

Attachment theory

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Attachment theory, originating in the work of John Bowlby, is a psychological, evolutionary and ethological theory that provides a descriptive and explanatory framework for understanding interpersonal relationships between human beings. Attachment theorists consider the human infant to have a need for a secure relationship with adult caregivers, without which normal social and emotional development will not occur. However, different relationship experiences can lead to different developmental outcomes.

Within attachment theory, infant behaviour associated with attachment is primarily a process of proximity seeking to an identified attachment figure in stressful situations, for the purpose of survival. Infants become attached to adults who are sensitive and responsive in social interactions with the infant, and who remain as consistent caregivers for some months during the period from about six months to two years of age. During the later part of this period, children begin to use attachment figures (familiar people) as a secure base to explore from and return to. Parental responses lead to the development of patterns of attachment which in turn lead to internal working models which will guide the individual's feelings, thoughts and expectations in later relationships.[1] Separation anxiety or grief following serious loss are normal and natural responses in an attached infant. An extreme deficit in appropriate parenting can lead to a lack of attachment behaviours in a child and may result in the rare disorder known as reactive attachment disorder.

Developmental psychologist Mary Ainsworth, an important figure in the formulation and development of attachment theory, introduced the concept of the "secure base" and developed a theory of a number of attachment patterns or "styles" in infants in which distinct characteristics were identified; these were secure attachment, avoidant attachment, anxious attachment and, later, disorganised attachment. Other theorists subsequently extended attachment theory to adults. Methods exist for measurement of attachment patterns in older infants and adults, although measurement in middle childhood is problematic. In addition to care-seeking by children, one may construe other interactions as including some components of attachment behaviour; these include peer relationships of all ages, romantic and sexual attraction, and responses to the care needs of infants or sick or elderly adults.

In order to formulate a comprehensive theory of the nature of early attachments, Bowlby explored a range of fields including evolution by natural selection, object relations theory (psychoanalysis), control systems theory, evolutionary biology and the fields of ethology and cognitive psychology.[2] There were preliminary papers from 1958 onwards but Bowlby published the full theory in the trilogy *Attachment and Loss*, 1969–82. Although in the early days academic psychologists criticized Bowlby and the psychoanalytic community ostracised him,[3] attachment theory has become the dominant approach to understanding early social development and given rise to a great surge of empirical research into the formation of children's close relationships.[4] There have been significant modifications as a result of empirical research but attachment concepts have become generally accepted.[3] Criticism of attachment theory has been sporadic, some of it relating to an early precursor hypothesis called "maternal deprivation", published in 1951.[5] Past criticism came particularly from within psychoanalysis, and from ethologists in the 1970s. More recent criticism relates to the complexity of social relationships within family settings,[6] and the limitations of discrete patterns for classifications.[7] There are current efforts to evaluate a number of interventions and treatment approaches, that are based on applications of attachment theory.

Attachment

Within attachment theory, *attachment* means a bond or tie between an individual and an *attachment figure*. Between two adults, such bonds may be reciprocal and mutual; however, as felt by children toward a parental or caregiving figure, such bonds are likely to be asymmetric. The reason for this is inherent in the theory: it proposes that the need for safety and protection, which is paramount in infancy and childhood, is the basis of the bond. The theory posits that children attach to carers instinctively,[8] with respect to ways of achieving security, survival and, ultimately, genetic replication. Attachment theory is not intended as an exhaustive description of human relationships, nor is it synonymous with love and affection; these may indicate that bonds exist but the bonds proposed by the theory presuppose needs. In the case of child-to-adult relationships, the child's tie is the "attachment" and the caregiver's reciprocal equivalent is referred to as the "caregiving bond".[9]

Almost from the first, many children have more than one figure towards whom they direct attachment behaviour, but these figures are arranged in hierarchical order with the "principal attachment figure" at the top.[10] Bowlby distinguished between alarm and anxiety: "alarm" was the term he used for activation of the attachment behavioural system caused by fear of danger, while "anxiety" was the fear of being cut off from the attachment figure (caregiver). If the figure is unavailable or unresponsive, separation distress occurs and the anticipation of such an occurrence arouses separation anxiety.[11]

Family

Infants will form attachments to any consistent caregiver who is sensitive and responsive in social interactions with the infant. The quality of the social engagement appears to be more influential than amount of time spent. Although it is usual for the principal attachment figure to be the biological mother, the role can be taken anybody who behaves in a "mothering" way over a consistent period, a set of behaviours that involve engaging in lively social interaction with the infant and responding readily to signals and approaches.[12] Attachment theory accepts the customary primacy of the mother as the main caregiver and therefore the person who interacts most with a young child, but there is nothing in the theory to suggest that fathers are not equally likely to become principal attachment figures if they happen to provide most of the childcare and related social interaction.[13]

The attachment behavioural system serves to maintain or achieve closer proximity to the attachment figure, although its many diverse behaviours may be used in other behaviour systems.[14]

