

IN: THE ROLE OF THE FATHER IN
CHILD DEVELOPMENT 4TH ED
EDITED BY: MICHAEL LAMB
WILEY / 2004

CHAPTER 7

Fathers in Forager, Farmer, and Pastoral Cultures

BARRY S. HEWLETT

THIS CHAPTER summarizes and evaluates recent research on the roles of fathers in child development in hunting-gathering (also known as foraging), simple farming, and pastoral (i.e., heavy reliance on cattle, camels, goats, etc.) communities around the world. In the past, these societies were referred to as "preindustrial," "preliterate," or "traditional" societies, but these terms are somewhat derogatory or imply that the people were in some way or another less intelligent or complex than peoples in modern, literate, and industrial societies. These cultures are characterized by their relatively low population densities and minimal amounts of social and economic stratification. Anthropologists have conducted most of the research in these communities, but some developmental psychologists have also contributed to the literature (e.g., Harkness & Super, 1992; Morelli & Tronick, 1992; Nsamenang, 1992).

In this chapter, I review three types of studies conducted on fathers in foraging, farming, and pastoral cultures: (a) evolutionary studies from human behavior ecology, (b) large (i.e., more than 100 cultures) cross-cultural studies of father involvement, and (c) detailed ethnographic case studies of fathers. Evolutionary studies are considered first because they examine some of the biological or reproductive bases of father involvement. Evolutionary and ethnographic research with foragers, farmers, and pastoralists are similar in that they are usually long-term field-based studies of one or a few cultures. Ethnographers are more eclectic in their theories and methods, using qualitative and quantitative methods, whereas human behavioral ecologists use evolutionary theory and rely almost exclusively on systematic behavioral observations (i.e., they are interested in what fathers do rather than what they say).

This chapter also emphasizes two general theoretical orientations: *adaptationist* and *cultural*. Adaptationist studies assume that fathers' roles are functional in that they are adapting to particular social, economic, reproductive, or demographic conditions or contexts. By contrast, researchers who utilize a cultural orientation assume that symbols, such as language, schema, ideology, or culture cores (i.e., configurations of beliefs

and practices that are maintained by conservative mechanisms of cultural transmission), dramatically influence fathers' roles. Most researchers who utilize this theoretical orientation study the parental or cultural ideologies regarding fathers. Only a few researchers have emphasized the culture core and cultural transmission approach. This latter approach assumes that the distribution of cultural beliefs and practices (in this case, those regarding fathers' roles) are influenced by demic diffusion—people taking their beliefs and practices with them when they move or expand to a new area. For instance, English and French peoples expanded during the period of colonialism and took their beliefs and practices regarding fathers with them even when they moved to dramatically different natural and social environments. Their beliefs and practices were maintained through conservative cultural transmission. From this perspective, fathers' roles may or may not be adaptive. This is a simple theoretical dichotomy, and probably no researcher feels that fathers' roles are influenced by only one suite of factors. The fact is, however, that researchers usually have a limited time to conduct their research and thus tend to emphasize one or the other theoretical orientation.

ISSUES, CONCEPTS, AND TERMS

Why should we care about fathers in these cultures? We cannot understand fathers' roles in every ethnic group, so why not concentrate on large cultures, such as the Chinese or Danes, with millions of members rather than on cultures with a few thousand members?

First, most studies of fathers described in this volume were conducted in cultures with complex levels of hierarchy, inequality, and capitalism (i.e., fathers living in global economic cash economies). Some studies are cross-cultural, but the fathers in these groups are similar to middle-class Anglo-American families in that socioeconomic inequality and the material accumulation of wealth characterize and permeate their daily lives. Differences certainly exist between stratified cultures (e.g., some are much more sociocentric than others), but they share inequality in daily life. Second and along the same lines, most class-stratified societies are governed by strong nation-states. This means that fathers in most of the studies in this volume live in situations where their roles as protectors and educators of their children are diminished because the state provides a police or military force as well as some level of formal education. Consequently, research on fathers in stratified cultures focuses on their economic and caregiving roles. This emphasis on fathers as caregivers and providers also exists in studies of foragers and farmers, in part because research questions emerge from studies of fathers in urban-industrial cultures and researchers working with foragers and farmers are influenced by concerns in their own culture. The cultures described in this chapter live in nation-states and may be affected by laws in their respective countries, but in general they receive little protection or formal education from the nation-state. This does not mean that studies of contemporary stratified cultures are not relevant to understanding fathers' roles, but that there are limitations and important contexts to keep in mind, especially when universal or general features of fathers' roles are proposed.

Third, theoretically and conceptually, it seems that if we want to understand the nature of fathers' roles, we should consider fathers' roles in contexts that characterized most of human history. Global capitalism has been around for about 200 years, class stratification (chiefdoms and states) about 5,000 years, simple farming and pastoralism about 10,000 years, and hunting-gathering at least hundreds of thousands of years

(at least 90% of human history). An understanding of fathers' roles in hunting and gathering societies seems to be especially important for understanding the nature of fathers' roles; consequently, several of the studies reviewed in this chapter focus on foragers.

