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DIVERSE CONTEXTS  
OF HUMAN INFANCY

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American parents are unique cross-culturally in that they usually do not know very much about infancy until they have their own baby. In many parts of the world, individuals grow up with infants around them because of high fertility or living with an extended family. Children in many parts of the world are expected to assist their mothers or female relatives with infant care, so by the time they become parents they are aware of basic needs of infants and know how to respond appropriately to them. American mothers and fathers, on the other hand, seldom, if ever, have had the opportunity to care for a baby until they have their own. First-time parents are often overwhelmed because babies take an enormous amount of knowledge and time. How many hours should an infant sleep, when is a good time to introduce solid foods, and should parents sleep with their infants are common questions. Since first-time American parents do not have this knowledge and do not live with someone who has the information, they often turn to “experts” for guidance. A handful of infant books and regular visits to the pediatrician are common. One limitation to expert advice is that it is provided in the context of American culture. The expert usually does not have the time to read about infancy in other parts of the world, but gives the impression that the advice is based upon studies of infants around the world. This is seldom the case and can lead to inaccurate views of the abilities or development of human infants.

This chapter examines American and Western European biases in descriptions and characterizations of infants by examining infancy cross-culturally and placing infant caregiving practices in their cultural contexts. This approach to human infancy provides a broader understanding of human infancy. Understanding the diversity of cultural contexts of infancy can possibly develop a greater tolerance and respect for variability in baby care beliefs and practices, as well as identify options that might be available for enhancing infant development.

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## *CROSS-CULTURAL STUDIES OF INFANCY*

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The material for this chapter comes primarily from anthropological studies of infancy. Psychologists and sociologists tend to study infants in industrialized American and European societies, whereas anthropologists tend to conduct infant studies in non-Western soci-

eties, often in developing parts of the world. The anthropological studies suggest there are dramatic differences in the ways in which infants are cared for in Western versus non-Western societies.

Two types of data were utilized to write this chapter: library reviews of ethnographic descriptions of infancy and anthropological field studies of infancy. Some anthropologists interested in infancy have reviewed hundreds of anthropological descriptions of infancy. These cross-cultural researchers often utilized the Human Relations Area Files (HRAF—a full text archive of ethnographic information on the cultures of the world, available at many colleges and universities) or the ethnographies mentioned in the Standard Cross-Cultural Sample (SCCS).<sup>1</sup> These researchers rely on anthropologists' general descriptions about infancy—who takes care of the infant, where the infant sleeps, how indulgent the caregivers are, and so on. The anthropologists in most cases were not interested specifically in infancy, but did describe some aspects of infancy in the process of describing the culture in general. There are limitations to these cross-cultural studies, but they provide excellent overviews of general cross-cultural patterns of infancy.

Anthropological field studies of infancy provide the second database. These long-term field studies of infancy in the non-Western world provide more precise details about infancy, but since so few studies have been conducted (less than a dozen) it is difficult to make the broad generalizations that might be possible with HRAF or SCCS studies. These studies are usually directly comparable to U.S. and European infant studies because anthropologists often incorporate psychological behavioral observational techniques into their study. These standardized methods make it possible, for instance, to determine precisely how much time U.S. infants versus infants in other cultures cry or are held, or how frequently they are breast-fed. A few long-term field studies of infancy in non-Western cultures have been conducted by psychologists, and are discussed in this chapter.<sup>2</sup> Other psychologists (e.g., Brazelton, Bornstein, Kagan, Dasen, Lamb) have examined aspects of infancy (e.g., motor or cognitive development) in many cultures around the world, but these works are not discussed at great length in this overview because the studies are generally not based on long-term field study and infants are generally not observed in their natural cultural and ecological context.

For some reason, the majority of anthropological field studies of infancy are primarily out of Africa. Several of the best-known

cross-cultural studies of infancy have been conducted south of the Sahara: Konner's !Kung study; LeVine's and Leiderman's Gusii studies; Munroe's Logoli study; Super and Harkness's study of Kipsigis in Kokwet; Blurton Jones's studies of Hadza and !Kung, Kilbrides's work with Baganda; and Tronick, Morelli, and Ivey on Efe pygmies. My own work on the Aka pygmies also reflects this bias.<sup>3</sup> Chisholm's study of Navaho infancy is a rare exception.<sup>4</sup> I do not know what to make of this but the reader should be aware of the potential limitations.

One final caution: Over 90 percent of the researchers cited in this paper are from Western industrialized countries. This is an important fact to reflect upon while reading this overview because those aspects of infancy that are selected for study are based upon concerns and interests of Western researchers, not the non-Western peoples anthropologists tend to work with. For instance, those of us from Western backgrounds who have worked with small-scale egalitarian populations consistently report and are impressed with the high frequency with which infants are held or touched, the high frequency with which infants are breastfed, the relatively quick responses caregivers provide fussing infants, and the number of different caregivers an infant experiences. One reason there may be so much interest in these aspects of infant care is that they are remarkably different from the caregiving practices in most Western industrialized countries.

Finally, it is important to note that when I discuss U.S., American, or European culture I am referring to the generally white middle-class segments of the culture, unless noted otherwise.