Attachment has also been described as an attitude, or readiness for certain behaviours, that one person displays toward another. This attitude involves seeking proximity to the attachment figure and may include a variety of other attachment behaviours. However many attachment behaviours are likely to occur only in threatening or uncomfortable circumstances such as the approach of an unfamiliar person. Thus, attachment may be present without being displayed behaviourally, and it may be impossible to measure its presence without creating such circumstances.[15]

Infant exploration is greater when the caregiver is present; with the caregiver present, the infant's attachment system is relaxed and it is free to explore. If the caregiver is inaccessible or unresponsive, attachment behaviour is strongly activated.[16] Between the ages of six months to two years, the child's behaviour towards the caregiver becomes organised on a goal-directed basis to achieve the conditions that make it feel secure. With the development of locomotion the infant begins to use the caregiver or caregivers as a safe base from which to explore.[17] In adolescents, the role of the caregiver is to be available when needed while the adolescent makes sorties into the outside world.[18]

Tenets

Attachment theory uses a set of assumptions to connect observable human social behaviours; listed as follows:[19]

Adaptiveness: Common human attachment behaviours and emotions are adaptive. Evolution of human beings has involved selection for social behaviours that make individual or group survival more likely. For example, the commonly observed attachment behaviour of toddlers includes staying near familiar people; this behaviour would have had safety advantages in the environment of early adaptation, and has such advantages today.[20] Bowlby termed proximity-seeking to the attachment figure in the face of threat to be the "set-goal" of the attachment behavioural system. There is a survival advantage in the capacity to sense possibly dangerous conditions such as unfamiliarity, being alone or rapid approach, and such conditions are likely to activate the attachment behavioural system causing the infant or child to seek proximity to the attachment figure.[11]

Critical period: Certain changes in attachment, such as the infant's coming to prefer a familiar caregiver and avoid strangers, are most likely to occur within the period between the ages of about six months and two or three years.[21] Bowlby's sensitivity period has been modified to a less "all or nothing" approach. Although there is a sensitive period during which it is highly desirable that selective attachments develop, the time frame is probably broader and the effects not so fixed and irreversible. With further research, authors discussing attachment theory have come to appreciate that social development is affected by later as well as earlier relationships.[3]

Robustness of development: Attachment to and preferences for some familiar people are easily developed by most young humans, even under far less than ideal circumstances.[21]

Experience as essential factor in attachment: Infants in their first months have no preference for

their biological parents over strangers and are equally friendly to anyone who treats them kindly. Human beings develop preferences for particular people, and behaviours which solicit their attention and care, over a considerable period of time.[21]

Monotropy: Early steps in attachment take place most easily if the infant has one caregiver, or the occasional care of a small number of other people.[21] According to Bowlby, almost from the first many children have more than one figure towards whom they direct attachment behaviour; these figures are not treated alike and there is a strong bias for a child to direct attachment behaviour mainly towards one particular person. Bowlby used the term "monotropy" to describe this bias to attach primarily to one figure.[22] Researchers and theorists have effectively abandoned this concept insofar as it may be taken to mean that the relationship with the special figure differs *qualitatively* from that of other figures. Rather, current thinking postulates definite hierarchies of relationships.[3][23]

Social interactions as cause of attachment: Feeding and relief of an infant's pain do not cause an infant to become attached to a caregiver. Infants become attached to adults who are sensitive and responsive in social interactions with the infant, and who remain as consistent caregivers for some time.[21]

Internal working model: Early experiences with caregivers gradually give rise to a system of thoughts, memories, beliefs, expectations, emotions, and behaviours about the self and others. This system, called the internal working model of social relationships, continues to develop with time and experience and enables the child to handle new types of social interactions. For example, a child's internal working model helps him or her to know that an infant should be treated differently from an older child, or to understand that interactions with a teacher can share some of the characteristics of an interaction with a parent. An adult's internal working model continues to develop and to help cope with friendships, marriage, and parenthood, all of which involve different behaviours and feelings.[24][25]

Transactional processes: As attachment behaviours change with age, they do so in ways shaped by relationships, not by individual experiences. A child's behaviour when reunited with a caregiver after a separation is determined not only by how the caregiver has treated the child before, but on the history of effects the child has had on the caregiver in the past.[26][27]

Consequences of disruption: In spite of the robustness of attachment, significant separation from a familiar caregiver, or frequent changes of caregiver that prevent development of attachment, may result in psychopathology at some point in later life.[21]

Developmental changes: Specific attachment behaviours begin with predictable, apparently innate, behaviour in infancy, but change with age in ways that are partly determined by experiences and by situational factors. For example, a toddler is likely to cry when separated from his mother, but an eight-year-old is more likely to call out, "When are you coming back to pick me up?" or to turn away and begin the familiar school day.[28]

Attachment patterns

Mary Ainsworth's innovative methodology and comprehensive observational studies, particularly those undertaken in Scotland and the Ganda, informed much of the theory, expanded its concepts and enabled its tenets to be empirically tested.[29] She conducted research based on Bowlby's early formulation and identified different attachment styles or patterns which are not, strictly speaking, part of attachment theory but are very closely identified with it.

