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Human Development: A Cultural Approach

Jeffrey Jensen Arnett

First Edition

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promoted survival for the two sexes (Buss, 2004; Jackson, 2004). For males, survival was promoted by aggressiveness, competitiveness, and dominance. Males with these characteristics were more likely than their peers to outfight other males for scarce resources and more likely to gain sexual access to females. Consequently, they were more likely to reproduce, and through the process of natural selection, gradually these characteristics became a standard part of being a male human being. The aggressiveness and competitiveness of boys in early childhood is an outcome of a long evolutionary history.

For human females, in contrast, over the course of many millennia of evolution, survival was promoted by being nurturing, cooperative, and emotionally responsive to others. Females with these characteristics were more likely than their peers to attract males who would protect them and provide for them. They needed males to protect them from other males, because they would frequently be pregnant or caring for young children. Females with these qualities were also more likely to be effective at caring for children through the long period of vulnerability and dependency that is characteristic of the young of the human species. Consequently, their offspring were more likely to survive to reproductive age, and through natural selection, gradually these qualities became genetically, biologically based tendencies of the human female. The cooperativeness and emotional responsiveness of girls in early childhood, and their interest in playing house and playing with dolls, is an outcome of a long evolutionary history.

Ethology, the study of animal behavior, also provides evidence of the biological basis of human gender differences. The gender differences that exist among humans are also true of our closest primate and mammalian relatives (Diamond, 1992; Pinker, 2004). Like human males, the males in those species closely related to us are also more aggressive, competitive, and dominant than females; and males who are highest in these qualities gain greater sexual access to females. Like human females, females in closely related species also are more nurturing and cooperative than males are, and they have primary responsibility for caring for young children. Like human children, the young of closely related species also play in same-sex groups. The similarity of sex-specific behavior across related species is strong evidence for a biological basis for human gender differences.

Hormonal evidence also supports the biological basis of human gender differences. Throughout life, beginning even prenatally, males and females differ in their hormonal balances, with males having more androgens and females more estrogens. In fact, males must receive a burst of androgens in their third month of prenatal development in order to develop into males. These hormonal differences influence human development and behavior. The strongest evidence for this is in studies of children who have hormonal abnormalities. Girls who were exposed to high levels of androgens in the womb are more likely than their peers to show male play behavior in early childhood, including playing with "male" toys like trucks and a preference for male playmates (Hines, 2004). Boys who were exposed to high levels of estrogens in the womb are more likely than their peers to show female play behavior in early childhood, including playing with "female" toys like dolls and a preference for female playmates (Knickmeyer & Baron-Cohen, 2006). In animal studies, too, females whose levels of prenatal androgen are increased experimentally show increased aggression and more active play than their animal peers, and less interest in caring for their offspring (Maccoby, 2002).

APPLYING YOUR KNOWLEDGE

How is the case of children with hormonal abnormalities an example of a natural experiment? Are there any limitations to its validity as a natural experiment?

THE LIMITS OF BIOLOGY Taken together, the evidence from evolutionary theory, ethological research, and research on hormonal abnormalities makes a strong case for the biological basis of human gender differences. There is little doubt that gender differences are accentuated and reinforced by the socialization environment, in every culture. At the same time, there is little doubt that human males and females are biologically different and that these differences are evident in their development in toddlerhood and beyond, in all cultures.

However, there is good reason to be skeptical and wary of attributing all human gender differences mainly to biology. In the course of human history, especially in the last century, gender roles have changed dramatically, even though biologically we have not changed (Brumberg, 1997). It is only 100 years ago that women were excluded from higher education

ethology study of animal behavior

and from virtually all professions. It was widely believed, even among scientists—who were all male—that women were biologically incapable of strenuous intellectual work.

Today, in an era when women exceed men in university participation in most countries in the world and are close to or equal to men in their representation in medicine, law, business, and other fields, these beliefs seem preposterous. Yet just a century ago, the most knowledgeable people of the time were certain these beliefs were true. That fact should give us pause before we assert that the biological basis of children's gender differences today is indisputable. The changes in women's roles over the past century demonstrate the enormous influence that culture can have on the raw material of biology in human development. As cultures change, gender roles can change, even though the underlying biology of human development remains the same.

The other issue worth mentioning here is that when we speak of gender differences, we are comparing one-half of the human species to the other, over 3 billion persons to the other 3 billion-plus persons. There is a tendency among social scientists to describe gender differences by stating that "boys are X, whereas girls are Y" (including in the section you just read). However, these generalizations almost always overstate the differences between the two genders. Even where there are legitimate gender differences, in early childhood and beyond, there are also many exceptions. To put it another way, the variability within each gender is usually much greater than the differences between the two genders, for most characteristics. Consequently, we should be careful not to let our perceptions of gender differences prejudge our estimations of the qualities or abilities of individual boys or girls or men or women.

