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The Impact of Attachment to Mother and Father and Sensitive Support of Exploration at an Early Age on Children's Psychosocial Development through Young Adulthood

Karin Grossmann, PhD, Klaus E. Grossmann, PhD

University of Regensburg, Germany

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Introduction

Bowlby's and Ainsworth's approach to personality development relied on ethology[1,2] and cross-cultural research,[3,4] preserving the central questions of traditional psychoanalysis[2] and drawing on the concept of mental representation as suggested by cognitive psychology. The ethological approach implies: a) a careful description and classification of infant and child behaviour;[5] b) reference to a posited environment of evolutionary adaptedness for humans, as evidenced by

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young humans' intense responsiveness to being left alone in a strange environment with strange people; and c) analyzing the function of emotions and behaviours in a social context.[6] Ethologically guided observations of sensitivity in remote non-western environments attest to the general applicability of this research approach.[7] Attachment serves to ensure protection and care, and secure attachment serves to relieve distress, restore physiological homeostasis and encourage exploration. The impact of attachment in terms of biology and neurobiology has also been documented in recent studies.[8,9] For example, it is through attachment relationships, that young children first learn to link emotions to external events in a linguistically meaningful manner. Further, non-pathological attachment relationships are the basis for becoming emotionally, socially and cognitively acculturated.[10]

In the early years, attachment relationships to parents and consistent caregivers are the predominant and most influential relationships in children's lives. These relationships set the stage for infants' physiological functioning, their emotional and cognitive interpretations of social- and non-social experiences, their language development, and their acquisition of meaning about themselves and others in complex social situations. Later, the attachment relationships mediate children's acceptance and acquisition of their culture.[11] Joint attention appears to be the central process;[12] it emerges at around nine months, at the height of stranger anxiety. In this way, nature ensures that infants learn first about their family's culture in the mother tongue. Attachment relationships that were vital for infant survival during human evolution[13] continue to influence thoughts, feelings and motives and therefore close relationships throughout life. Early experiences of care, and the attachment relationship with the caregiver, have a long-lasting impact on the child's reactivity to stress.[9]

Within the framework of modern evolutionary biology, attachment theory focuses on the "gene-selfish" interest of children in receiving as much of their parents' physical as well as psychological resources as possible.[6,13] In terms of Trivers'[14] parent-offspring conflict paradigm, attachment theory focuses on the offspring's side of the conflict, and on the parent's willingness or unwillingness to invest in any particular individual offspring. However, parental lifespan planning may help to explain possible differences in parental investment in care and differential parental sensitivity towards different children.[15] This may also explain the moderate concordance of patterns of attachment even in monozygotic twins.[16]

Subject

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Attachment theory posits a causal relationship between individuals' experience with their parents or attachment figures and their capacity to form affectional bonds later on. If a child receives tender loving care when in need, and support for autonomy during exploration from mother as well as father, such experiences are assumed to a) give the child a sense of worth, a belief in the helpfulness of others and enable the child to explore the environment with confidence; b) be an optimal precondition for mutually supportive, enduring adult partnerships; and c) provide a model for later parenthood.[10,17] Confident, competent exploration is equivalent to our concept of "secure" exploration.[18] Combining the concept of secure attachment with secure exploration yields the concept of "psychological security" that we advocate.[18]

Problems

Originally, attachment research provided only one method to assess quality of attachment in infancy, using a separation-reunion paradigm (the strange situation). However, research results indicated a low validity of the infant-father strange situation assessment for predicting subsequent psychosocial development.[19] Rather, father-child interactive quality during play or exploration, and sensitive challenges to the young child's competencies seem to be better predictors of child development.[20,21,22] Another challenge to attachment research is not only a measurement issue but mainly a conceptual as well as an open research question: How do behavioural patterns of infant attachment become patterns of quality of verbal discourse about attachment representation later?[23]

Research Context

Two longitudinal studies of children's social and emotional development in not-at-risk middle-class two-parent families were started in the mid- and late 1970s: the Bielefeld project, or Project 1, which started with the birth of the infants, and the Regensburg project, or Project 2, which started when the infants were 11 months old.[11] The children's experiences in the domains of attachment and exploration were assessed in infancy, childhood and adolescence, with both mother and father using standardized or free observations. Semi-structured interviews about family matters were conducted with the parents on many occasions and later with the children. Representations of attachment were assessed at ages 10, 16 and 22, representations of friendship at 16, and representations of partnership at 20 or 22. For the analysis of early influences on the representation of close relationships, data on child attachment and exploratory strategies, maternal and paternal sensitivity and support were aggregated for the periods of

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infancy (birth to age three), childhood (five to 10) and adolescence (16 to 18).[11] In addition, we conducted various studies in other cultures,[24] adding to the long tradition of cross-cultural research on attachment.[25]

Key Research Questions

How does the capacity to make affectional bonds develop? How predictive are the qualities of infants' attachment to mother and father during the first two to three years and their experiences of sensitive support during exploration for adolescents' and young adults' partnership representations? What are the roots of young adults' representation of attachment relationships?