She devised a protocol known as the Strange Situation Protocol, still used today to assess attachment patterns in children, as the laboratory portion of a larger study that included extensive home visitations over the first year of the child's life. Her studies identified three attachment patterns that a child may have with its primary attachment figure: secure, anxious-avoidant (insecure) and anxious-ambivalent (insecure).[30][31] Her work in the USA attracted many scholars into the field, inspiring research and challenging the dominance of behaviouralism.[32]

Further research by Dr. Mary Main and colleagues at the University of California, Berkeley identified a fourth attachment pattern, called disorganised/disoriented attachment, which reflects these children's lack of a coherent coping strategy.[33]

Other methods have been developed for the assessment of patterns in children beyond the age of 18 months. Research from the Minnesota longitudinal study assessed children at 12 and 18 months, four years, middle childhood, 13 years and 15 years and followed children into the school environment. Securely attached children were the least isolated and most popular, the most likely to respond empathically and the least likely to bully or be bullied. Bullies were most likely to be

classified as anxious–avoidant and victims as anxious–ambivalent.[34][35]

More recent research sought to ascertain the extent to which a parent's attachment classification is predictive of their children's classification; it found that parents' perceptions of their own childhood attachments predicted their children's attachment classifications 75% of the time.[36][37][38] Each of the attachment patterns is associated with certain characteristic patterns of behaviour, as described in the following table:

Child and caregiver behaviour patterns

Attach ment pattern	Child	Caregiver
Secure	Protests caregiver's departure and is comforted on return, returning to exploration.	Responds appropriately, promptly and consistently to needs.
Avoidant	Little or no distress on departure, little or no visible response to return. Quality of play often low.	Little or no response to distressed child. Discourages crying and encourages independence.
Ambivalent	Sadness on departure but warms to stranger. On return, ambivalence, anger, reluctance to warm to caregiver and return to play. Preoccupied with caregiver's availability.	Inconsistent between appropriate and neglectful responses.
Disorga- nised	Stereotypies on return such as freezing or rocking. Lack of coherent coping strategy (such as approaching but with the back turned).	Frightened or frightening behaviour, intrusiveness, withdrawal, negativity, role confusion, affective communication errors and maltreatment.

Some authors have suggested continuous rather than categorical gradations between attachment patterns, and have discussed dimensions of underlying security rather than the classifications derived from Ainsworth's work.[7]

Changes in attachment after the infant-toddler period

According to Bowlby's theory, the child's early experience of social interactions with familiar people leads to the development of an internal working model of social relationships, a set of ideas and feelings that establish the individual's expectations about relationships, the behaviour of others toward him or her, and the behaviours appropriate for him or her to show to others. Age, cognitive growth, and continued social experience advance the development and complexity of the internal working model. As the internal working model of relationships advances, attachment-related behaviours lose some of the characteristics so typical of the infant-toddler period, and take on a series of age-related tendencies.

Peer groups

In considering the development of attachment behaviour and the internal working model after the toddler period, theorists have posited that the preschool period involves the use of negotiation, bargaining, and compromise as part of attachment behaviour, and that these social skills ideally become incorporated into the internal working model of social relationships, to be used with other children and later with adult peers. As children move into the school years, most develop a goal-corrected partnership with parents, in which each partner is willing to give up some desires in order to maintain the relationship in a gratifying form. Incorporation of this type of partnership into the internal working model prepares the growing child for later mature friendships, marriage, and parenthood. The mature internal working model of social relationships thus advances far beyond the basic desire to maintain proximity to familiar people, although this type of behaviour may continue to be present in times of threat or pain.[39]

Relationships with peers have an influence distinct from that of parents but parent-child relationships can influence the peer relationships children form. For example, secure attachment status is said to promote social competence and positive peer relationships. Relationships formed with peers influence the acquisition of social skills, intellectual development and the formation of social identity. Classification of children's peer status (popular, neglected or rejected) has been found to predict subsequent adjustment; however, as with attachment to parental figures, subsequent experiences may well alter the course of development.[4]

Attachment in adults

Attachment theory was extended to adult romantic relationships in the late 1980s by Cindy Hazan and Phillip Shaver. Four styles of attachment have been identified in adults: secure, anxious-preoccupied, dismissive-avoidant, and fearful-avoidant.[40][41][42][43]

Couple

Investigators have explored the organisation and the stability of mental working models that underlie these attachment styles.[44] They have also explored how attachment functions in relationship dynamics and impacts relationship outcomes.[45] Generally the concept of attachment style is used by social psychologists interested in romantic attachment, and the concept of attachment status by developmental psychologists interested in the individual's state of mind with respect to attachment. The latter is more stable, while the former fluctuates more.