Explore the **Concept** Adults' Perceptions of Boys and Girls at **MyDevelopmentLab**

Study and **Review** at **MyDevelopmentLab**

WHAT HAVE YOU LEARNED?

1. What are four ways that emotional regulation develops during toddlerhood?
2. Why is age 2 described as the "terrible twos" in some cultures but not in others?
3. Why are secondary emotions also called "sociomoral emotions"?
4. What is the red-nose test and how does it demonstrate self-recognition?
5. What is gender identity and when does it first develop?
6. Describe some ways that parents communicate gender-role socialization to infants and toddlers.

One Special Person: Attachment Theory and Research

From infancy to toddlerhood, the social world expands. However, crucial to social development remains the relationship with one special person, usually but not always the mother, who provides love and care reliably. In the field of human development the study of this relationship in infancy and toddlerhood has focused on attachment theory and research based on this theory.

Attachment Theory

15 **LEARNING OBJECTIVE**

Describe the essential features of attachment theory and identify the four classifications of attachment.

Because the long dependency of children on adults is such a distinctive characteristic of our species, the question of how the attachments between human children and adults develop has long been of great interest to human development scholars. Attachment theory

was first introduced in our discussion of infant social development. Here we examine the features of attachment theory in more detail, including ways of evaluating the quality of parent–child attachment and critiques of attachment theory.

BOWLBY'S THEORY Through most of the 20th century there was strong consensus that human infants become attached to their mothers because mothers provide them with food. Hunger is a distressing physical state, especially for babies, who are growing rapidly and need to be fed often. Mothers relieve this distressing state and provide the pleasure of feeding. Over time, infants come to associate the mother with the relief of distress and the experience of pleasure. This association becomes the basis for the love that infants feel for their mothers. This was the dominant view in psychology in the first half of the 20th century. However, around the middle of the 20th century, the British scholar John Bowlby (1969) began to observe that many research findings that were appearing at the time were inconsistent with this consensus.

There were three findings that were especially notable to Bowlby. First, French psychiatrist René Spitz (1946) reported that infants raised in institutions suffered in their physical and emotional development, even if they were fed well. Spitz studied infants who entered an orphanage when they were 3 to 12 months old. Despite adequate physical care, the babies lost weight and seemed listless and passive, a condition Spitz called *anaclitic depression*. Spitz attributed the infants' condition to the fact that one nurse had to care for seven infants and spent little time with each except for feeding them and changing their diapers. (Anaclitic means "leaning upon," and Spitz chose this term because the infants had no one to lean upon.) The infants showed no sign of developing positive feelings toward the nurse, even though the nurse provided them with nourishment. Other studies of institutionalized infants reported similar results (Rutter, 1996).

John Bowlby, originator of attachment theory. (Photo by Jürgen Schadeberg)

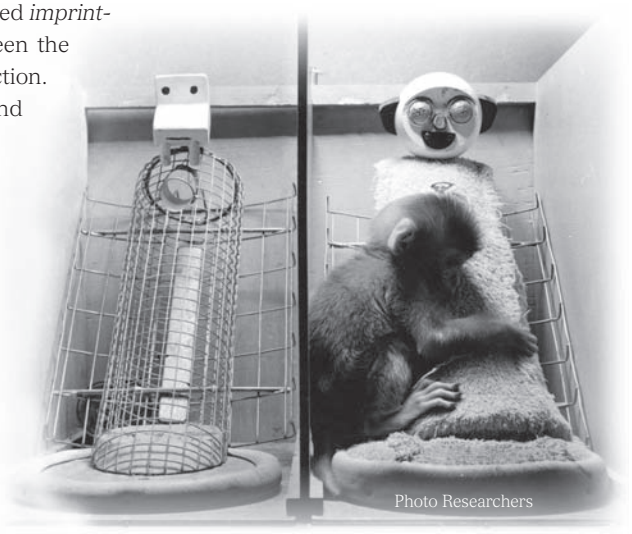
Watch the **Video** Institution Care/Adoption and Foster Care: Nathan Fox at **MyDevelopmentLab**

The second set of findings that called feeding into question as the basis of the infant–mother bond involved primates, specifically rhesus monkeys. In a classic study, Harry Harlow (1958) placed baby monkeys in a cage with two kinds of artificial "mothers." One of the mothers was made of wire mesh, the other of soft terry cloth. Harlow found that even when he placed the feeding bottle in the wire mother, the baby monkeys spent almost all their time on the cloth mother, going to the wire mother only to feed. Again, a simple link between feeding and emotional bonds seemed called into question.

