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4 Hunter-Gatherer Adolescence

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This chapter describes general features of hunter-gatherer adolescence. Most studies of adolescence in small-scale cultures have been conducted with farming or pastoral cultures, and the vast majority of cultures in the Standard Cross-Cultural Sample (SCCS), used by Schlegel and Barry (1991) in their classic adolescent study, utilize these modes of production. Farming and pastoral cultures are known for their gender inequality, strong chiefs, deference and respect of older individuals (e.g., parents, older siblings), accumulation or defense of land or herds, regular warfare, and relatively high population density. These features are rare or absent in mobile hunter-gatherers. The differences in social systems and culturally constructed niches are likely to influence the daily lived experiences and identity formation of adolescents.

An understanding of forager adolescence is also important because humans were hunter-gatherers for 75 percent or more of the history of modern *Homo sapiens*. Human adolescent bio-cultural adaptations occurred at this time, and studies of extant foragers provide one vantage point for obtaining insights into the nature of adolescence. This chapter addresses the following questions: What generalizations can be made about hunter-gatherer adolescents? How are they distinct from adolescents in other cultures with differing modes of production? Does the emotional intimacy characteristic of forager infancy and childhood persist into adolescence? How do forager values of autonomy and egalitarianism impact identity formation? How might these generalizations inform our understanding of identity, human diversity, and potential?

Four sources of data provide the material for our analysis: (1) our systematic studies of Aka forager adolescents, primarily the first author's research on health and development of sixty-five older children, adolescents, and young adults; (2) Konner's (2005, 2010) discussion of adolescents in his hunter-gatherer childhood model; (3) in-depth and systematic studies of adolescents in other forager cultures, e.g., Condon's work with the Inuit (1987) and Burbank's study of Australian aborigines (1988) and; (4) cross-cultural studies of hunter-gatherer groups coded in the SCCS.

The generalizations about hunter-gatherer adolescence are placed into three groups: (1) features that are a part of our non-human primate heritage; (2) features linked to human nature, evolution, and adaptation, and; (3) features relatively unique to foragers. The last two groups of generalizations

likely built upon features in the first group and evolved during the long hunting-gathering period of human history, frequently referred to as the environment(s) of evolutionary adaptation. We provide the greatest amount of ethnographic detail about the last set of generalizations because the items in the first two sets exist in many small-scale cultures while the last group of generalizations is relatively distinct to foragers.

HUNTER-GATHERERS AND THE AKA OF THE CONGO BASIN

This chapter focuses on hunter-gatherers and often utilizes the Aka adolescents as examples, therefore before identifying and describing these generalizations, we explain common features of foragers and provide a brief ethnographic overview of Aka life.

The Aka are one of at least fifteen ethnolinguistic groups of foragers, sometimes referred to as "pygmies", living in the tropical forests of the Congo Basin. Their population density is low, less than one person per square kilometer, they have high fertility (about five to six live births per woman) and high infant and child mortality (approximately 45% for children under age fifteen) (Hewlett 1992).

Aka live in small intimate camps of twenty-five to thirty-five individuals (see Takeuchi Chapter 7, this volume). The number of people in the camp