Some authors have suggested that adults' internal working models do not involve a single perspective, but instead entail a hierarchy of models containing general ideas about close relationships, and within those, information related to specific relationships or even specific events within a relationship. One interesting idea about the hierarchy of models is that information at different levels need not be consistent.[46]

Attachment in adults is commonly measured using the Adult Attachment Interview[47] and self-report questionnaires. Self-report questionnaires have identified two dimensions of attachment, one dealing with anxiety about the relationship, and the other with avoidance in the relationship.[40] Adult attachment research uses a wide variety of attachment measures. The most popular measure in social psychological research is the Experiences in Close Relationships-Revised scale.[48]

Earlier theories

The concept of infants' emotional attachment to caregivers has been known anecdotally for hundreds of years. Most early observers from the 1940s onward focused on the anxiety displayed by infants and toddlers when threatened with separation from a familiar caregiver.[49][50] From the late nineteenth century onward, psychologists and psychiatrists suggested theories about attachment.[29] Freudian theory attempted a systematic consideration of infant attachment and attributed the infant's attempts to stay near the familiar person to motivation learned through feeding experiences and gratification of libidinal drives.

Parents and child

In the 1930s, the British developmentalist Ian Suttie put forward the suggestion that the child's need for affection was a primary one, not based on hunger or other physical gratifications.[51] William Blatz, a Canadian psychologist and teacher of Bowlby's colleague Mary Ainsworth, was among the first to stress the need for security as a normal part of personality at all ages, as well as normality of the use of others as a secure base and the importance of social relationships for other aspects of development.[52]

A third theory prevalent at the time of Bowlby's development of attachment theory was "dependency". This approach posited that infants were dependent on adult caregivers but that dependency was, or should be, outgrown as the individual matured. Such an approach perceived attachment behaviour in older children as regressive, whereas attachment theory assumes that older children and adults retain attachment behaviour and display it in stressful situations; indeed, a secure attachment is associated with independent exploratory behaviour rather than dependence.[53] Current attachment theory focuses on social experiences in early childhood as the source of attachment in childhood and in later life.[54] Bowlby developed attachment theory as a consequence of his dissatisfaction with existing theories of early relationships.[55]

Early developments

The early thinking of the object relations school of psychoanalysis and of Melanie Klein, in particular, influenced Bowlby. However he profoundly disagreed with the then prevalent psychoanalytic belief that infants' responses relate to their internal fantasy life rather than to real-life events. As Bowlby began to formulate his concept of attachment, he was influenced by many case studies on disturbed and delinquent children, including his own and those of Goldfarb.[56][57] Bowlby's contemporary René Spitz made observations of separated children's grief and proposed that "psychotoxic" results

were brought about by inappropriate experiences of early care.[58][59] A strong influence was the work of social worker and psychoanalyst James Robertson who filmed the effects of separation on children in hospital and collaborated with Bowlby in making the 1952 documentary film *A Two-Year Old Goes to the Hospital* which was instrumental in a campaign to alter hospital restrictions on visiting by parents.[60]

In his 1951 monograph for the World Health Organisation, *Maternal Care and Mental Health*, Bowlby put forward the hypothesis that "the infant and young child should experience a warm, intimate, and continuous relationship with his mother (or permanent mother substitute) in which both find satisfaction and enjoyment" and that lack of this experience may have significant and irreversible mental health consequences. This proposition was influential in terms of the effect on the institutional care of children, but highly controversial.[61] There was limited empirical data at the time and no comprehensive theory to account for such a conclusion.[62]

Attachment theory

Following the publication of *Maternal Care and Mental Health*, Bowlby sought new understanding from such fields as evolutionary biology, ethology, developmental psychology, cognitive science and control systems theory; he drew upon these to formulate the innovative proposition that the mechanisms underlying an infant's tie emerged as a result of evolutionary pressure.[55] He realised that he had to develop a new theory of motivation and behaviour control, built on up-to-date science rather than the outdated psychic energy model espoused by Freud.[29] Bowlby argued that he had made good the "deficiencies of the data and the lack of theory to link alleged cause and effect" in "Maternal Care and Mental Health" in his later work "Attachment and Loss" published between 1969 and 1980.[63]