Research Results

Our longitudinal projects revealed several major findings:[11]

1. Security in attachment and partnership representation at the age of 22 was significantly predicted from security of attachment in adolescence and childhood. Precursors of the ability to present a clear discourse about attachment issues were already observable at ages 6 and 10 years.[23,26]
2. Mothers' as well as fathers' sensitive supportiveness, acceptance of the child and appropriate challenging behaviours, each in its own right and taken together, were powerful predictors of internal working models of close relationships in young adulthood.
3. Mothers' and fathers' sensitivity during joint play with their children in various settings in the first six years of life contributed significantly to the child's later quality of partnership representation. Parental sensitivity during play was characterized by parental support, and behaviours that promote cooperation and independent problem solving.
4. In contrast to some other longitudinal studies of attachment development, patterns of attachment shown by the infants in the strange situation to the mother at 12 months or to the father at 18 months did not predict representation of attachment beyond childhood in either project. The single most influential variable in Project 1 was the fathers' sensitive challenging behaviour during play with their 24- month-old toddlers.[11]
5. Project 1 is an example of the complexity of developmental pathways beyond infancy. By the end of the first year, only 33% of infants had shown a secure pattern of attachment to

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the mother and only 41% to the father in the strange situation. Still, a secure pattern of attachment to the mother predicted more optimal development up to the age of 10. We argued that the high proportion of avoidance in this sample was due to German cultural demands for early self-reliance in the 1970s and did not necessarily indicate parental rejection as indicated by maternal sensitivity.[27]

6. In Project 1, an insecure pattern of attachment in infancy was predictive of less optimal subsequent emotional and social development only if the child also lacked the experience of sensitive, supportive mothering and fathering in the domain of exploration. Even more importantly, parental rejection during middle childhood, traumatic experiences like the loss of a close friend, parental separation and parental actual or pending loss were most likely associated with adolescents' insecure representation of attachment.[28]
7. By age 22, however, a number of subjects had reflected thoroughly on their attachment experience such that parental divorce was no longer a major but only a mediating variable. The most powerful predictor of attachment and partnership representation at age 22, was the child's representation of maternal and paternal support during middle childhood age and mothers' and/or fathers' rejection of the child, as indicated in a lengthy semi-structured interview when the children were 10 years old.[29]
8. The socio-emotional development of the not-at-risk children in both projects was influenced throughout the years of immaturity by many factors that were often independent of each other. Infant attachment quality to mother and father were independent of each other, as was maternal and paternal play sensitivity towards the toddler. Parental rejection during middle childhood was not predicted by infant attachment security, nor was parental divorce or loss. Each factor could divert the child's developmental pathway towards a more adaptive or a more non-adaptive direction.[11,29]

Our own cross-cultural research on Japanese and Trobriand infants confirmed three of the four core hypotheses of attachment theory:[25] 1) Infant attachment to at least one caring adult is universal; 2) the secure pattern of attachment was also the norm in both groups; and 3) security of attachment is positively related to competence.[6,24] In our recent review, we summarize many studies that support the concept of psychological security indicating the combined influence of secure exploration and secure attachment. Psychological security was linked to cognitive competence, flexible gender-role behaviour, as well as resourceful transition and adaptions within the school system.[18]

Conclusion

Young children's experiences of sensitive, accepting, supportive mothers and fathers start a pathway of positive psychosocial development for the child. Such experiences in the domains of attachment as well as exploration are at the roots of secure models of close relationships and healthy self-reliance in the academic domain.[30] They are likely to be carried forward to other close relationships in childhood, adolescence and young adulthood. Changes in parental acceptance or disruption of the family can alter the pathway in either direction, temporarily or permanently.[10,11]

The child's subjective experiences can best be assessed by open-minded, reliable observations of quality of interactions in structured situations[3] and by semi-structured interviews that allow for a discovery of new categories. Analyses of the adaptive functioning of the attachment system must focus on adverse experiences, irritations and negative emotions. Analyses of secure exploration must focus on challenges to the child's competencies[31] and address co-construction of meaning together with familiar figures.[32] Appropriate emotional responses to real events and attempted appropriate solutions with the help of other trusted persons are reliable indicators of security of exploration.