Finally, males in class-stratified cultures usually do not learn about child caregiving until they have their own children. They acquire their knowledge from specialists (e.g., pediatricians, school counselors), how-to books, friends (because they seldom live near family members), or imagined others, such as images of men on TV whom they want to emulate. By contrast, men in the studies described in this chapter were frequently around, if not caring for, children while they were growing up (i.e., men's parenting knowledge is based on regular observations or experiences with children).

Before the three types of studies and two theoretical orientations are examined, the nature of *culture* is discussed because it is used often in this chapter and volume. Minimally, culture is defined as shared knowledge and practices that are transmitted non-biologically generation to generation. It is symbolic, historic, and integrated and dramatically influences how we perceive and feel about the world around us. Regular interactions with others with similar schemas and styles of interaction (called *internal working models* by Bowlby, 1969) contribute to the emotional basis of culture. The emotional basis of culture often leads us to feel that our own ways are natural, universal, and usually better than are those of others. In regard to understanding fathers' roles, it means we are likely to have ethnocentric views of what is a good or bad father or to have strong feelings about the kinds of father research that should be conducted. Most middle-class parents, developmental psychologists, and policy agencies in contemporary urban, industrial cultures feel very strongly that regular and frequent father caregiving is important for healthy child development. National programs give the impression that regular direct care by fathers is natural and "good for all." Several positive benefits for active fathers in contemporary middle-class U.S. families may exist (i.e., families are more isolated from other families, so fathers' assistance may be important for several reasons), but cross-cultural studies indicate dramatic variability in the importance of direct father care. In some cultures, such as the Aka foragers of central Africa, father care is pervasive and sensitive, while in most African farming communities fathers provide almost no direct care to infants and young children. Children in both groups grow up to viable, competent, and self-assured individuals.

A classic example of how feelings impact our expectations of fathers comes from U.S. childbirth practices, in which fathers are expected to have an active role in so-called natural childbirth. This active role is far from natural and universal, as cross-cultural studies indicate that fathers seldom have an active role in childbirth, and in no culture do fathers direct the birthing process (Hewlett & Hannon, 1989). It may be important in middle-class U.S. families, where fathers are seldom around the child after the birth, but in most forager and farmer cultures, fathers are frequently around their children even though they may not be active caregivers.

EVOLUTIONARY STUDIES OF FATHERS

Evolutionary studies evaluate how a father's or a child's reproductive fitness influences his or her interactions. For instance, one hypothesis, discussed later, is that if a man knows he is the biological father of a child, he is more likely to invest time and energy in his children than if he is not the biological father. It is not in his reproductive

interests to invest in nonbiologically related children. Evolutionary research is briefly reviewed because researchers have conducted several studies with foragers and simple farmers, and these provide one example of an adaptationist approach to explaining fathers' roles.

One consistent finding in evolutionary studies of men during the past 10 years of research is that by comparison to mothers, a good part of fathers' time and energy in direct care or providing of children may be mating effort rather than parenting effort. It was long thought that fathers were important providers and caregivers to their own biological children and that paternity certainty was a key factor for understanding father involvement (Lancaster, Altmann, Rossi, & Sherrod, 1987). Fathers would not be acting in their best reproductive interests if they cared for or provided food for children who were not their own. Biological fathers were hypothesized to be important providers, protectors, and caregivers. Evolutionists started to question this hypothesis when nonhuman primate studies indicated that males in species with low paternity certainty (e.g., multimale species where most adult males have sex with females in estrus) were more likely to provide direct care to infants than were males in species where paternity certainty was much higher (dominant male with harem, such as gorillas; Smuts & Gubernick, 1992; Van Schaik & Paul, 1996), child survival was not linked to having a father in several hunting-gathering cultures (Marlowe, 2000), and males in hunting-gathering communities were found to give most of the game they captured to other families rather than their own (Hawkes, O'Connell, & Blurton Jones, 2001). The evolutionary idea is that fathers are interested in showing off or signaling their abilities to parent to potential future mates. Fathers may also invest highly in stepchildren, but only as long as they are with the mothers (Kaplan, Lancaster, Bock, & Johnson, 1995).

The emphasis on mating rather than parenting effort is consistent with developmental psychology and sociological studies that demonstrate that fathers extrinsically value parenting whereas mothers intrinsically value parenting (LaRossa & LaRossa, 1981) and fathers are more likely to engage in direct caregiving in public places (e.g., playgrounds and grocery stores; Mackey & Day, 1979) rather than in the privacy of their home. But this does not mean that paternity certainty does not influence father-child relations. Marlowe (1999) indicated that Hadza hunter-gatherer fathers provided more direct care to genetically related children than to step-children, but that fathers provide even less care to biological children when their mating opportunities increase, such as when the number of reproductive women in camp increases.