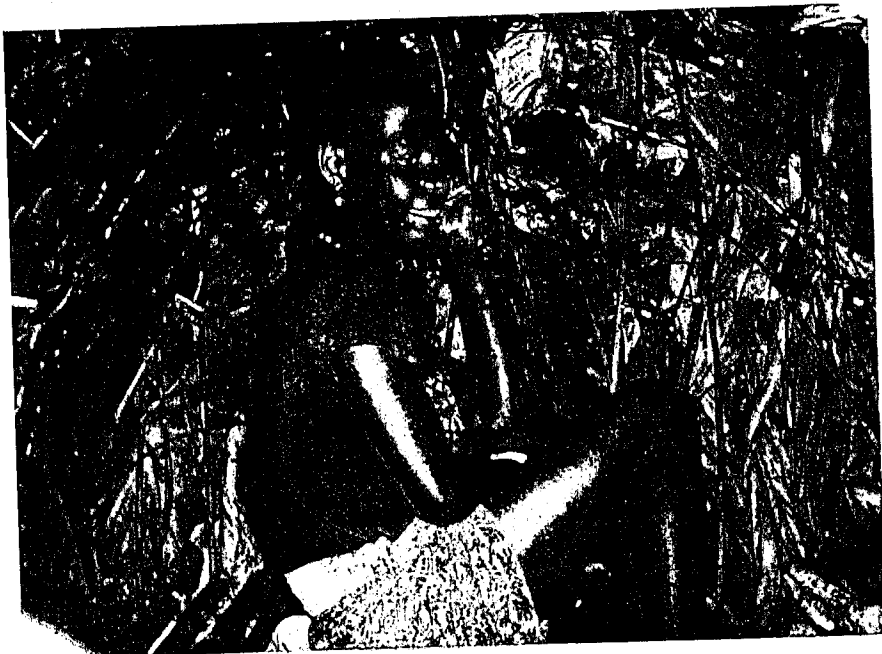


Figure 4.1 An Aka adolescent female inside her *ngondo* hut.

varies almost daily, as adolescents (and others) travel to other camps or relatives and friends come to visit. Their homes are small, at most three meters in diameter and two meters high. Inside the home is a bed of animal skins, leaves, or twigs where the family sleeps together. The *ngondo* (term for adolescent females) huts are smaller and have room enough for one or at most two inhabitants (see Figure 4.1). The bachelor lean-tos, built by the *bokola* (term for adolescent males) are usually larger, rectangular structures, able to house four to six young males.

Aka have minimal political hierarchy (a *kombeti*, male elder, is recognized but has very limited authority and no "big men" who hold authority and power over others exist); relatively high gender and intergenerational egalitarianism (no individual is given more respect simply due to their age or gender); and, weak patrilineal (*dikandu*) associated with neighboring farmers. Female lines are recognized as well (*mobila*). After an initial one-year period or so of matrilocality when the husband provides brideservice, the Aka are multilocal—moving back and forth between the husband and wife's families.

Foundational Schema

Foundational schema refer to modes of thought that pervade several domains of Aka life—from subsistence activities to who sleeps together to how to organize a dance.

Four foundational schema permeate Aka life: egalitarianism, respect for autonomy, sharing/giving, and an "immediate return" mode of thought. An egalitarian way of thinking means others are respected for what they are, and it is not appropriate to draw attention to oneself or judge others as better or worse. The Aka have several cultural mechanisms to maintain egalitarianism such as rough joking and demand sharing (Hewlett 1992). For example, if an Aka child does not share, others gesture, comment, or tease the child, and young children often hear stories about how people who do not share properly face sanctions (illness, death, death of a child). Boehm (2001) calls this process, common to many mobile hunter-gatherers, "reverse dominance hierarchy."

Respect for an individual's autonomy is also a core cultural value. Men and women, young and old, are generally free to do what they want; one does not impose his/her will, beliefs, or actions on others. If an adolescent wants to travel to another camp, live with a grandparent, have sex or marry, they simply do so. A giving or sharing way of thinking also pervade Aka life; Aka share 50–80 percent of what is acquired by hunting and gathering with everyone in camp, every day.

The final foundational schema is an "immediate return" mode of thought (Woodburn 1982, 205). This means that Aka thinking and activities are oriented to the present. For instance, the time and energy invested in a day to obtain food and other resources are consumed that day or perhaps over the next few days that follow. There is a minimum of investment in

accumulation, in long-term debts, obligations, or in binding commitments to specific kin or others.

Habitus and Demographic Contexts of Aka Life

The daily lived experiences, called *habitus* by Bourdieu (1977), are important for understanding how Aka children become Aka adolescents, and later adults, developing culturally specific identities, ideologies, and schema. The habitus is shaped by the foundational schema and is also the means by which infants, children, and adolescents acquire cultural knowledge. Aka habitus and demography are characterized by the following features: physical and emotional intimacy, self-motivated and directed learning, trust of others, mixed adult-child groups, and frequent play (Hewlett et al. 2011).

Physical and emotional proximity are particularly important to hunter-gatherers. Forager camps are generally very dense, often occupying a space the size of a large dining or living room in the U.S., and when Aka sit down or rest in the camp they are usually in constant physical contact with others. At night, foragers sleep very close together and rarely sleep alone.

Aka children are granted autonomy during the day whereas the neighboring farming children are subject to the control of parents and older children. Aka children of all ages decide when and what they want to do with minimal intervention from others. The development of trust is important to some degree in all cultures, but the socialization for a trust of others is particularly pronounced among the Aka. The indulgent care and resulting trust of self and others, is part of the daily life of the Aka.