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## CHILDBIRTH

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A cross-cultural overview of childbirth demonstrates how the culture patterns feelings about what is natural and universal. Currently, in the United States the predominant childbirth method is often called "natural" childbirth, implying this is the way childbirth would be practiced in most of the world if not for Western technology. "Natural" childbirth generally includes the father's "participation" in the birth, breathing techniques rather than drugs to control pain, giving birth in a comfortable bedroom-like hospital room, reducing technological interventions unless absolutely necessary (e.g., fetal heart monitor), placing the

infant with the mother immediately after birth, encouraging breast-feeding and discouraging any bottle feeding, and reducing the time mother and infant spend in the hospital. The general point of the “natural” method is that childbirth is no longer approached as a medical emergency and it is family-centered.

These birthing methods emerged during the alternative birth movements of the 1950s-1960s, which seriously questioned the male and technologically-dominated medical models of childbirth. At that time, women did not have much information about childbirth, nor did their mothers or grandmothers, because at the turn of the century childbirth moved from being female-controlled to being male-controlled. (At the turn of the century only 5 percent of births were hospital births.)

Many aspects of “natural” childbirth advocated by alternative birth movements are now accepted and standard practice in most U.S. hospitals. But just how “natural” are U.S. birthing practices? Cross-cultural data exist on some of these practices: the father as coach and monitor of the childbirth, the importance of placing the newborn on the mother immediately after the birth to enhance bonding, and the importance placed on the mother breastfeeding immediately after birth.

First, fathers are seldom participants in childbirth in other cultures. Fathers are not permitted to attend childbirth in over 60 percent of the world’s cultures.<sup>5</sup> About 20 percent of the world’s cultures allow the father to attend the birth without actively participating, and the remaining 20 percent of the world’s cultures have some (generally minimal) father participation. The participatory fathers generally cut the umbilical cord or help to position the mother for childbirth, often standing behind her. In no culture does the father, or any male for that matter, direct or monitor the childbirth; a midwife or other women generally coordinate the birth. Among the Aka, fathers are not permitted at the childbirth, but are only a few meters away if requests are made. Male shamans may assist with difficult births and men are known to help if husband and wife are alone in the forest and the wife delivers.

While the father’s direct participation in childbirth is not very common cross-culturally, fathers are often indirectly involved. For instance, *couvade*—a practice in which the husband observes food taboos, restricts his ordinary activities, or in some cases feels the symptoms of pregnancy and goes into seclusion during his

wife's delivery—occurs in 44 percent of a sample of the world's societies.<sup>6</sup>

Second, in over 92 percent of the world's cultures the mother is not the first one to touch and interact with her newborn.<sup>7</sup> The infant is often taken away to be bathed and/or undergo ritual cleansing and/or protection or to be nursed by another lactating woman in the village. It is not clear from the ethnographic records how many minutes or hours pass before the infant is returned to her or his mother, but it is evident that peoples in non-Western cultures are not particularly concerned with a sensitive period of bonding between mother and infant. Among the Aka foragers, the mother's mother takes the infant, washes him or her with water from a stream or vine, wraps the infant in a cloth, and then holds the infant for an hour or so until the mother passes the placenta, rests for awhile, and walks back to her hut. In difficult births the mother may not see her newborn for half a day or longer.

Third, breastfeeding is often delayed twenty-four hours or more after the birth. In 52 percent of the 81 societies in the SCCS with relevant data, mothers waited more than 24 hours to breastfeed the newborn for the first time, while mothers in 71 percent of 57 HRAF societies with relevant data waited between two and seven days before breastfeeding the newborn.<sup>8</sup> Among the Efe pygmies someone other than the mother is often the first to breastfeed the infant.<sup>9</sup>

The cross-cultural data suggest there is nothing particularly "natural" or universal about several U.S. childbirth practices. This does not mean that these practices are bad or inappropriate; on the contrary, they may feel right and natural because they make a lot of sense in our own cultural context. In the United States today, both parents often work and infants do not sleep with parents, which means parents and infants have to make the most of the time they actually spend together. It may be important for American mothers and fathers to have close relations and contact with the newborn right after birth because of the separation later in infancy. Birth may be a sensitive period for American parents and their infants, but the contexts are much different in most preindustrial societies where parents often sleep with their infant and carry or take their infant to work with them. Consequently, there are plenty of other opportunities for parents and infants to "bond" and develop a sense of security.

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## INDULGENCE

### Holding and Touching

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Researchers from Western industrial nations who have worked with non-Western societies have consistently noted the frequency with which infants are held, touched, and kept in close proximity to caregivers. Three- to four-month-old Aka infants are held or touched by a caregiver all day (99 percent of daylight hours), while seven- to eight-month-old infants are held and/or touched about 75 percent of the time. Melvin Konner reports that !Kung three- to four-month-olds are touched more than 70 percent of daylight hours, while seven- to eight-month-olds are touched about 50 percent of the time.<sup>10</sup> Gusii infants of East Africa are held 80 percent of the time at three to six months and about 50 percent of the time at nine to twelve months.<sup>11</sup> Chinese, Malay, and Tamil infants of rural Malaysia are in physical contact with someone over 50 percent of daylight waking hours.<sup>12</sup>

These patterns are considerably different from what is found in the industrialized countries of the United States, Japan, England, and the Netherlands. Young infants in these industrialized countries are held and/or touched 12 to 20 percent (2 to 3 hours) of waking hours and older infants are held and/or touched less than 10 percent of the time.<sup>13</sup> Instead of holding the infants, parents place their infants in different types of carrying or holding devices, such as high chairs, walkers, rockers, and playpens. U.S. four-month-olds spend about 40 percent of their day in these devices.<sup>14</sup> Konner points out that psychologists call orphaned infants "deprived" because they receive so little physical contact (held about 5 percent of the time), and then goes on to suggest that infants in industrial societies are likewise deprived by comparison to infants in non-Western populations where infants are held and/or touched at least two to three times more frequently than infants in industrialized countries.