The third set of findings noted by Bowlby proved the most important for his thinking. These findings came from the field of *ethology*, which, as we have noted, is the study of animal behavior. Ethologists reported that for some animals, the bond between newborns and their mothers was instantaneous and occurred immediately after birth. Konrad Lorenz (1965), a German ethologist, showed that newborn goslings would bond to the first moving object they saw after hatching and follow it closely, a phenomenon he called *imprinting*. To Lorenz and other ethologists, the foundation of the bond between the young of the species and their mothers was not nourishment but protection. Imprinting to the mother would cause the young to stay close to her and thereby be protected from harm.

primary attachment figure person who is sought out when a child experiences some kind of distress or threat in the environment

Harlow's studies showed that attachments were not based on nourishment. As shown here, the monkeys preferred the cloth "mother" even though the wire "mother" provided nourishment.



Considering these three sets of findings, Bowlby concluded that the emotional tie between infants and their mothers was based on children's need for protection and care for many years. Thus as Bowlby described it, the *attachment* that develops between children and caring adults is an emotional bond that promotes the protection and survival of children during the years they are most vulnerable. The child's **primary attachment figure** is the person who is sought out when the child experiences some kind of distress or threat in the environment, such as hunger, pain, an unfamiliar person, or an unfamiliar setting. Usually the primary attachment figure is a parent, and is most often the mother because in nearly all cultures mothers are primarily the ones who are most involved in the care of infants. However, the primary attachment figure could also

APPLYING YOUR KNOWLEDGE . . . as a Researcher

You are sent to a local Polynesian village to do the "red nose" test with some toddlers aged 12-20 months (refer back to p. 203). The instructions call for the mother to sit near the mirror. However, the toddlers seem to want an older sibling to sit nearby rather than their mothers. Is it ok to change the protocol to include the older sibling instead of the mother?

Watch the **Video** Stranger Anxiety at **MyDevelopmentLab**

be the father, a grandparent, an older sister, or anyone else who is most involved in the infant's care. Separation from the primary attachment figure is experienced by the child as especially threatening, and the loss of the primary attachment figure is a catastrophe for children's development (Bowlby, 1980).

Although infants can discriminate among the smells and voices of different people in their environment from early on, in their first months they can be held and cared for by a wide range of people, familiar as well as unfamiliar, without protesting. However, by about the middle of the first year of life, this begins to change. Gradually they become more selective, developing stronger preferences for familiar others who have cared for them, and **stranger anxiety** emerges in response to being approached, held, or even smiled at by people they do not recognize and trust. Stranger anxiety exists in a wide range of cultures beginning at about age 6 months and grows stronger in the months that follow, as **Figure 5** illustrates (Super & Harkness, 1976). So, if an infant or toddler turns away, frowns, or bursts into tears in response to your friendly overtures, don't take it personally!

There is an evolutionary basis for the development of stranger anxiety at about age 6 months (Bowlby, 1967). This is the age when infants first become mobile, and learning to crawl allows them to begin to explore the environment but also carries the risk that they may crawl themselves into big trouble. Learning to stay close to familiar persons and avoid unfamiliar persons helps infants stay near those who will protect them and keep them safe.

Although it promotes survival for children to stay close to caring adults, it also promotes survival for children to learn about the world around them. Consequently, under normal conditions young children use their primary attachment figure as a **secure base** from which to explore the surrounding environment (Bowlby, 1969). If a threat appears in the environment, attachment behavior is activated and children seek direct physical contact with their attachment figure.

According to Bowlby, attachment develops gradually over the first 2 years of life, culminating in a *goal-corrected partnership* in which both persons use language to communicate about the child's needs and the primary attachment figure's responses. Over time, the child becomes steadily less dependent on the care and protection of the primary attachment figure. However, even into adulthood, the child may seek out the primary caregiver for comfort during times of crisis.