Implications for the Policy and Services Perspective

Throughout the early years, caregiver sensitivity implies an understanding and correct interpretation of and prompt and appropriate responses to the young child's non-verbal as well as verbal expressions. A prerequisite for sensitivity is pacing the interactions according to the child's rhythms, in both good and bad moods. Variations in the quality of maternal caregiving shape the neurobiological systems that regulate stress reactions.[9] Higher sensitivity was found in mothers and fathers who valued attachments based on their recollections of being accepted themselves and sensitively cared for as a child.[29] Likewise, in close relationships with non-parental caregivers or mentors in which the child feels safe and secure, the child will make ample use of joint attention to social and non-social objects and events. Learning is most effective if the child feels valued by the mediating person.[33]

Parents who have experienced difficult childhoods themselves or who have an infant with special needs benefit from help in three pivotal domains: 1) understanding child development in all domains; 2) learning to respond sensitively to their individual child;[34,35] 3) finding enjoyment and

sufficient time for sensitive, supportive interactions with the child in attachment- and exploration-relevant situations. In subsequent years, support in more domains become important, such as finding invested, knowledgeable mentors and educators for the child and monitoring the child's friendship group. This is especially important when parents' own education or acculturation leave too many gaps. Secure attachment is a necessary but not sufficient prerequisite for becoming a cooperative, valuable and accepted member of one's group and society. Secure exploration must complement secure attachments so that children can successfully meet the many challenges posed by their social relationships as well as by their cultural demands.

References

1. Ainsworth MDS, Bowlby J. An ethological approach to personality development. *American Psychologist* 1991;46(4):333-341.
2. Bowlby J. By ethology out of psycho-analysis: An experiment in inter-breeding. *Animal Behaviour* 1980;28(Aug):649-656.
3. Ainsworth MDS. *Infancy in Uganda: Infant care and the growth of love*. Baltimore: Johns Hopkins University Press; 1967.
4. Grossmann KE, Bretherton I, Waters E, Grossmann K, eds. Maternal sensitivity. Mary Ainsworth's enduring influence on attachment theory, research, and clinical applications. London: Routledge; 2015.
5. Hinde R. Ethology and attachment theory. In: Grossmann KE, Grossmann K, Waters E, eds. *Attachment from infancy to adulthood: The major longitudinal studies*. New York, NY: Guilford Press; 2005:1-12.
6. Grossmann KE, Grossman K. Universality of human social attachment as an adaptive process. In: Carter CS, Ahnert L, Grossmann KE, Hrdy SB, Lamb ME, Porges SW, Sachser N, eds. *Attachment and bonding: A new synthesis*. Cambridge, Mass: The MIT Press; 2005:199-229. Dahlem Workshop Report 92.
7. Grossmann KE, Grossmann K. (2018). Universal and culturally specific aspects of sensitive responsiveness to young children. *Attachment & Human Development*. March 29, 2018:1-8. [Epub ahead of print]. doi:10.1080/14616734.2018.1454054
8. Coan JA. Toward a neuroscience of attachment. In: Cassidy J, Shaver PR, eds. Handbook of attachment: Theory, research, and clinical applications. 2nd ed. New York, NY: Guilford Press; 2008:241-265.
9. Fox NA, Hane AA. Studying the biology of human attachment In: Cassidy J, Shaver PR, eds. Handbook of attachment: Theory, research, and clinical applications. 2nd ed. New York, NY: Guilford Press; 2008: 217-240.
10. Sroufe LA, Egeland B, Carlson EA, Collins, WA. *The development of the person. The Minnesota study of risk and adaptation from birth to adulthood*. New York: Guilford Press; 2005.
11. Grossmann K, Grossmann KE, Kindler H. Early care and the roots of attachment and partnership representations in the Bielefeld and Regensburg Longitudinal Studies. In: Grossmann KE, Grossmann K, Waters E, eds. *Attachment from infancy to adulthood: The major longitudinal studies*. New York, NY: Guilford Press; 2005:98-136.
12. Tomasello M. *The cultural origins of human cognition*. Cambridge, Mass: Harvard University Press; 1999.
13. Hrdy, S.B. Evolutionary context of human development: The cooperative breeding model. In: Carter CS, Ahnert L, Grossmann KE, Hrdy, SB, Lamb ME, Porges SW, Sachser N, eds. *Attachment and bonding: A new synthesis*. Cambridge, Mass: The MIT Press; 2005:9-32. Dahlem Workshop Report 92.
14. Trivers RL. Parent-offspring conflict. *American Zoologist* 1974;14(1):249-264.

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15. Hrdy SB. *Mother nature: A history of mothers, infants, and natural selection*. 1st Ed. New York, NY: Pantheon Books; 1999.