The formal origin of attachment theory can be traced to the publication of two 1958 papers: Bowlby's *The Nature of the Child's Tie to his Mother*, in which the precursory concepts of "attachment" were introduced, and Harry Harlow's *The Nature of Love*, based on the results of experiments which showed, approximately, that infant rhesus monkeys spent more time with soft mother-like dummies that offered no food than they did with dummies that provided a food source but were less pleasant to touch.[21][64][65][66] Bowlby followed this up with two more papers, *Separation Anxiety* (1960a), and *Grief and Mourning in Infancy and Early Childhood* (1960b).[67][68] At about the same time, Bowlby's former colleague Mary Ainsworth was completing extensive observational studies on the nature of infant attachments in Uganda with Bowlby's ethological theories in mind. Ainsworth's innovative methodology and comprehensive observational studies informed much of the theory, expanded its concepts and enabled some of its tenets to be empirically tested.[29] Attachment theory was finally presented in 1969 in *Attachment*, the first volume of the *Attachment and Loss* trilogy.[69] The second and third volumes, *Separation: Anxiety and Anger* and *Loss: Sadness and Depression* followed in 1972 and 1980 respectively.[70][71] *Attachment* was revised in 1982 to incorporate more recent research.[72]

Ethology

Bowlby's attention was first drawn to ethology when he read Konrad Lorenz's 1952 publication in draft form (although Lorenz had published much earlier work).[73] Soon after this he encountered the work of Nikolaas Tinbergen,[74] and began to collaborate with Robert Hinde.[75][76] In 1953 Bowlby stated "the time is ripe for a unification of psychoanalytic concepts with those of ethology, and to pursue the rich vein of research which this union suggests".[77]

Konrad Lorenz had examined the phenomenon of "imprinting" and felt that it might have some parallels to human attachment. Imprinting, a behaviour characteristic of some birds and a very few mammals, involves rapid learning of recognition and tendency to follow, by a young bird or animal exposed to a conspecific or an object or organism that behaves suitably. The learning is possible only within a limited age range, known as a critical period. On maturity, courtship behaviour is directed toward objects that resemble the imprinting object. Bowlby's attachment concepts later included the ideas that attachment involves learning from experience during a limited age period, and that the learning that occurs during that time influences adult behaviour. However, he did not apply the imprinting concept in its entirety to human attachment, nor assume that human development was as simple as that of birds. He did, however, consider that attachment behaviour was best explained as instinctive in nature, an approach that does not rule out the effect of experience, but that stresses the readiness the young child brings to social interactions.[78] Over time it became apparent there were more differences than similarities between attachment theory

and imprinting and the analogy was dropped.[3]

Psychoanalysis

Psychoanalytical concepts and the earlier work of psychoanalysts also influenced Bowlby's view of attachment. In particular, he was influenced by observations of young children separated from familiar caregivers, as provided during World War II by Anna Freud and her colleague Dorothy Burlingham.[79] Bowlby rejected psychoanalytical explanations for early infant bonds including the Freudian and early object relations "drive theory" in which the motivation for attachment derives from gratification of hunger and libidinal drives. He called this the "cupboard-love" theory of relationships. In his view both failed to see attachment as a psychological bond in its own right rather than an instinct derived from feeding or sexuality.[80] Thinking in terms of primary attachment and neo-darwinism, Bowlby identified what he saw as fundamental flaws in psychoanalysis, namely the overemphasis of internal dangers at the expense of external threat, and the picture of the development of personality via linear "phases" with "regression" to fixed points accounting for psychological illness. Instead he posited that several lines of development were possible, the outcome of which depended on the interaction between the organism and the environment. In attachment this would mean that although a developing child has a propensity to form attachments, the nature of those attachments depends on the environment to which the child is exposed.[81]

Internal working model

Bowlby adopted the important concept of the internal working model of social relationships from the work of the philosopher Kenneth Craik,[82] who had noted the adaptiveness of the ability of thought to predict events, and who stressed the survival value of and natural selection for this ability. According to Craik, prediction occurs when a "small-scale model" consisting of brain events is used to represent not only the external environment, but the individual's own possible actions. This model allows a person to mentally try out alternatives and to use knowledge of the past in responding to the present and future. At about the same time that Bowlby was applying Craik's ideas to the study of attachment, other psychologists were using these concepts in discussion of adult perception and cognition.[83]

Cybernetics

The theory of control systems (cybernetics), developing during the 1930s and '40s, influenced Bowlby's thinking.[84] The young child's need for proximity to the attachment figure was seen as balancing homeostatically with the need for exploration. The actual distance maintained would be greater or less as the balance of needs changed; for example, the approach of a stranger, or an injury, would cause the child to seek proximity when a moment before he had been exploring at a distance.