SUMMARY

Human behavioral ecological studies of foragers and farmers suggest that men and women have different reproductive interests and that what may appear to be father involvement in part functions to attract new mates or keep an existing one. Human behavioral ecology is one example of an adaptationist approach to father involvement.

CROSS-CULTURAL STUDIES OF FATHER INVOLVEMENT

Several cross-cultural studies have been conducted to identify factors that influence the level of father involvement. Many researchers utilize precoded father involvement data on hundreds of cultures. Anthropologists who write general ethnographies,

which are detailed descriptions of one culture, often describe a few things about fathers' roles. Anthropologists, such as Barry and Paxson (1971), have reviewed hundreds of these ethnographies and qualitatively coded the level of father involvement and a variety of other aspects of infant and child development. Coded ethnographic samples include the Ethnographic Atlas (EA; over 1,000 cultures), the Human Relations Area Files (HRAF; over 300 cultures), and the Standard Cross-Cultural Sample (SCCS; 186 cultures). Most studies of fathers utilized the SCCS. The majority of cultures in these samples are hunter-gatherers, simple farmers, and pastoralists. An advantage of the cross-cultural studies is that father involvement in many societies can be systematically compared and analyzed. Comparing father involvement in only two or three cultures can be problematic because of the potential bias is the selection of cultures. One problem with these large studies is that the coding of father involvement is often based on a few descriptive sentences about fathers in a particular culture. The coding also masks all of the variability that often exists *within* a culture.

Given these limitations, the research has identified factors associated with high father involvement: lack of material accumulation, such as land, cattle, or money (Goody, 1973; Hewlett, 1988); high female contribution to the family diet (Katz & Konner, 1981); regular cooperation and participation of husband and wife in economic, domestic, and leisure activities (Hewlett, 1992); low population density (Alcorta, 1982); infrequent warfare (Katz & Konner, 1981); and infrequent polygyny (Katz & Konner, 1981).

All of these factors are more likely to occur in hunting and gathering societies rather than among farmers and pastoralists. Hunter-gatherers are mobile, often moving 5 to 20 times a year. They can accumulate only so much material wealth because they must carry it with them. Hunter-gatherers also tend to practice prestige avoidance, that is, doing anything not to draw attention to themselves. They have a variety of other cultural mechanisms, such as rough joking and demand sharing, that prevent accumulation, inequality, and drawing attention to oneself (Hewlett, 1991). Hunter-gatherers also share food and child care more extensively than farmers or pastoralists, as they often give away 50% to 80% of the foods they collect during the day. Population densities are lower in part because of their reliance on wild food. Warfare is less common because there are fewer material resources to defend.

Farmers and pastoralists, on the other hand, generally do what they can to accumulate more wealth (e.g., land or cattle). Generally, it is the males who accumulate the wealth, and this limits female access to resources necessary for survival and reproduction. The accumulated resources, such as crops or cattle, also need to be defended, so lineages and clan structures develop to defend resources. Both of these factors lead to greater male control ideologies and higher frequencies of polygynous marriages, even though women may contribute the majority of the calories to the diet. This is especially true in simple farming communities. Many women may be interested in marrying the same man because he controls many resources important to her and her children's survival. By comparison to foragers, population densities are somewhat higher, warfare is more common, and husband and wife do fewer activities together.

Marlowe (2000) conducted a cross-cultural study of paternal investment and confirmed many of the findings just described above. Table 7.1 summarizes his results. The study provides actual cross-cultural coding scores and tests of significance, but Table 7.1 lists results only. His study is consistent with the previous cross-cultural studies of fathers, but it is more detailed than were previous studies. For instance, he

Table 7.1
Modes of Production and Subsistence and Fathers' Roles

Mode of Production	Wealth Variation	Residence	Father's Direct Care	Father's Contributions to Family Diet	Marriage System
Hunter-gatherers	None	Multilocal	High	Moderate/high	Monogamy
Horticulturalists	Low to moderate	Patri- or matrilocal	Moderate	Low	Polygyny
Pastoralists	High	Patrilocal	Low	Very high	Polygyny
Agriculturalists	Very high	Patrilocal	Low	High	Polygyny
Industrial states	Very high	Neolocal	Moderate	Moderate	Monogamy

Note: Horticulture involves simple hoe farming, and agriculture refers to intensive irrigation or plow farming.
Source: Modified from Marlowe (2000, p. 49).

demonstrates that fathers' direct care is lowest in pastoral and agricultural (intensive farming) cultures rather than in horticultural (simple farming) cultures.