While the most dramatic difference in amount of infant holding and touching is between industrial and preindustrial societies, there is considerable variability within each of these groups. Socioeconomic class and nationality are important factors for understanding variability in urban-industrial populations, while subsistence type and climate are important factors for understanding variability in preindustrial populations.<sup>15</sup> For instance, the three preindustrial societies mentioned above, the Aka, Efe, and !Kung,

are all foragers who live in tropical environments. Both of these factors, foraging and living in a warm climate, have been shown to increase the frequency of infant holding and touching. Lozoff and Brittenham's SCCS survey of infant care indicates that all tropical forest foragers carry or hold their infants up to the age of crawling more than 50 percent of the time, while only 56 percent of other preindustrial societies, predominately farmers, carry or hold their infants more than 50 percent of the time until the age of crawling.<sup>16</sup>

Climate also influences infant holding and touching. John Whiting has demonstrated that infants in cold and cool climates (under 0–10 degrees Celsius [32–50 degrees Fahrenheit]) are more likely to be carried in cradles, swaddled, and put in cradles to rest or nap, while infants in warm and hot climates (11 degree Celsius and above) are more likely to be carried in slings or in the caregivers' arms.<sup>17</sup> The influence of climate seems to be especially true for farmers and pastoralists, but less so for foragers, as all foraging Inuit groups of the North American Arctic and the Yahgan of the frigid tip of South America use slings and carry their infants close to their bodies.

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## Sleeping Arrangements

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The previous discussion indicates that the amount of time European and American babies are held or touched is unusually low by cross-cultural standards, but the data and discussion are limited in that the studies cited refer to touching during daylight hours only. Are Euroamerican patterns of touching unusual for evening hours as well? What happens to infants the other half of the day?

Few studies have examined infants' evening sleeping arrangements cross-culturally. An early study by John Whiting found that in 67 percent of 59 HRAF societies that had data on infants' sleeping arrangements, the mother and infant slept in the same bed.<sup>18</sup> A similar proportion was found in a more recent SCCS study.<sup>19</sup> However, in a survey of 37 HRAF societies James McKenna found that mothers always slept with their infants.<sup>20</sup> As previously noted, the SCCS and HRAF samples can be problematic because the anthropologist's descriptions of infancy in a particular society may be based on one or two observations or informal interviews with male informants (most societies in the SCCS



and HRAF are described by male anthropologists). In order to get around these limitations, McKenna has informally asked each anthropologist he has met about the details of infants' sleeping arrangements in the culture they studied. All of the anthropologists he talked with indicated that mothers and infants sleep together, even in societies in colder climates that have cradles<sup>21</sup> (Infants are taken out of the cradle during the night to sleep with the mother and others). It seems reasonable to suggest that mothers sleep most of the night with their infants because mothers in preindustrial societies usually breastfeed on demand.

American customs are somewhat unusual in that infants sleep alone rather than with others. Middle-class white American infants are unique cross-culturally in that they are not even in the same room as caregivers; they sleep in their own room. In all preindustrial societies that we are aware of, the infant is always in the same room as the mother and is usually sleeping with the mother and others. In some urban-industrial societies (e.g., England and Germany) there are separate mother-infant sleeping arrangements, but in several industrialized communities mothers and infants sleep in the same room (e.g., Japan, Korea, urban and rural Italy).<sup>22</sup>

American infants' sleep-awake patterns and night feedings are also distinct cross-culturally. For instance, Charles Super and Sara Harkness report that Kipsigis four-month-olds sleep just over twelve hours each day compared to about fifteen hours for U.S. babies of a similar age.<sup>23</sup> The longest sleep episode is about four-and-a-half hours for the Kipsigis babies, compared to eight hours for the U.S. babies. In the United States, the longest sleeping episode at one month is four hours, but by four months the longest episode is eight hours, while the Kipsigis babies sleep three hours maximum at one month and continue that pattern until the infant is eight months old. Interestingly, American pediatricians often encourage parents to get their infants to sleep through the night, and view the increased length of sleep as a behavioral indicator of the physiological maturation of the brain.<sup>24</sup> The differences between Kipsigis and American sleep patterns are not due to differences in maturation of the brain, but are due to very different cultural contexts: American parents make major modifications to get their infant to sleep through the night (e.g., placing the infant alone in a quiet room, reading bedtime stories and rocking to help the infant go to sleep, discouraging daytime sleep so the infant will sleep at night, etc.), a cultural

practice that is reinforced by pediatricians, whereas Kipsigis caregivers do not alter their activities to accommodate infants' sleep. If Kipsigis parents are tired and the infant is not asleep they will either give the infant to someone else or go lay down with the infant. Otherwise, the infant falls asleep when it wants to during parents' social activities. For Kipsigis, and in most communities around the world, there is little distinction between daytime and nighttime events.<sup>25</sup> In contrast, American husbands and wives often want to have time to themselves, so they make a concerted effort to get their infant to sleep; they read, sing, or rock the infant, have the infant get into pajamas, have an older infant brush his or her teeth, and have the infant get his or her favorite toy to sleep with. All of these bedtime routines are unusual in preindustrial societies, and to a lesser extent are unusual in other urban-industrial societies.