Developments

Although research on attachment behaviours continued after Bowlby's death in 1990, there was a period when attachment theory was considered to have run its course. Some authors argued that attachment should not be seen as a trait (lasting characteristic of the individual), but instead should be regarded as an organising principle with varying behaviours resulting from contextual factors.[85] Related later research looked at cross-cultural differences in attachment, and concluded that there should be re-evaluation of the assumption that attachment is expressed identically in all humans.[86] A 2007 study conducted in Sapporo found attachment distributions consistent with global norms using the six-year Main & Cassidy scoring system for attachment classification.[87][88]

Interest in attachment theory continued, and the theory was later extended to adult romantic relationships by Cindy Hazen and Phillip Shaver.[40][41][42] Peter Fonagy and Mary Target have attempted to bring attachment theory and psychoanalysis into a closer relationship by way of such aspects of cognitive science as mentalization, the ability to estimate the beliefs or intentions of another person.[84] A "natural experiment" has permitted extensive study of attachment issues, as researchers have followed the thousands of Romanian orphans who were adopted into Western families after the end of the Ceasescu regime. The English and Romanian Adoptees Study Team, led by Michael Rutter, has followed some of the children into their teens, attempting to unravel the

effects of poor attachment, adoption and new relationships, and the physical and medical problems associated with their early lives. Studies on the Romanian adoptees, whose initial conditions were shocking, have yielded reason for optimism. Many of the children have developed quite well, and the researchers have noted that separation from familiar people is only one of many factors that help to determine the quality of development.[89]

Effects of changing times and approaches

Some authors have noted the connection of attachment theory with Western family and child care patterns characteristic of Bowlby's time.[90] The implication of this connection is that attachment-related experiences (and perhaps attachment itself) may alter as young children's experience of care change historically. For example, changes in attitudes toward female sexuality have greatly increased the numbers of children living with their never-married mothers and being cared for outside the home while the mothers work. This social change, in addition to increasing abortion rates, has also made it more difficult for childless people to adopt infants in their own countries, and has increased the number of older-child adoptions and adoptions from third-world sources in first-world countries. Adoptions and births to same-sex couples have increased in number and even gained some legal protection, compared to their status in Bowlby's time.[91]

One focus of attachment research has been on the difficulties of children whose attachment history was poor, including those with extensive non-parental child care experiences. Concern with the effects of child care was intense during the so-called "day care wars" of the late 20th century, during which some authors stressed the deleterious effects of day care.[92] As a result of this controversy, training of child care professionals has come to stress attachment issues and the need for relationship-building through techniques such as assignment of a child to a specific care provider. Although only high-quality child care settings are likely to follow through on these considerations, nevertheless a larger number of infants in child care receive attachment-friendly care than in the past, and emotional development of children in nonparental care may be different today than it was in the 1980s or in Bowlby's time.[93]

Finally, any critique of attachment theory needs to consider how the theory has connected with changes in other psychological theories. Research on attachment issues has begun to include concepts related to behaviour genetics and to the study of temperament (constitutional factors in personality), but it is unusual for popular presentations of attachment theory to include these. Importantly, some researchers and theorists have begun to connect attachment with the study of mentalization or theory of mind, the capacity of human beings to guess with some accuracy what thoughts, emotions, and intentions lie behind behaviours as subtle as facial expression or eye movement.[94] The connection of theory of mind with the internal working model of social relationships may open a new area of study and lead to alterations in attachment theory.[95]

Criticism from the 1950s to the 1970s

Bowlby's colleague Ainsworth listed nine concerns that she felt were chief points of controversy related to the attachment theory precursor referred to as "maternal deprivation", a hypothesis that includes some of the tenets that later made up attachment theory. 1) The vagueness of the term "maternal deprivation" used in the description of a child's history of attachment experiences. 2) The lack of clarity of the theory's implications for experiences with multiple caregivers. 3) The implications for the theory of the degree of variability following "deprivation". 4) The question of what specific effects result from "deprivation". 5) The question of individual differences in children's reactions to separation or loss. 6) The question of the degree of permanence of specific effects of "deprivation". 7) The question of delinquency as an infrequent outcome of separation and loss. 8) The question of specifics of deprivation and whether these have to do with the caregiver or the more general environment. 9) Controversies having to do with the effects of genetic defects or of brain damage on the developmental outcome.[61]

As the formulation of attachment theory progressed, critics commented on empirical support for the theory and for the possible alternative explanations for results of empirical research. Wootton questioned the suggestion that early attachment history (as it would now be called) had a lifelong impact.[96]

In the 1970s, problems with the emphasis on attachment as a trait (a stable characteristic of an individual) rather than as a type of behaviour with important organising functions and outcomes, led some authors to consider that "attachment (as implying anything but infant-adult interaction) [may be said to have] outlived its usefulness as a developmental construct..." and that attachment behaviours

were best understood in terms of their functions in the child's life.[85] Children may achieve a given function, such as a sense of security, in many different ways and the various but functionally comparable behaviours should be categorized as related to each other. This way of thinking saw the secure base concept (the organisation of exploration of an unfamiliar situation around returns to a familiar person) as "central to the logic and coherence of attachment theory and to its status as an organizational construct." [97] Similarly, Thompson pointed out that "other features of early parent-child relationships that develop concurrently with attachment security, including negotiating conflict and establishing cooperation, also must be considered in understanding the legacy of early attachments." [98]

Criticism from specific disciplines

Psychoanalysis

From an early point in the development of attachment theory, there was criticism of the theory's lack of congruence with the various branches of psychoanalysis. Like other members of the British object-relations group, Bowlby rejected Melanie Klein's views that considered the infant to have certain mental capacities at birth and to continue to develop emotionally on the basis of fantasy rather than of real experiences. But Bowlby also withdrew from the object-relations approach (exemplified, for example, by Anna Freud), as he abandoned the "drive theory" assumptions in favor of a set of automatic, instinctual behaviour systems that included attachment. Bowlby's decisions left him open to criticism from well-established thinkers working on problems similar to those he addressed. [99][100][101] Bowlby was effectively ostracized from the psychoanalytic community [3] although more recently some psychoanalysts have sought to reconcile the two theories in the form of attachment-based psychotherapy, a therapeutic approach.