The studies mentioned thus far emphasize functional or adaptationist explanations (e.g., related to cultures' modes of production) for father involvement. Most research tests functional hypotheses, but it is important to point out that father involvement is influenced also by a culture's demic diffusion and the nature of cultural transmission and acquisition. Cultures connected by history are more likely to have similar levels of father involvement. For instance, Table 7.2 summarizes the average father involvement scores from various regions of the world. Regional grouping is based on Burton, Moore, Whiting, and Romney's (1996) analysis. Father involvement is lowest in African cultures, while it is highest in Southeast Asian and Pacific Island cultures. Cultures are generally within a particular region because they share a particular history and demic diffusion (i.e., a particular culture expanded and differentiated to new cultures within the region, such as the expansion of Bantu-speaking peoples in Africa). Cultures that share an expansionist history (diaspora) often share a *culture core*—a set of values, schemas, and behaviors—that is conservatively transmitted generation to generation. Recent studies have shown that many aspects of kinship and family life are more related to demic diffusion than to cultural diffusion (i.e., acquiring cultural beliefs or practices from neighbors) or natural ecology (Hewlett, de Silverti, & Gugliemino, 2002). The implication is that fathers' roles are part of a culture core in a particular region. One must be cautious with the data in Table 7.2 because the cultures placed within a region may have divergent histories. For instance, African cultures have the lowest average father involvement, but African hunter-gatherer groups, such as the !Kung and Aka, have very separate histories from that of the Bantu groups and are very involved fathers. The average score in Table 7.2 includes hunter-gatherers, and if omitted, the average involvement score in Africa and other regions with hunter-gatherers would decline.

The previous discussion of father involvement in various regions of the world points out that culture history, demic diffusion in particular, is an important factor for understanding cultural beliefs and practices regarding fathers' interactions with children. Culture cores are often maintained by conservative mechanisms of cultural transmission and acquisition. That is, these aspects of culture are transmitted early

Table 7.2
 Father Involvement with Infants in Various Regions of the World

Region of the World	Number of Cultures Evaluated	Mean Score	Proportion of 4-5 Scores in the Region
Sub-Saharan Africa	22	2.40	0.09
Middle Old World	12	2.87	0.33
North Eurasia and Circumpolar	12	3.17	0.25
Southeast Asia and Pacific Islands	22	3.60	0.55
Australia, New Guinea, Melanesia	12	3.42	0.50
Northwest Coast	7	3.29	0.43
Northern and Western North America	7	2.71	0.00
Eastern Americas (includes North and South America)	16	3.05	0.44
Mesoamerica, Central America, and Andes	9	3.22	0.33

Note: The mean score is the average from Barry and Paxson's (1971) coding, where a 1-3 score means the father is never, seldom, or occasionally proximal to the infant and 4-5 means a father is in regular or frequent proximity.

within the family and immediate community. Before mass media such as radios, TVs, and the Internet were available, most beliefs and practices regarding child care were transmitted and acquired within the family. This form of transmission leads to highly conserved elements of culture. As a group of people migrates and expands, many elements of culture are conserved even though the natural and social environment may have changed. On the other hand, once the mass media are in place, cultures can change quite quickly.

SUMMARY

An analysis of cross-cultural studies on fathers indicates that the level of father involvement is influenced primarily by two general forces: (a) a web of factors associated with mode of production and subsistence (Hewlett, 1991; Katz & Konner, 1981; Marlowe, 2000) and (b) common culture ancestry and diaspora (i.e., via demic diffusion and conservative cultural transmission). The first assortment of factors suggests that paternal roles are adaptive to particular social, economic, reproductive, and demographic settings, whereas the second configuration of factors suggests that fathers' roles with children have more to do with the history-diaspora and transmission of a particular culture and that fathers' roles may or may not be adaptive.

ETHNOGRAPHIC STUDIES OF FATHERS

Fathers are seldom the focus of ethnographic studies, but in some cases ethnographers have emphasized the study of fathers in order to investigate particular hypotheses. Few detailed ethnographic studies of fathers exist, but by comparison to the cross-cultural studies, they are better able to evaluate the complex web of relationships re-

lated to fathers' roles. They can also be limiting (e.g., they focus on father involvement and neglect fathers' roles as protector or provider) because they evaluate a limited number of hypotheses. Ethnographic studies examined include my own study of Aka hunter-gatherer fathers of central Africa (Hewlett, 1991), Beckerman and Valentine's (2002) study of farming-fishing fathers among the Bari and other cultures of South America, and Harkness and Super's (1992) study of agropastoral Kipsigis fathers of East Africa. The Aka are known for the high level of father involvement, Kipsigis for their lack of father involvement, and the Bari and other South American cultures for their beliefs and practices regarding multiple fathers.

INTIMATE FATHERS

My work (Hewlett, 1991) with infants (3–18 months) among Aka foragers of Central Africa evaluated Lamb's (1981) hypothesis regarding the role of rough-and-tumble play in an infant's attachment to his or her father. The prevailing hypothesis was, and often still is, that infants become attached to their fathers in part due to their vigorous play and interactions. Infants become attached to mothers via their regular and sensitive care, whereas fathers, who are around less frequently, develop attachment with the infant through vigorous rough-and-tumble play. Studies in urban industrial societies around the world indicated that vigorous play was a distinctive feature of fathers' versus mothers' style of interaction with infants (see chapter by Lamb & Lewis, this volume, for further details). Unlike fathers in urban-industrial cultures, Aka fathers were frequently with their infants (i.e., holding or within an arm's reach of their infants 47% of the day) and rarely engaged in vigorous play with their infants. Aka fathers engaged in physical play only once in 264 hours of systematic naturalistic father and infant focal observations. Aka fathers were also more likely to show affection (i.e., kiss, hug) an infant while holding than were mothers.