VARIETIES OF ATTACHMENT: THE STRANGE SITUATION Bowlby was a theorist, not a researcher, and he did not conduct studies to test his theory directly. Research on attachment was pioneered by Mary Ainsworth, a colleague of Bowlby (Ainsworth & Bell, 1969; Ainsworth et al., 1978). Ainsworth followed Bowlby's theory in viewing the child's attachment as being most evident in the response to separation from the primary attachment figure. She had observed that along with stranger anxiety, infants and toddlers experience **separation anxiety** when apart from attachment figures, especially if a stranger is present. To evoke children's

stranger anxiety fear in response to unfamiliar persons, usually evident in infants by age 6 months

secure base role of primary attachment figure, allows child to explore world while seeking comfort when threats arise

separation anxiety discomfort experienced by infants and young children when apart from attachment figures, especially when a stranger is present

Strange Situation laboratory assessment of attachment entailing a series of introductions, separations, and reunions involving the child, the mother, and an unfamiliar person

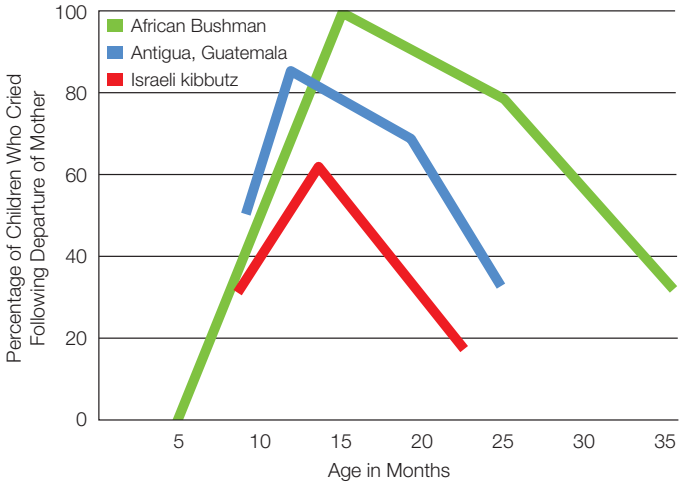


Figure 5 • **The Rise and Fall of Stranger Anxiety in the First 3 Years Across Cultures** Stranger anxiety peaks around the end of the first year.
Source: Kagan et al., 1978

attachment behavior, Ainsworth devised a laboratory procedure she called the **Strange Situation** (Ainsworth et al., 1978). The Strange Situation is a series of introductions, separations, and reunions involving the child, the mother, and an unfamiliar person (see **Figure 6**). It was devised for toddlers, ages 12 to 24 months, because this is an age that is old enough so that attachment has developed to a point where it can be assessed.

In the Strange Situation the mother and toddler first come into the laboratory room and are left for a few minutes to become used to it. There are toys and the toddler may begin to play with them. A series of episodes follows in which a "stranger" enters the room, the mother leaves the room, the mother returns, the mother leaves again, and the mother returns again. When she returns the second time, the mother is supposed to pick the child up.

On the basis of toddlers' responses to the Strange Situation, four classifications of attachment were developed (Ainsworth et al., 1978; Ammaniti et al., 2005). The first three were proposed by Ainsworth, and the fourth was added by later researchers.

Secure attachment. Toddlers in this category use the mother as a secure base from which to explore, in the first part of the Strange Situation when only the mother and toddler are present. Upon separation, securely attached toddlers usually cry or vocalize in protest. When the mother returns, they greet her happily by smiling and perhaps going to her to be hugged and held.

Insecure–avoidant attachment. These toddlers show little or no interaction with the mother when she is present, and no response to the mother's departure or return. When these toddlers are picked up in the last episode of the Strange Situation, they may immediately seek to get down.

Insecure–resistant attachment. Toddlers classified as insecure–resistant are less likely than others to explore the toys when the mother is present, and they show greater distress when she leaves the room. When she returns, they show ambivalence, running to greet the mother in seeming relief but then pushing her away when she attempts to comfort or pick them up.

Disorganized–disoriented attachment. Toddlers in this category show extremely unusual behavior in response to the Strange Situation (Ammaniti et al., 2005; van IJzendoorn et al., 1999). They may seem dazed and detached when the mother leaves the room, but with outbursts of anger, and when the mother returns they may seem fearful. Some freeze their movements suddenly in odd postures. This kind of attachment is especially shown by toddlers who show other signs of serious problems, such as autism or Down syndrome. Their mothers are more likely to have used alcohol or drugs during pregnancy and are more likely to have had psychological problems.

Although attachment classification is based on behavior throughout the Strange Situation, Ainsworth viewed the toddler's reunion behavior as the best indicator of the quality of attachment (Ainsworth et al., 1978). Toddlers with secure attachments seemed delighted to see their mothers again after a separation and often sought physical contact with her, whereas toddlers with insecure attachments either responded little to her return (avoidant) or seemed both relieved and angry at her (resistant).

