intervention studies designed to enhance parental sensitivity in order to improve the infant attachment relationship.

Lastly, studies on attachment representations in parents and their influence on infant attachments as mediated by parental sensitivity address the transmission question.

Recent Research Results

Concerning the heritability question, at least four twin studies on child-mother attachment security using behavioural genetic modelling have been published. Three of the four studies documented a minor role for genetic influences on differences in attachment security and a rather substantial role for shared environment.[10,11,12] The fourth study, the Louisville Twin Study, [13] investigated the quality of attachment in twin pairs with an adapted separation-reunion procedure originally designed to assess temperament. The large role shared environmental factors play in attachment (about 50% in the Bokhorst et al. study)[12] is remarkable. Individual differences in infant attachment relationships are mainly caused by nurture rather than nature, although the bias in each human being to become attached is universal and inborn. Later in the development of attachment genetic differences might become more important, as Fearon and his team showed in a large sample of adolescent twins.[14] In search for differences in structural DNA associated with infant attachment we were, however, not able to trace their influence on the level of specific dopaminergic, serotonergic or oxytonergic genes, or on the level of genome-wide (SNP) analyses.[15]

Is sensitive parenting the core ingredient of the shared environment? In 24 randomized intervention studies (n = 1,280) conducted before 2003, both parental sensitivity and children's attachment security were assessed as outcome measures. In general, attachment insecurity appeared more difficult to change than maternal insensitivity. When interventions were more effective in enhancing parental sensitivity, they were also more effective in enhancing attachment security, which experimentally supports the notion of a causal role of sensitivity in shaping attachment.[16] Randomized control trials of the past 15 years seem to support this conclusion but a systematic meta-analytic evaluation still is outstanding.

For more than 25 years the hypothesis of intergenerational transmission of attachment has been investigated, with a special emphasis on the so-called transmission gap. The model of intergenerational transmission can be summarized with the proposition that security of the attachment representation of parents influences the level of their sensitivity to the infant, which in its turn shapes the security of the infant's attachment to the parent. Although substantial evidence has been found to support this mediational model it still leaves room for complementary

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mechanisms besides sensitivity because a persistent transmission gap remains visible.[17] Closing this gap has been a major challenge, but with the combination of numerous datasets relevant for this issue in an Individual Participant Data (IPD) meta-analytic approach part of the puzzling transmission gap might be bridged.[18]

Conclusions

Attachment, the affective bond of infant to parent, plays a pivotal role in the regulation of stress in times of distress, anxiety or illness. Human beings are born with the innate bias to become attached to a protective caregiver. But infants develop different kinds of attachment relationships: some infants become securely attached to their parent, and others find themselves in an insecure attachment relationship. These individual differences are not genetically determined but are rooted in interactions with the social environment during the first few years of life. Sensitive or insensitive parenting plays a key role in the emergence of secure or insecure attachments, as has been documented in twin studies and experimental intervention studies. In the case of attachment theory, the nurture assumption8 is indeed warranted. Numerous findings confirm the core hypothesis that sensitive parenting causes infant attachment security, although other causes should not be ruled out, and the puzzling transmission gap may require complementary mechanisms besides parental sensitivity, e.g. the influence of the wider social context.

Implications for Social Policy

The most important policy and mental-health implication is that parenting does matter and makes a difference for infants' socio-emotional development. Parents are therefore entitled to receive social support from policy-makers and mental-health workers to do the best job they can in raising their vulnerable children. Sensitive parenting is hard work and does not come naturally to many parents, who have to find their way even if they had quite some positive childhood experiences of their own. It takes a village to raise a child,[19] so parents need to rely on good-quality non-parental care in a larger caregiving network to combine childrearing with other obligations. Furthermore, many parents may profit from rather brief preventive interventions that help them become more sensitive to their infants' attachment signals. From randomized experiments, we may conclude that effective interventions for enhancing sensitive parenting and infant attachment security are now becoming available that use a moderate number of sessions and a clear-cut interactive focus, starting some six months after birth. From an applied

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attachment perspective, young parents should be given access to preventive support programs that incorporate these evidence-based insights.

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