I suggested that Aka fathers were not vigorous because they intimately knew their infants through their extensive care. Because Aka fathers knew their infants so well, they did not have to use vigorous play to initiate communication or interaction with their infants. They could initiate communication and show their love in other ways. Infants often initiated communication, and Aka fathers knew how to read and understand their infants' verbal and nonverbal (e.g., via touch) communication. Fathers (or mothers) who are not around their infants are less likely to be able to read and understand infant communication and therefore more likely to initiate communication, often with the use of physical stimulation and play. Aka fathers are often around their infants because men, women, and children participate together in net hunting. Women are active in and important to net hunting (Noss & Hewlett, 2001), and husband-wife communication and cooperation are key to hunting success. Net hunting contributed to regular husband-wife cooperation and fathers' intimate knowledge of their infants.

Although Aka are generally very involved fathers, there is remarkable intracultural variability. Some Aka fathers held their infants 2% of the time, whereas others held their infants about 20% of daylight hours. Also, not all "pygmies" or hunter-gatherers of the African rainforest have highly involved fathers. Efe hunter-gatherer fathers of the Democratic Republic of the Congo held their infants 2.6% of the time in the camp setting in comparison with 22.0% of the time among the Aka fathers (S. Winn, 1989, personal communication). Bailey (1991, p. 171) found that Efe men actively engaged

in child care only 0.7% (about 5 minutes per day) of daylight hours and indicated that "strong father-child attachments among the Efe were uncommon." Efe fathers were also not the secondary or even tertiary caregivers of their infants; several other females (older siblings, grandmother, mother's sister) provided more care than did fathers. Efe differ from Aka in several ways: Efe do not cooperatively net hunt (men hunt with bows and arrows or small traps), Efe spend less time in the forest, and very high infertility rates exist, so there are many other adult women without children available to help with child care.

DISTANT FATHERS

Harkness and Super (1992) conducted a comparative study of East African Kipsigis and Anglo-American middle- to upper-class fathers and their infants and young children (0–4 years). Kipsigis fathers were somewhat more likely to be present with their infants during the day than were U.S. fathers (35% vs. 24%), but Kipsigis fathers never engaged in direct caregiving during the first four years of the child's life, whereas U.S. fathers provided 13% to 17% of the child's direct care. Kipsigis fathers never fed, dressed, bathed, or carried the infant outside the house. Kipsigis believe that the infant can be damaged by the strength of the father's gaze and that the father's masculinity can be compromised by the dirtiness of the infant. When fathers were present with their infants, Kipsigis and U.S. fathers' activities were quite different. When present, U.S. fathers were actively involved with their children 24% to 46% of the time (e.g., bed and bath routines, storytelling, playing, etc.), whereas Kipsigis fathers were more likely to be watching the child or talking with others.

Harkness and Super (1992) also described parental ideologies in the two cultures and suggested that the different ideologies motivated and explained the observed differences in Kipsigis and U.S. father-child interactions. Kipsigis fathers viewed their roles as primarily economic—to provide school fees and cover expenses when their children were sick. Fathers also felt that they were responsible for disciplining their children and making sure their children were obedient (especially regarding chores and being deferent and respectful of others, especially those older than them). American fathers, on the other hand, emphasized the importance of developing a close emotional relationship with their children as well as stimulating their cognitive development. They felt that bedtime and playtime were good times to develop this emotional relationship and also to provide educational stimulation.

MULTIPLE FATHERS

The research and descriptions of intimate and distant fathers just provided assumed that each infant had one father. Research methods, be they behavioral observations of infants with fathers or informal interviews with fathers, assumed that each child had one father. Most Euro-Americans, including researchers, assume that each child has a single, generally biological, father. In order to further illustrate the diverse ways in which fatherhood can be culturally constructed, the next section briefly describes cultures in which it is common for a child to have more than one father.