16. van IJzendoorn M, Moran G, Belsky J, Pederson D, Bakermans-Kranenburg MJ, Kneppers K. The similarity of siblings' attachments to their mother. *Child Development* 2000;71(4):1086-1098.

17. Bowlby J. *Attachment and loss. Vol. 1: Attachment*. 2nd ed. New York: Basic Books; 1999.

18. Grossmann K, Grossmann KE, Kindler H, Zimmermann P. A wider view of attachment and exploration: The influence of mothers and fathers on the development of psychological security from infancy to young adulthood. In: Cassidy J. Shaver PR, eds. *Handbook of attachment: Theory, research, and clinical applications*. 2nd ed. New York, NY: Guilford Press; 2008:857-879.

19. Lamb ME, Lewis C. The development and significance of father-child relationships in two-parent-families. In: Lamb ME, ed. *The role of the father in child development*. 4th ed. Hoboken, NJ: John Wiley & Sons Inc; 2004 :272-306.

20. Grossmann KE, Grossmann K, Keppler A. Universal and culturally specific aspects of human behavior: The case of attachment. In: Friedlmeier W, Chakkarath P, Schwarz B, eds. *Culture and human development: The importance of cross-cultural research to the social sciences*. New-York, NY: Psychology Press; 2005:75-97.

21. Grossmann K, Grossmann KE, Fremmer-Bombik E, Kindler H, Scheuerer-Englisch H, Zimmermann P. The uniqueness of the child-father attachment relationship: Fathers' sensitive and challenging play as a pivotal variable in a 16-year longitudinal study. *Social Development* 2002;11(3):307-331.

22. Parke R, Dennis J, Flyr ML, Morris KL, Killian C, McDowell DJ, Wild M. Fathering and children's peer relationships. In: Lamb ME, ed. *The role of the father in child development*. 4th Ed. Hoboken, NJ: John Wiley & Sons Inc; 2004 :307-340.

23. Grossmann K, Grossmann KE. Essentials when studying child-father attachment: A fundamental view on safe haven and secure base phenomena. *Attachment & Human Development*. March 21, 2019:1-6. [Epub ahead of print]. doi:10.1080/14616734.2019.1589056

24. Grossmann KE. Old and new internal working models of attachment: The organization of feelings and language. *Attachment and Human Development* 1999;1(3):253-269.

25. van IJzendoorn MH, Sagi A. Cross-cultural patterns of attachment: Universal and contextual dimensions. In: Cassidy J. Shaver PR, eds. *Handbook of attachment: Theory, research, and clinical applications*. 2nd ed. New York, NY: Guilford Press;1999: 713-734.

26. Grossmann KE, Grossmann K, Winter M, Zimmermann P. Attachment relationships and appraisal of partnership: From early experience of sensitive support to later relationship representation. In: Pulkkinen L, Caspi A, eds. *Paths to successful development: Personality in the life course*. New York, NY: Cambridge University Press; 2002:73-105.

27. Grossmann K, Grossmann KE, Spangler G, Suess G, Unzner L. Maternal sensitivity and newborns orientation responses as related to quality of attachment in northern Germany. *Monographs of the Society for Research in Child Development* 1985;50(1-2):233-256.

28. Zimmermann P, Fremmer-Bombik E, Spangler G, Grossmann KE. Attachment in adolescence: A longitudinal perspective. In: Koops W, Hoeksma JB, van den Boom DC, eds. *Development of interaction and attachment: Traditional and non-traditional approaches*. Amsterdam, Netherlands: North-Holland;1997: 281-292.

29. Grossmann K, Grossmann KE. *Bindungen. Das Gefüge psychischer Sicherheit. [Attachment. The composition of psychological security]*. Stuttgart, Germany: Klett-Cotta; 2004.

30. Larose S, Bernier A, Tarabulsy GM. Attachment state of mind, learning dispositions, and academic performance during the college transition. *Developmental Psychology* 2005; 41(1):281-289.

31. Ainsworth MDS, Bell SM. Mother-infant interaction and the development of competence. In: Connolly KJ, Bruner J, eds. *The growth of competence*. London & New York: Academic Press; 1974:97-118.

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32. Nelson K. Event representations, narrative development, and internal working models. *Attachment and Human Development*. 1999;1(3):239-251.

33. Pianta RC. *Enhancing relationships between children and teachers*. Washington, DC: American Psychological Association; 1999.

34. Van den Boom DC. The influence of temperament and mothering on attachment and exploration: An experimental manipulation of sensitive responsiveness among lower-class mothers with irritable infants. *Child Development* 1994;65(5):1457-1477.

35. Spangler G, Johann M, Ronai Z, Zimmermann P. Genetic and environmental influence on attachment disorganization. *Journal of Child Psychology and Psychiatry.* 2009;50:952-961.

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