James McKenna and others suggest that aspects of American infants' sleeping arrangements may be in part responsible for some cases of Sudden Infant Death Syndrome (SIDS), also known as cot or crib death.<sup>26</sup> SIDS is the "sudden death of an infant or young child, which is unexpected by history, and in which a thorough postmortem examination fails to demonstrate an adequate cause of death."<sup>27</sup> The infant is healthy and normal but simply stops breathing, often in his or her crib. Infants between the ages of one month and one year are especially at risk for SIDS.

Recent biomedical studies have shown that when a mother (and/or others) and infant sleep together they communicate with and arouse each other throughout the night, often as the infant is trying to breastfeed.<sup>28</sup> There is a physical, emotional, and social dancing, or rhythm, between infant and caregiver that occurs during different levels of sleep during the night. If an infant stops breathing for a short period the mother or other caregiver is there to stimulate (by touch or by sound) the infant's breathing. Unlike infants in most cultures, American infants often sleep alone and are encouraged to sleep through the night, which means they go into a deeper sleep for a longer period of time and are not aroused during the night, which decreases the opportunities for others to stimulate their breathing if their respiration stops. This simplified overview of the complex issue of SIDS—about which little is known—points out the dramatic differences between American and preindustrial cultures' construction of infants' sleeping patterns and arrangements, and how we might be able to benefit from a cross-cultural understanding of this diversity.

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## Feeding Infants

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The cross-cultural patterns of holding, touching, proximity, and sleeping arrangements discussed previously are in large part adaptations or accommodations to cultural ideologies and practices regarding infant feeding. All preindustrial women breastfeed their infants, usually on demand when the mother is available.

!Kung infants typically feed three to four times an hour for two minutes per feeding session, with the longest interval between feeding averaging less than one hour (Konner and Worthman 1980). Among the Ganiij of New Guinea, young infants nurse about two times per hour for about three-and-a-half minutes per feeding session, with the longest interval between feeding sessions averaging less than one hour.<sup>29</sup> This "continuous" feeding is different from the Western pattern of "pulse" feeding, in which both feeding sessions and intervals between feeding are longer. American mothers breastfeed their two-month-olds several times a day, with an average of three-hour intervals between feedings.<sup>30</sup> Systematic studies of breastfeeding in several non-Western populations indicate that mothers breastfeed their young infants twenty to forty times in twenty-four hours. This contrasts with American women, who breastfeed or formula feed an average of 6.7 or 5.6 times, respectively, in 24 hours.<sup>31</sup> Even La Leche League parents, who advocate frequent breast-feeding, average only eleven feedings per day, which are separated by about one-and-a-half hours.<sup>32</sup>

Breastfeeding does not appear to be as frequent in horticultural societies as in foraging societies. Horticultural women may leave infants with sibling caregivers in the village or take a sibling caregiver to the field to watch the infants while they work. The horticultural mother is not around her infant as much as are the forager mothers; in foraging societies a young infant is almost always held by or in the lap of a caregiver.

The variation in the frequency of feeding and the intervals between feeding sessions is structured both by the infant's demands and the mother's activity. Nepalese women engaged in agriculture have feeding intervals twice as long as women engaged in animal husbandry, and women working in community work-groups rather than individually in agriculture have greater variability in nursing intervals. Women who watch ani-

mals have the opportunity to feed more frequently because they are sitting or walking slowly as they watch the animals, and women who are working alone in the fields can be more responsive to their infants compared to women working in a group.<sup>33</sup>

Women other than the mother are often allowed to nurse an infant; information on this topic shows that over 87 percent of 64 HRAF cultures permit women other than the mother to nurse an infant.<sup>34</sup> Women other than the mother nurse infants in particular contexts. Among the Efe, the natural mother is seldom the first to nurse her infant; the infant is nursed by another woman until the mother's true milk comes in.<sup>35</sup> Among the Aka, whoever is holding the infant may offer his or her breast to the infant (this includes fathers). In Oceania, infant adoption is common (20–25 percent), and the adoptive mother encourages the infant to suck until milk comes in so that she may relieve the natural mother of some of the breastfeeding.<sup>36</sup> Women sometimes die in childbirth, which necessitates locating an alternative lactating woman. Women other than the mother who nurse the infant in these different contexts are often related to the mother (e.g., her mother or sister). While a strong majority of cultures permit women other than the natural mother to nurse an infant, there are some cultures, such as the Gusii of Africa and the Kwaio of Oceania, that forbid other women to breastfeed their infants because they fear the other women will transmit illness through their milk.