Beckerman and Valentine (2002) described multiple fatherhood in foraging and farming communities in several lowland South American cultures. Beckerman et al.

conducted research with South American groups in which women had sexual relations with one or more men other than their husband and each of these men became a social father and contributed to the child in a variety of ways (e.g., feeding, holding, training). A common belief is that it takes a regular amount of sperm for a fetus to grow and that it is not unusual that more than one man to contribute to the growth of the fetus. Beckerman and Valentine called this *partible paternity*. Hill and Hurtado (1996) described partible paternity among the Ache of Paraguay:

A man (or men) who was frequently having intercourse with a woman at the time when "her blood ceased to be found" is considered to be the real father of the child. . . . These primary fathers are most likely to be the ones who take on a serious parenting role. . . . Secondary fathers are also generally acknowledged and can play an important role in the subsequent care of a child. . . . Secondary father include all those men who had sexual intercourse with a woman during the year prior to giving birth (including during pregnancy) and the man who is married to a woman when her child is born. (pp. 249–250)

Beckerman and Valentine (2002) reanalyzed Hill and Hurtado's (1996) Ache data on multiple fathers and found that 70% of children with only one father survived to age 10, whereas 85% of children with primary and secondary fathers survived to age 10. Kinship terms also reflected the belief in secondary fathers, as the Matis use the term *ebutamute* for fathers, which translates to "he with whom I procreate" (Erikson, 2002). Beckerman and Valentine also conducted detailed reproductive interviews with the Bari, a culture they had worked with for several years, and found that having a secondary father did not increase child survival after birth, but it did increase the probability that a woman with an identified secondary father before childbirth was more likely to produce a child and that that child was more likely to survive to age 15. Secondary fathers among the Bari provided meat, fish, and other food items to the pregnant woman, and this in turn increased child survival.

Beckerman (2002) utilized multiple fathers' data to question or reject paternity certainty theory, as discussed earlier in the evolutionary section. Paternity certainty is low in these cultures, but several fathers invest in the same child. Hrdy (1999) pointed out that females may use males' concern over paternity certainty to increase support for them and their children from several men. If a few men are led to believe that they are potentially the fathers of the child, they are likely to make some investment in the child. The South American cultures with the highest frequencies of multiple fatherhood are matrilineal with weak male-control ideologies. In other words, where patriarchy is weak, multiple fatherhood is more common. Where patriarchy is strong, it is more difficult for women to have or acknowledge sexual relations with someone other than the husband.

SUMMARY

The three ethnographic examples described in this section provide more examples of the two general theoretical orientations. The South American multiple fathers and the Kipsigis distant fathers illustrate cultural explanations for father-child relations. Beliefs and practices in multiple fatherhood exist in Lowland South America, but seldom, if ever, in other parts of the world. This suggests demic diffusion of this belief

and practice in Lowland South America. It may have been adaptive when it was initiated in a particular group, but it demically diffused and may or may not be adaptive. Harkness and Super (1992) emphasized cultural ideology to explain why Kipsigis fathers are distant. Their distant fathering style is also common to several sub-Saharan cultures described in the cross-cultural section of this chapter and is consistent with an emphasis on culture rather than adaptation. Certainly local and individual variations and adaptations exist within these cultures, but the nature of father-child interactions in these groups is affected by culture history and transmission.

By contrast, the research on the Aka provides an example of an adaptationist explanation for father-child relations. Aka fathers are frequently around their infants, in part because of net hunting, which in turn contributes to higher (by comparison to foraging communities, where men go out and hunt and women go gathering) levels of husband-wife reciprocity in a wide range of activities, including child care. Aka fathers are more intimate with their infants than are other hunter-gatherer groups because of particular adaptations to local conditions (i.e., active women's role in net hunting, close husband-wife relations).

CONCLUSION

This chapter described cross-cultural variability in fathers' roles. Aka fathers held or were within an arm's reach of their infants about half of the day, whereas Kipsigis fathers generally did not provide direct care to children until the fourth or fifth year of the child's life. Part of this variability was explained by factors associated with mode of production (accumulation of wealth, women's role in subsistence, frequency of warfare, husband-wife relations) or cultural ancestry and diaspora (demic diffusion and conservative mechanisms of cultural transmission and acquisition). Hunter-gatherer fathers were more likely to be involved with children than were fathers in any other mode of production. In terms of cultural diaspora and demic diffusion, fathers with African (in particular, Bantu) cultural ancestry were the least likely to be involved fathers, whereas cultures with Southeast Asian and Pacific Island ancestry were most likely to have involved fathers.

Although data were presented to support these generalizations, these data demonstrated enormous variability among hunter-gatherers groups (e.g., Efe fathers were not very involved) and variability within cultures (e.g., Aka father holding ranged from 2% to 20% of daylight hours). Regional, local, and individual contexts and histories influenced this diversity.

In terms of styles of father-child interactions, fathers' physical rough-and-tumble play, characteristic of many urban industrial cultures, was infrequent among Aka fathers, suggesting that vigorous play was not necessary, biological, or the universal way by which infants became attached to fathers. Aka infant attachment to fathers seems to occur through regular and sensitive caregiving.

Finally, human behavioral ecological studies suggested that at least some aspects of father involvement were mating effort rather than parenting effort. Partible paternity, active stepfathers, and men's extensive giving of food items to nonbiological children in foraging cultures indicated that fathers (and men in general) may enhance their reproductive fitness by providing food, care, defense, and other forms of investment to children who are not biologically related to them. Men may invest in children in these contexts to attract new mates or keep an existing mate.