Figure 6 • **The Strange Situation** The Strange Situation features a series of episodes in which (a) the mother leaves the room, (b) the toddler is alone with the stranger, and (c) the mother returns to the room and is reunited with the toddler.

secure attachment healthiest classification of parent–child attachment, in which the child uses the parent as a secure base from which to explore, protests when separated from parent, and is happy when the parent returns

insecure–avoidant attachment classification of parent–child attachment in which there is relatively little interaction between them and the child shows little response to the parent's absence and may resist being picked up when the parent returns

insecure–resistant attachment classification of parent–child attachment in which the child shows little exploratory behavior when the parent is present, great distress when the parent leaves the room, and ambivalence upon the parent's return

disorganized–disoriented attachment classification of parent–child attachment in which the child seems dazed and detached, with possible outbursts of anger, when the parent leaves the room, and exhibits fear upon parent's return

Quality of Attachment

LEARNING OBJECTIVE 16

Identify the key factors influencing the quality of toddlers' attachment to their mothers, and explain what effect attachment quality has on development.

Simulate the **Experiment** Attachment Classifications in the Strange Situation at **MyDevelopmentLab**

If toddlers differ in the quality of their attachments, what determines those differences? And what implications does attachment quality in toddlerhood have for later development?

Attachment behavior is especially activated if the toddler is distressed.

APPLYING YOUR KNOWLEDGE

What are the implications of attachment theory over whether or not a crying baby should be comforted?

DETERMINANTS OF ATTACHMENT QUALITY Ainsworth's early research indicated that about two-thirds of toddlers had secure attachments to their mothers, with the remaining one-third either insecure–avoidant or insecure–resistant (Ainsworth et al., 1978). Many other studies of American and European children since then have found similar results (NICHD Early Child Care Research Network, 2006; van IJzendoorn & Sagi, 2010). Disorganized–disoriented attachment is rare.

But what determines the quality of toddlers' attachments to their mothers? In her early research, Ainsworth and her colleagues observed families in their homes, including the same mother–child pairs they later observed in the laboratory in the Strange Situation (Ainsworth, 1977). The home observations were extensive: every 3 weeks for four hours, from when the children were 3 weeks old to just past their first birthdays.

When considering the mother–child interactions in the home in relation to their behavior as observed in the Strange Situation, Ainsworth concluded that the quality of attachment was based mainly on how sensitive and responsive the mother was. To be *sensitive* means to be good at judging what the child needs at any given time. For example, sensitive mothers could tell when their children had had enough to eat, whereas others seemed to stop feeding while the children were still hungry or tried to keep feeding them after they seemed full. To be *responsive* means to be quick to assist or soothe the children when they need it. For example, responsive mothers would hug or pick up or talk soothingly when their children were distressed, whereas others would let them cry for awhile before going to their assistance.

According to attachment theory, based on the degree of their mothers' sensitive and responsive behavior over the first year of life, children develop an *internal working model* of what to expect about her availability and supportiveness during times of need (Bowlby, 1969, 1980; Bretherton & Mulholland, 1999). Children with secure attachments have developed an internal working model of the mother as someone they can rely upon to provide help and protection. Children with insecure attachments are unsure that the mother will come through when they need her. They have an internal working model of her as someone who is unpredictable and cannot always be trusted. One reason the Strange Situation is first assessed in toddlerhood rather than infancy is that it is only by toddlerhood that children are cognitively mature enough to have developed an internal working model of their primary attachment figure (Ainsworth et al., 1978; Bowlby, 1969).

ATTACHMENT QUALITY AND LATER DEVELOPMENT According to Bowlby (1969), the internal working model of the primary caregiver formed in infancy and toddlerhood is later applied to other relationships. Consequently, the attachment to the primary caregiver established in the first 2 years shapes expectations and interactions in relationships with others throughout life, from friends to teachers to romantic partners to one's own future children. Securely attached children are able to love and trust others because they could love and trust their primary caregiver in their early years. Insecurely attached children display hostility, indifference, or overdependence on others in later relationships, because they find it difficult to believe others will be worthy of their love and trust (Thompson, 1998).

This is a bold and intriguing claim. How well does it hold up in research? A number of longitudinal studies on attachment have by now followed samples from toddlerhood through adolescence or emerging adulthood, and they provide mixed support for the predictions of attachment theory. Some longitudinal studies show a relationship between attachment quality assessed in toddlerhood and later emotional and social development, but other studies do not (Egeland & Carlson, 2004). The current view is that attachment quality in infancy and toddlerhood establishes tendencies and expectations that may then be modified by later experiences in childhood, adolescence, and beyond (McCarthy & Maughan, 2010; Thompson, 2008). To put this in terms of the theory, the internal working model established early may be modified substantially by later experiences.

Only disorganized–disoriented attachment is highly predictive of later problems (Ammaniti et al., 2005; van IJzendoorn et al., 1999; Vondra & Barnett, 1999). Toddlers