Most women in non-Western cultures breastfeed their infants, but seldom is breast milk the sole source of an infant's nutrition. Women supplement their breast-milk (gruels in Africa, rice-water in southeast Asia, and herbal teas in Mesoamerica), often from the first days of the infant's life. In a SCCS study of supplemental feeding, mothers started supplemental feeding before 1 month of age in 36 percent of the societies, between 1 and 6 months in 31 percent of the societies, and after 6 months in 32 percent of the societies.<sup>37</sup> The women who started supplemental foods the earliest (before one month) were more likely to be from societies in which women are primary contributors to subsistence. When women's workload is high, they are more likely to start supplemental feeding earlier so the infant can be placed in the care of a sibling or other caregiver. Also, if a woman has difficulty breastfeeding, for whatever reason (not enough milk, illness, etc.), she does not hesitate to give the infant supplements or give the infant to another woman to nurse.

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## Response to Crying

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A sign of indulgence noted in many non-Western societies is the relatively quick response to infant crying or fussing. The standard ethnographic sample indicates that caregivers in 78 percent of the world's cultures generally provide a speedy and nurturant response to a crying infant. Field studies of infancy in non-Western cultures have documented just how quickly caregivers respond to crying infants: Efe caregivers provide a comforting response within 10 seconds of a fuss over 85 percent of the time at 3 and 7 weeks and over 75 percent of the time at 18 weeks, while !Kung caregivers respond within 10 seconds more than 90 percent of the time during the first 3 months and over 80 percent of the time at 12 months.<sup>38</sup> In general, the idea of leaving a baby to cry in order not to "spoil" him or her would be perceived as bizarre in most parts of the world. Response to infants' crying is generally much slower in Western cultures: American and Dutch caregivers, for instance, deliberately do not respond to infant crying 44 to 46 percent of the time during the first three months.<sup>39</sup>

Studies in Western societies consistently report a peak in crying frequency and duration in the first three months of infancy.<sup>40</sup> This general "peak" period of crying is supported by cross-cultural studies, but what is different in non-Western societies is the duration and total amount of crying. Infants in non-Western societies fuss just as frequently (about seventeen times per hour at three months) as infants in the West, but the overall cumulative duration of crying at any point in time is less than what is seen in Western societies.<sup>41</sup>

Studies in the West have also shown that combinations of carrying, rocking, placing the infant in an upright position, contact, and auditory stimulation reduce infant crying. These are, of course, common features of infant care in non-Western populations, which explains, in part, the lower duration of crying bouts.

The style of caregivers' responses to infant crying varies interculturally as well as intraculturally. One study found that Boston and urban Mexican mothers are most likely to respond to their four- and ten-month-olds' crying by talking to or looking at the crying infant, while Gusii mothers of Kenya are more likely to touch or hold their four- and ten-month olds when they start to cry.<sup>42</sup> The researchers interpreted the cultural differences in terms of Gusii mothers' ideology of soothing and minimizing infant arousal, in contrast to the Boston mothers' ideology of visual and vocal stimula-

tion and positive emotional arousal. This same study demonstrated that the more schooling a Mexican mother has, the more likely she is to talk to and look at her crying infant rather than hold her infant; mothers with less education were more tactile and less verbal. Fathers' schooling had no effect.

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## Indulgence and Independence

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One reason American middle-class parents—as well as pediatricians—give for not sleeping with their infants, not responding immediately to their infants' fussing or crying, not holding their infants all the time, and not breastfeeding on demand is that they want to train their infants to be independent and self-reliant; sleeping with infants or responding to every small fuss or cry will make infants dependent and clingy, they say. While self-reliance and independence or dependence are difficult to measure cross-culturally, my own impressions and comments by other cross-cultural field researchers suggest just the reverse.<sup>43</sup> For instance, in my own experience, Aka infants receive almost constant touching and holding and sleep with several people at night; Ngando infants receive somewhat less touching and holding than Aka infants and sleep only with the mother; and middle-class American infants get the least touching and holding and sleep alone. Aka children, in my estimation, are the most self-assured, independent, and secure; Ngando children are very confident and assertive but not as secure as Aka children; and middle-class American children, in my estimation, have the lowest self-confidence and are the most dependent on adults. More systematic research in this area would be useful.

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## Variability in Indulgence

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Why do caregivers in non-Western societies regularly hold, touch, and stay close to their infants, breastfeed their infants on demand, and respond quickly to infant fussing or crying so much more than caregivers in Western industrial societies? Robert LeVine suggests that infant and child mortality rates are important factors for understanding differences between preindustrial (called "agrarian" by LeVine) and urban-industrial infant caregiving practices.<sup>44</sup> About 20 percent of infants born in preindustrial societies die before reaching

12 months of age, while less than 1 percent of urban-industrial infants die during the same period.<sup>45</sup> LeVine suggests that preindustrial parents make the infant's survival and health their primary goal and consequently hold their infants almost constantly, breastfeed on demand, and attend immediately to an infant's fussing or crying. Urban-industrial parents, in contrast, do not have to worry as much about their infant's survival, and therefore do not focus on staying close to the infant to check on his or her well-being. Parents in urban-industrial societies make the infant's cognitive development their primary goal because of the importance of this development in urban-industrial life. One problem with this hypothesis is that foragers and farmers have similar infant mortality rates, yet foragers appear to be even more indulgent than farmers.