OBSERVATIONS AND FUTURE STUDIES

There are several limitations to existing studies of forager, farmer, and pastoral fathers. None of the studies conducted with foragers or farmers systematically evaluated how these different levels of involvement affect the child's social, emotional, cognitive, or moral development. Obviously, systematic research in these cultures is desperately needed. My research and observations of children in a diversity of African cultures, as well as statements from forager and farmer ethnographers from around the world, suggest that most children in foraging, farming, and pastoral cultures are socially, emotionally, cognitively, and morally competent regardless of whether fathers are intimate or distant. For instance, I have lived with intimate Aka forager fathers and distant Ngandu farmer fathers for 30 years, and children in both groups appear to be more self-assured, secure, and competent than are children of comparable ages in the United States. Why do so many child development studies in the United States and elsewhere indicate that father presence and involvement are so important to a child's development?

Research in contemporary stratified capitalistic cultures has focused on fathers, in part because the family and social-economic contexts are so dramatically different from the cultures that characterized most of human history. Individuals in capitalistic systems move away from extended family in search of higher education and higher paying jobs, but in so doing they isolate themselves from extended family and close friends. As mothers and fathers seek to move up the economic ladder, they are likely to move away from family. They tend to have fewer children, in part because they no longer live with extended family, where they can obtain regular, economically reasonable, quality care. Less time is also spent around children because men's and women's workplaces do not permit children. Forager and farmer children, on the other hand, grow up with a wide range of caregivers (e.g., grandmothers and grandfathers, aunts and uncles, siblings, clan members, etc.) who know the child well. Aka fathers are very involved in direct care, but so are many other caregivers because infants and young children are held most of the day. Father involvement in contemporary urban-industrial cultures may be especially important to healthy social, emotional, cognitive, and moral development of children, but this may be due to a relatively unusual (by cross-cultural standards) family context—isolation from family and long-term friends.

Another feature of contemporary urban-industrial cultures is that parents can be very involved and sensitive caregivers and develop their child's sense of trust with self and others, but once the child moves into formal schooling and starts to make a living in the cultural system, he or she must deal with inequality on a daily basis. Students are ranked from higher and lower and must learn to respond to social-economic inequality, such as being deferent to those who have higher rank or more resources. Those who succeed in the system tend to feel better than others and expect more from others. Those who have difficulty may feel unsure about themselves and others. One learns to be deferent toward those who have more resources or success. By comparison, forager children move into a system where ranking is actively discouraged and trust of self and others continues throughout childhood. Farmers and pastoralists rank by age and gender, but it is within a familiar context throughout childhood.

Context also influences how fathers acquire their parenting skills and helps to explain why Aka father caregiving lacks the vigorous play found in urban-industrial

cultures. As mentioned earlier, urban-industrial fathers learn to parent from specialists and trial and error. By comparison, a characteristic feature of hunter-gatherers is that their population density is low, but their living density is high. A group of 25 hunter-gatherers often live within a 400 to 800 square foot area. This means that everyone sees how to care for children, and someone is quickly informed if he or she holds, cleans, or feeds a child in an inappropriate way. This leads to consistency of care from a large range of individuals, including fathers.

The limited data presented in this chapter suggest that father involvement must be viewed in context and that high father involvement is not natural or universal or even important in some contexts. Policy makers, in particular, need to consider context, diversity, and flexibility in fathers' roles.

Finally, this discussion makes generalizations about forager and farmer fathers often to make points about the nature of fathers' roles in urban-industrial cultures. A problem with this approach is that it can make forager and farmer fathers sound exotic, near the limits of humanity, in that they represent the unfamiliar "other." Aka fathers are more involved than fathers in most parts of the world; Bari have multiple fathers; and Kipsigis fathers do not provide direct care to infants, but fathers in all these cultures are similar in many ways to fathers in any other part of the world. They love their children, are concerned about their children's health and well-being, provide less care than the mother, and generally spend considerable (if not most of their) time talking to or being with other men rather than their wives or groups of women. Like fathers and men in the United States or elsewhere, forager, farmer, and pastoral fathers are trying to do the best they can in their particular cultural, ecological, economic, and demographic contexts.