Ethology

Ethologists expressed concern about the adequacy of some of the research on which attachment theory was based, particularly the generalisation to humans from animal studies as not all animals are suitable for generalisation to human beings. [102] [103] Schur, discussing Bowlby's use of ethological concepts (pre-1960) commented that these concepts as used in attachment theory had not kept up with changes in ethology itself. [104]

Ethologists and others writing in the 1960s and 1970s questioned the types of behaviour used as indications of attachment, and offered alternative approaches. For example, crying on separation from a familiar person was suggested as an index of attachment. [105] Observational studies of young children in natural settings also provided behaviours that might be considered to indicate attachment; for example, in one study of toddlers in parks with their mothers, the children were observed to stay within a predictable distance of the mother without effort on her part. The children walked when moving away from the mother, but ran when returning to her. When the child saw or heard something surprising, he or she related this to the mother, looking at her while pointing to the event if at a distance, pointing and tapping her with the other hand if near. The toddlers, unexpectedly, did not follow the mother if she moved away, but most "froze" in place. Another unanticipated indication of the relationship was that the toddler picked up small objects and brought them to the mother, a behaviour that did not usually occur toward other adults who were present. [106] Although ethological work tended to be in agreement with Bowlby, work like that just described led to the conclusion that "[w]e appear to disagree with Bowlby and Ainsworth on some of the details of the child's interactions with its mother and other people". Some ethologists pressed for further observational data, arguing that psychologists "are still writing as if there is a real entity which is 'attachment', existing over and above the observable measures." [107]

Robert Hinde expressed concern with the use of the word "attachment" to imply that it was an intervening variable or a hypothesised internal mechanism rather than a data term. He suggested that confusion about the meaning of attachment theory terms "could lead to the 'instinct fallacy' of postulating a mechanism isomorphous with the behaviours, and then using that as an explanation for the behaviour". However, Hinde considered "attachment behaviour system" to be an appropriate term of theory language which did not offer the same problems "because it refers to postulated control systems that determine the relations between different kinds of behaviour." [108]

Cognitive development

Bowlby's reliance on Piaget's theory of cognitive development gave rise to questions about object permanence (the ability to remember an object that is temporarily absent) and its connection to early attachment behaviours, and about the fact that the infant's ability to discriminate strangers and react to the mother's absence seems to occur some months earlier than Piaget suggested would be

cognitively possible.[109] More recently, it has been noted that the understanding of mental representation has advanced so much since Bowlby's day that present views can be far more specific than those of Bowlby's time.[110]

Behaviourism

In 1969, Gerwitz discussed how mother and child could provide each other with positive reinforcement experiences through their mutual attention and therefore learn to stay close together; this explanation would make it unnecessary to posit innate human characteristics fostering attachment.[111] In the last decade, behaviour analysts have constructed models of attachment based on the importance of contingent relationships. These behaviour analytic models have received support from research[112] and meta-analytic reviews.[113]

Criticism of methodology

There has been critical discussion of conclusions drawn from clinical and observational work, and whether or not they actually support tenets of attachment theory. For example, Skuse based criticism of a basic tenet of attachment theory on the work of Anna Freud with children from Theresienstadt, who apparently developed relatively normally in spite of serious deprivation during their early years. This discussion concluded from Freud's case and from some other studies of extreme deprivation that there is an excellent prognosis for children with this background, unless there are biological or genetic risk factors.[114] The psychoanalyst Margaret Mahler interpreted ambivalent or aggressive behaviour of toddlers toward their mothers as a normal part of development, not as evidence of poor attachment history.[115] Some of Bowlby's interpretations of the data reported by James Robertson were eventually rejected by the researcher, who reported data from 13 young children who were cared for in ideal circumstances during separation from their mothers. Robertson noted, "...Bowlby acknowledges that he draws mainly upon James Robertson's institutional data. But in developing his grief and mourning theory, Bowlby, without adducing non-institutional data, has generalized Robertson's concept of protest, despair and denial beyond the context from which it was derived. He asserts that these are the usual responses of young children to separation from the mother regardless of circumstance..."; however, of the 13 separated children who received good care, none showed protest and despair, but "coped with separation from the mother when cared for in conditions from which the adverse factors which complicate institutional studies were absent".[116] In the second volume of the trilogy, *Separation*, published two years later, Bowlby acknowledged that Robertsons foster study had caused him to modify his views on the traumatic consequences of separation in which insufficient weight was given to the influence of skilled care from a familiar substitute.[117]