Another possible explanation is that people in preindustrial societies usually live in relatively dense social contexts; there are several alternative, often biologically related, caregivers who know the infant and know how to take care of infants around the house, camp, or village. Among the Logoli of Kenya, there are usually at least three people within ten feet of an infant at all times, and among the Aka with whom I work, essentially everyone in a camp of about twenty-five people is within ten feet of an infant at all times. Research among the Kenyan Logoli, Samoan, and Indian cultures has demonstrated that infants in large households are held more often and receive quicker responses to fussing than infants in smaller households.<sup>46</sup> This explanation for intracultural variability is also useful for explaining cross-cultural variability; for instance, foragers like the !Kung, the Efe, and the Aka are especially indulgent and have especially high-density living conditions, whereas farmers are less indulgent and have lower-density social contexts.

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## INFANT CAREGIVERS

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Mothers are the most important caregiver for infants in over 80 percent of the world's societies.<sup>47</sup> Mothers are more likely than any other individual to feed, clean, hold, or interact with infants. But this does not necessarily mean that mothers provide the majority of infant care. There are several cultures in which it is not unusual for women other than the mother to nurse the infant, or in which other individuals (as a group) provide substantial caregiving.

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## Multiple Caregiving

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*Multiple caregiving* refers to situations where several people of both sexes and various ages help the mother with infant care. This type of caregiving is especially common in tropical forest hunting-gathering populations. Observational studies of Aka and Efe hunter-gatherer camp settings show that 4-month-old infants are held by mothers only 40 percent of the time, are transferred to different people 7 to 8 times per hour, and are held by 7 to 14 different individuals during 8-hour observation periods.<sup>48</sup> Qualitative descriptions of multiple care are also common in ethnographies of tropical forest foragers; for instance, Jean describes multiple care among the Philippine Agta hunter-gatherers as follows:

The infant is eagerly passed from person to person until all in attendance have had an opportunity to snuggle, nuzzle, sniff, and admire the new-born.... A child's first experience, then, involves a community of relatives and friends. Thereafter he enjoys constant cuddling, carrying, loving, sniffing, and affectionate genital stimulation.<sup>49</sup>

The frequency of multiple care in tropical forest populations decreases rather dramatically with an infant's age. By eight months of age, Efe and Aka infants receive substantially less care from others and relatively more care from the mother. For instance, 1- to 4-month-old Aka infants in forest camps are held by "others" 47 percent of the time, while 8- to 12-month-olds are held by "others" only 14 percent of the time. This decrease in multiple care with age has also been documented for the Efe. The decrease in multiple care is, in part, a consequence of infant social-emotional development. Older infants begin to show a preference for and attachment behaviors toward some people and avoidance behaviors toward others. The latter feature is called the development of "stranger anxiety" in psychological attachment theory. The Aka and the Efe seldom have "strangers" in camp (except for the occasional anthropologist), but older Aka and Efe infants begin to demonstrate preferences for or against particular others by crying for or crawling to or away from a particular person.<sup>50</sup>

Multiple care is not limited to foraging cultures. Infants in rural Italy spend 64 percent of their time with their mother and with other people; these infants are alone with their mother only 31 percent of the time.<sup>51</sup>



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## Polymatric or Sibling Caregiving

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The term *polymatric* was first utilized to describe societies in which a few people other than the mother provide a substantial amount of infant care.<sup>52</sup> These “helpers at the nest” are often older female siblings of the infant and may provide over 90 percent of the infant care not provided by mothers.<sup>53</sup> Sibling, or polymatric, caregiving is common in most societies of the developing world and in poor communities in the urban-industrialized world.

Sibling caregivers often provide more than 50 percent of care to older infants. Observational studies among the Fijians and the Kikuyu and Logoli of East Africa indicate that older female siblings do not provide much caregiving during infants’ first month or two, but when infants are 7 to 12 months of age siblings provide over 55 percent of infant holding or caregiving.<sup>54</sup> Sibling caregiving usually occurs while the mother is engaged in some economic or domestic activity, and the mother is usually nearby to monitor or assist if the sibling caregiver has problems. The younger (generally four to nine years of age) rather than the older daughter of the mother most commonly takes on the role of sibling caregiver, both cross-culturally as well as in the United States.<sup>55</sup> These 4- to 9-year-old female caregivers may spend more than 25 percent of their day providing infant care.<sup>56</sup> If an older sister is not available an older brother is designated as a regular caregiver for an infant.

In the United States, sibling caregiving is especially common in economically disadvantaged African-American and Hawaiian communities. Sibling care allows these families to cope with social and economic crises and to increase the number of adults who can be economic contributors to the family.<sup>57</sup> Sibling caregiving is especially important for single mothers who work outside of the home.

Regular sibling caregiving is common when women have several children and a high workload and men are not involved in childcare. For instance, sibling care is pervasive in rural sub-Saharan Africa, where women have six to eight children during their reproductive careers and are responsible for all of the following tasks: collecting water and firewood; domestic chores (e.g., cleaning in and around the house, washing all clothes); planting, weeding, and harvesting all food crops, often contributing 80 percent or more of the food consumed by the family; and providing all infant and child care. Men are responsible for protection of the family, cash crops, and community decision-making. In addition to using sibling care

these mothers are also likely to start solid-food supplements for their infants months earlier than mothers in cultures where women's workload is lower.