REFERENCES

- Alcorta, C. (1982). Paternal behavior and group competition. *Behavior Science Research*, 17, 3-23.
- Bailey, R. C. (1991). *The socioecology of Efe pygmy men in the Ituri forest, Zaire*. Ann Arbor: University of Michigan.
- Barry, H., & Paxson, L. M. (1971). Infancy and early childhood: Cross-cultural codes 2. *Ethnology*, 10, 466-508.
- Beckerman, S., & Valentine, P. (Eds.). (2002). *Cultures of multiple fathers: The theory and practice of partible paternity in Lowland South America*. Gainesville: University Press of Florida.
- Bowlby, J. (1969). *Attachment*. New York: Basic Books.
- Burton, M. L., Moore, C. C., Whiting, J. W. M., & Romney, A. K. (1996). Regions based on social structure. *Current Anthropology*, 37, 87-123.
- Erikson, P. (2002). Several fathers in one's cap: Polyandras conception among the Panoan Matis (Amazonia, Brazil). In S. Beckerman & P. Valentine (Eds.), *Cultures of multiple fathers: The theory and practice of partible paternity in Lowland South America* (pp. 123-136). Gainesville: University Press of Florida.
- Goody, J., & Tambiah, S. J. (Eds.). (1973). *Bridewealth and dowry*. Cambridge, England: Cambridge University Press.
- Harkness, S., & Super, C. M. (1992). The cultural foundations of father's roles: Evidence from Kenya and the United States. In B. S. Hewlett (Ed.), *Father-child relations: Cultural and biosocial perspectives* (pp. 191-212). New York: de Gruyter.
- Hawkes, K., O'Connell, J. F., & Blurton Jones, N. G. (2001). Hadza meat sharing. *Evolution and Human Behavior*, 22, 113-142.

- Hewlett, B. (1988a). *Dad and cad strategies: Father's role in human evolution*. Paper presented at Evolution and Human Behavior Program, University of Michigan, Ann Arbor.
- Hewlett, B. S. (1988b). Sexual selection and paternal investment among Aka pygmies. In L. Betzig, P. Turke, & M. Borgerhoff Mulder (Eds.), *Human reproductive behaviour: A Darwinian perspective* (pp. 187-205). Cambridge, England: Cambridge University Press.
- Hewlett, B. S. (1991). *Intimate fathers*. Ann Arbor: University of Michigan Press.
- Hewlett, B. S. (1992). Husband-wife reciprocity and the father-infant relationship among Aka pygmies. In B. S. Hewlett (Ed.), *Father-child relations: Cultural and biosocial perspectives* (pp. 153-176). New York: de Gruyter.
- Hewlett, B. S., & Hannon, N. (1989). *Myths about "natural" childbirth*. Paper delivered at annual meeting of the Society for Cross-Cultural Research, New Haven, CT.
- Hewlett, B. S., de Silvestri, A., & Guglielmino, R. (2002). Semes and genes in Africa. *Current Anthropology*, 43, 313-321.
- Hill, K., & Hurtado, M. (1996). *Ache life history: The ecology and demography of a foraging people*. New York: de Gruyter.
- Hrdy, S. (1999). *Mother nature*. New York: Pantheon.
- Kaplan, H. S., Lancaster, J. B., Bock, J. A., & Johnson, S. E. (1995). Does observed fertility maximize fitness among New Mexican men? A test of an optimality model and a new theory of parental investment in the embodied capital of off-spring. *Human Nature*, 6, 325-360.
- Katz, M. M., & Konner, M. L. (1981). The role of father: An anthropological perspective. In M. E. Lamb (Ed.), *The role of the father in child development* (2nd ed., pp. 155-181). New York: Wiley.
- Lamb, M. E. (Ed.). (1981). *The role of the father in child development* (2nd ed.). New York: Wiley.
- Lancaster, J. B., Altmann, J., Rossi, A., & Sherrod, L. (1987). *Parenting across the lifespan: Biosocial perspectives*. New York: Aldine.
- LaRossa, R., & LaRossa, M. M. (1981). *Transition to parenthood: How infants change families*. Beverly Hills, CA: Sage.
- Mackey, W. C., & Day, R. (1979). Some indicators of fathering behaviors in the United States: A cross-cultural examination of adult male-child interaction. *Journal of Marriage and the Family*, 41, 287-299.
- Marlowe, F. (1999). Showoffs or providers? The parenting effort of Hadza men. *Evolution and Human Behavior*, 20, 391-404.
- Marlowe, F. (2000). Paternal investment and the human mating system. *Behavioural Processes*, 51, 45-61.
- Morelli, G. A., & Tronick, E. Z. (1992). Male care among Efe foragers and Lese farmers. In B. S. Hewlett (Ed.), *Father-child relations: Cultural and biosocial perspectives* (pp. 231-262). New York: de Gruyter.
- Noss, A., & Hewlett, B. S. (2001). The contexts of female hunting in Central Africa. *American Anthropologist*, 103, 1024-1040.
- Nsamenang, B. A. (1992). Perceptions of parenting among the Nso of Cameroon. In B. S. Hewlett (Ed.), *Father-child relations: Cultural and biosocial perspectives* (pp. 321-344). New York: de Gruyter.
- Smuts, B. B., & Gubernick, D. J. (1992). Male-infant relationships in nonhuman primates: Paternal investment or mating effort? In B. S. Hewlett (Ed.), *Father-child relations: Cultural and biosocial perspectives* (pp. 1-30). New York: de Gruyter.
- Van Schaik, C. P., & Paul, A. (1996). Male care in primates: Does it ever reflect paternity? *Evolutionary Anthropology*, 5, 152-156.