Some authors have questioned the idea of attachment patterns, thought to be measured by techniques like the Strange Situation Protocol. Such techniques yield a taxonomy of categories considered to represent qualitative difference in attachment relationships (for example, secure attachment versus avoidant). However, a categorical model is not necessarily the best representation of individual difference in attachment. An examination of data from 1139 15-month-olds showed that variation was continuous rather than falling into natural groupings.[118] This criticism introduces important questions for attachment typologies and the mechanisms behind apparent types, but in fact has relatively little relevance for attachment theory itself, which "neither requires nor predicts discrete patterns of attachment." [119] As was noted above, ethologists have suggested other behavioural measures that may be of greater importance than Strange Situation behaviour.

Criticism from the 1990s on

Recent critics such as J. R. Harris, Stephen Pinker and Jerome Kagan are generally concerned with the concept of infant determinism and stress the possible effects of later experience on personality.[120][121][122] Harris and Pinker have put forward the notion that the influence of parents has been much exaggerated and that socialisation takes place primarily in peer groups, although H. Rudolph Schaffer concludes that parents and peers fulfill different functions and have distinctive roles in children's development.[123] Another concern about attachment theory has to do with the fact that infants often have multiple relationships, within the family as well as in child care settings, and that the dyadic model characteristic of attachment theory cannot address the complexity of real-life social experiences.[124]

Attachment theory in clinical practice

Clinical practice in children

Mainstream prevention programs and treatment approaches for attachment difficulties or disorders for infants and younger children are based on attachment theory and concentrate on increasing the responsiveness and sensitivity of the caregiver, or if that is not possible, placing the child with a different caregiver.[125][126] These approaches are mostly in the process of being evaluated. The programs invariably include a detailed assessment of the attachment status or caregiving responses of the adult caregiver as attachment is a two-way process involving attachment behaviour and caregiver response. Some of these treatment or prevention programs are specifically aimed at foster carers rather than parents, as the attachment behaviours of infants or children with attachment difficulties often do not elicit appropriate caregiver responses.[127]

Outside the mainstream programs is a form of treatment generally known as attachment therapy, a subset of techniques (and accompanying diagnosis) for supposed attachment disorders including reactive attachment disorder. There is considerable criticism of this form of treatment and diagnosis as it is largely unvalidated and has developed outside the scientific mainstream.[128] In general, these therapies are aimed at adopted or fostered children with a view to creating attachment to their new caregivers. The theoretical base is broadly a combination of regression and catharsis, accompanied by parenting methods which emphasise obedience and parental control.[128] There is little or no evidence base and techniques vary from non-coercive therapeutic work to more extreme forms of physical, confrontational and coercive techniques, of which the best known are holding therapy, rebirthing, rage-reduction and the Evergreen model. These forms of the therapy may well involve physical restraint, the deliberate provocation of rage and anger in the child by physical and verbal means including deep tissue massage, aversive tickling, enforced eye contact and verbal confrontation, and being pushed to revisit earlier trauma.[128][129] Critics maintain that these therapies are not within the attachment paradigm, are potentially abusive,[130] and are antithetical to attachment theory.[131] The APSAC Taskforce Report of 2006 notes that many of these therapies concentrate on changing the child rather than the caregiver.[128]

Attachment disorder

Attachment disorder is an ambiguous term. It may be used to refer to reactive attachment disorder, the only 'official' clinical diagnosis, or the more problematical attachment styles (although none of these are clinical disorders), or within the alternative medicine field, the pseudoscience of attachment therapy as a form of unvalidated diagnosis.[128]

Clinical practice in adults

A form of psychoanalysis-based therapy for adults within relational psychoanalysis incorporates and uses attachment theory and attachment patterns.[133] Other attachment-based treatment approaches can be used with adults,[134] and there is also an approach to treating couples.[135] Psychologist and psychoanalyst Peter Fonagy and colleagues, have applied mentalization and attachment theory concepts to developmental psychopathology in the context of attachment relationships gone awry.[136]

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- ^ Bowlby (1969) 2nd ed. pp. 304–05.

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- ^ Schur M (1960). "Discussion of Dr. John Bowlby's paper". *Psychoanalytic Study of the Child* 15: 63–84. PMID 13749000. "Bowlby...assumes the fully innate, unlearned character of most complex behavior patterns...(whereas recent animal studies showed)...both the early impact of learning and the great intricacy of the interaction between mother and litter"... (and applies)... "to human behavior an instinct concept which neglects the factor of development and learning far beyond even the position taken by Lorenz [the ethological theorist] in his early propositions".
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