Poor single mothers in urban-industrialized communities who work outside the home also have extremely high workloads and are very likely to utilize sibling caretakers. Urban-industrialized working mothers who are better off economically utilize day-care to assist with infant care.

Sibling and multiple caregiving are common in non-Western societies and in poor urban-industrialized communities. Children growing up in these communities get experience in infant caregiving before they become parents themselves. This is quite different from the situation of most middle-class Euroamericans, who have little or no first-hand experience with infants until they have their own.

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## Fathers as Caregivers

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Fathers in many communities do not provide much direct care to infants. Cross-culturally, fathers consistently provide less direct care to infants than do mothers, but fathers do have frequent or regular close emotional and physical proximity to their infants in over half (54 percent) of the world's societies.<sup>58</sup> Relatively high levels of father involvement are generally associated with one or more of the following: hunting and gathering subsistence, men and women providing near-equal contribution to subsistence, lack of accumulable resources (e.g., land or cattle), monogamy or limited polygyny, lack of warfare, low population density, or island community. African Aka foragers are a classic example of a community with highly involved fathers: Their community has all of the characteristics listed above, and Aka fathers spend over half of their day holding or within arm's reach of their infants and are more likely than mothers to hug and kiss their infant while they are holding them.<sup>59</sup> Father caregiving to infants is less common in farming and pastoral populations where there are accumulable resources, polygyny, warfare, and high population densities.

Father caregiving is increasing in white middle-class urban-industrial populations, especially as more mothers work outside the home, but the amount of fathers' care is still substantially less than mothers' care and less than what is found in several non-Western societies.

Today, direct care by fathers tends to be valued in many parts of the industrialized Western world, but this does not mean that men in cultures where men provide infrequent direct care are “bad” fathers. In much of the developing world and in small-scale societies, fathers are valued for being protectors and educators of their children rather than for being direct caregivers. Formal education and state-level military institutions in the developed parts of the world have diminished the importance of fathers’ roles as educators and protectors.

Numerous studies in the United States and Europe have shown that fathers’ care of infants is characterized by vigorous rough-and-tumble play. American fathers’ vigorous play with infants is evident three days after birth and continues throughout infancy. Michael Lamb has hypothesized that this vigorous play is the means by which infants become attached to fathers (infants become attached to mothers through more frequent caregiving), and the first means by which infants learn social competence (i.e., how to deal with different kinds of people).<sup>60</sup> Research in several non-Western cultures, such as the Aka, Indian, and Chinese Malayan cultures, questions the universality of this characterization of the father’s role, and finds no differences between mothers and fathers in vigorous play with their infants.<sup>61</sup>

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## *INFANT MOTOR, MENTAL, AND EMOTIONAL DEVELOPMENT*

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Most cross-cultural studies of infant motor, mental, and emotional development have been conducted by psychologists. This reflects a long-standing interest in Western psychology in developing formal tests to evaluate motor (e.g., rolling over, sitting, and walking), mental (e.g., object permanence, visual attentiveness) and emotional (e.g., attachment to others) milestones. The formal tests are often based upon a theoretical orientation of well-known Western psychologists such as Piaget or Gesell, and focus on the universal aspects of infant development. The test are often difficult and sometimes inappropriate to administer in non-Western settings (e.g., use of bright colored cubes). I give only a brief overview of these studies and refer the reader to extensive reviews.<sup>62</sup>

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## Motor Development

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Infants in relatively traditional African and Asian societies develop motor skills (e.g., sit and walk) earlier than infants in American and European societies. Standardized tests indicate that infants in several African societies (e.g., Yoruba, Kikuyu, Kipsigis, !Kung, Baoule, Buganda) sit and walk a month or so earlier than American infants, and at three months of age Nepalese and South Indian infants are above U.S. standards for motor development.

The relatively early development of these motor skills is generally attributed to cultural beliefs and practices. Several of the African cultures believe it is important to train their infants to sit and walk and, consequently, spend time each day helping infants to sit or try to walk. Also, as mentioned earlier, infants in much of the non-Western world are usually held or carried much of the time. Touching provides tactile stimulation, and carrying the infant on the back or side requires the infant to develop some thigh and trunk muscles, especially in comparison to American infants who are placed in infant seats or transporting devices. American infants are much more likely to lie down, even while they are awake, than are African infants. American infants in Boston, for instance, spend 30 percent of their time lying down while they are awake, while Kipsigis infants from East Africa spend only 10 percent of their time lying down while awake.<sup>63</sup> Melvin Konner's work with the !Kung also suggests that carrying infants provides them with sensorimotor stimulation, which has clearly been linked to enhanced motor development.<sup>64</sup> It is interesting to note that the African cultures do not train for or encourage crawling, and this developmental milestone does not occur any earlier than among U.S. infants.

Infants in some societies have slow motor development in comparison to U.S. infant standards. Hillard Kaplan and Heather Dove report that Aché do not walk until they are almost two years of age, due in part to caregivers discouraging infants from crawling or moving away from them because of potential forest dangers (e.g., snakes, insects) in their very mobile camps.<sup>65</sup> The Solomons report relatively slow motor development (walking, in particular) in Mexico, in part due to mothers discouraging independent activity of infants on cold or dirty floors.<sup>66</sup> Relatively low levels of stimulation and maternal concern for keeping babies calm or quiet have been related to slow motor development in Mexico, Guatemala, and Japan.

## Mental Development

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Various formal “baby” tests have been developed to measure mental development; these tests generally indicate that healthy infants with “culturally normative care [e.g., not institutionalized] display critical cognitive development at about the same time the world over.”<sup>67</sup> Babies from wealthier, better-educated families in the United States and India generally do better on these tests than babies from poor and uneducated families. Infants in African cultures also show somewhat higher scores on some of these mental tests, but the advance is generally less than that found with the motor development, and these slight advances generally disappear by the second year.

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## Social-Emotional Development

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Cross-cultural studies of infant social-emotional development have focused on attachment theory. John Bowlby indicates that an infant’s crying, fussing, smiling, and clinging are all biological mechanisms utilized to maintain proximity to the mother.<sup>68</sup> This bonding process promotes physical proximity between mother and infant and is seen as essential to an infant’s developing a secure sense of self and trusting relationships with others later in life. To measure the level of mother-infant attachment psychologists developed a formal test called the “strange situation,” which focuses on measuring attachment behaviors (e.g., crying or reaching for the mother) as a mother leaves and then rejoins her infant in a laboratory room.

The cross-cultural interest in attachment theory has demonstrated that infants around the world clearly begin to show preference for particular others (i.e., exhibit attachment behaviors such as crying or reaching for someone) and “stranger anxiety” toward others at approximately eight to fifteen months of age. But cross-cultural studies have also questioned some of the basic tenets of this theoretical orientation. The theory assumes monotropic attachment (one attachment figure in infancy, usually the mother), while the studies that have already been mentioned in the multiple caregiving and sibling caretaking sections report multiple attachments. Babies in other parts of the world demonstrate attachment to three or four people.<sup>69</sup> Nancy Scheper-Hughes describes a situation in a poor sec-

tion of a Brazilian town where mothers have cultural mechanisms to place emotional distance between themselves and their infants, perhaps reflecting the high infant mortality rate (over 25 percent of infants die before 12 months of age).<sup>70</sup> There is some “selective neglect” of sick or weak infants who mothers think will be unable to face life in the shanty town. Scheper-Hughes seriously questions the importance of strong mother-infant attachment, especially for predicting social-emotional development later in life, as well as the proposed biological basis for these behaviors as suggested by Bowlby. She has worked in this Brazilian town for over twenty years, and describes infants who were not strongly bonded to their mothers during infancy but who developed into self-assured adults. Scheper-Hughes suggests that attachment theory is “adaptive to the modern, bourgeois nuclear family but not to the high-pressure demography of high childhood mortality and high (compensatory) fertility found in early modern Europe and in many pockets of the so-called Third World today.”<sup>71</sup> Attachment theory is adaptive in the parts of today’s world where families have developed a strategy of having a few babies and investing heavily in each one.

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## CONCLUSION

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This chapter has provided a brief overview of cross-cultural studies of infancy. The chapter demonstrates how certain Western cultural practices and beliefs regarding infancy make sense in the American and European contexts but are not universal or natural. “Natural” childbirth, mother-infant bonding, fathers’ rough-and-tumble play, and getting an infant to sleep through the night are important practices in a contemporary American cultural context, but are infrequent or insignificant features of infant care in other parts of the world. This chapter also provides examples of American and European infant caregiving practices that are relatively unique cross-culturally: Parents lack infant-care experience at the time of marriage; caregivers seldom hold or touch infants; caregivers let infants cry for relatively long periods of time; infants sleep in their own room; and infants receive relatively little multiple or sibling caregiving.

Several explanations of cultural diversity were offered. Parental ideology was utilized to explain different styles of mother-infant interaction and early motor development of babies in several African

cultures and late motor development in some Latin American cultures. The nature of a mother's workload was shown as an important factor in understanding breastfeeding intervals, timing of introducing supplementary foods, mothers' style of interaction with infants, and amount of sibling caregiving. This explanation is consistent with the theoretical work of Beatrice Whiting, who suggests that culture can be viewed as a "provider of settings" for infant and child development.<sup>72</sup> Finally, infant mortality rates were identified as important factors in why caregivers in many non-Western cultures spend so much time holding infants, respond immediately to fussing or crying, and breastfeed on demand. Parents in many non-Western cultures are concerned with the physical survival of their infants and keep their infants close, whereas in the United States and other industrial cultures infant mortality rates are substantially lower and parents are less concerned about survival and more interested in their infants' intellectual development.

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- Hewlett, Barry S. *Intimate Fathers: The Nature and Context of Aka Pygmy Paternal Infant Care*. Ann Arbor, MI: University of Michigan Press, 1991. This study examines infancy among the Aka hunter-gatherers of central Africa. Aka fathers provide more direct care to their infants than fathers in any other known culture, and their style of interaction with their infants is different from American white middle-class fathers (little vigorous play).
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