Konner (2005) indicates that after weaning, hunter-gatherer children move from a relationship with the mother to relationships with children in mixed-age playgroups. Our data question his representation of hunter-gatherers and indicate that Aka parents and other adults are frequently around children and adolescents. Time with parents and other adults gradually declines with age, but by comparison to their farming neighbors foragers spend considerably less time in child-only groups. A study by Boyette found that four- to twelve-year-old Aka children spent more time in mixed-age groups, but were still within visual range of an adult 77 percent of the day, and parents and other adults were among their nearest neighbor (defined as those equally close to the child) 33.1 percent of the day (Boyette unpublished ms). At night, a co-sleeping study by the second author found that forager children and adolescents were three times more likely than farmer children of similar age to sleep with their parents or other adults. Finally, play permeates Aka adult and child life (Hewlett and Boyette in press). As mentioned earlier, several researchers have reported that hunter-gatherer children are given few responsibilities and spend most of the day playing or resting (Konner 2010).

Aka Childhood

A brief description of Aka childhood is provided here to place the preceding features into a more detailed ethnographic context and help understand precursors to adolescent development. Aka babies are held nearly constantly, often carried on the side in a sling of cloth, in constant skin-to-skin contact with their mother (or other caretaker), breast-feeding is frequent, and fussing or crying are responded to within seconds (Hewlett et al 1998).

From early infancy Aka children learn an almost "sacred" value of autonomy. Babies not only nurse on demand ("self-directed nursing," as the mother's breast is usually available), but by the third or fourth year of life are weaned when they choose to stop breast-feeding (Fouts et al. 2000). Parents rarely correct their children; when they do, discipline generally involves chastising or teasing. Although they may ask their child to do something for them (get water or help in some task), they do not punish the child if their request is ignored. Hitting a child can be cause for divorce (Hewlett 1992). Even into adolescence there are no expectations from others in terms of work or behavior save for the expectation surrounding sharing (with social sanctions for any unwillingness to share), so much of their time is spent in play, rest, or socializing with others (Boyette unpublished ms; Hewlett 1992; Hewlett et al. 2000; Hewlett et al. 2011).

Aka foragers spend a considerable amount of time playing (31.4 percent of day) and laying around idle (37.9 percent of day) (Hewlett and Boyette in press). By age ten, Aka have acquired most of the knowledge and skill necessary for life in the forest, knowing how to net hunt, fish, gather plants, honey, nuts, mushrooms, prepare food, take care of babies, build huts and baskets, and make medicines for illnesses, but interestingly they do not always put this knowledge to task (Hewlett and Cavalli Sforza 1986).

Social identity formation of Aka children from their "first taste" of exploration and interdependence leads seamlessly to increasing responsibility, power, and autonomy as adolescents (Turnbull 1982, 138). They are secure in the knowledge of self within the "circles" of kin, an identity reinforced daily through strongly maintained cultural values, practices and beliefs shared by those surrounding them. As one young Aka male related when asked of his plans for the future, (i.e. what do you "want to be or do" when you are older?) "I am," he said simply, "Aka" implying even at a relatively young age, both a sense of confidence and security of self "as" and of self "with".

Aka hunter-gatherers provide most of the data for this chapter, but many of the patterns described above are common to most mobile hunter-gatherers. Table 4.1 lists several characteristic features of hunter-gatherers. The ethnographic overview of Aka and the characteristic features of hunter-gatherers provide the broader context for understanding adolescence in these groups.

Table 4.1 Characteristic Features of Mobile Hunter-Gatherers (Lee and Daly 2004; Kelly 2007)

1. High mobility and frequent movement of camps
2. Camps consist of 25–35 individuals, and most adult camp members are not genetically related to each other
3. Lack of storage
4. Flexibility in camp composition, movement by individuals, and gender roles
5. Gender and age egalitarianism and lack of central authorities
6. Extensive sharing and giving
7. Respect for autonomy is highly valued
8. Extensive allomaternal care and provisioning
9. Low population density, high fertility and mortality

GENERALIZATIONS ABOUT HUNTER-GATHERER ADOLESCENCE

The Phylogenetic Heritage of Hunter-Gatherer Adolescence

This section briefly reviews studies of non-human primate adolescents, primarily adolescent research with three species of great apes—chimpanzees (*Pan troglodytes*), gorillas (*Gorilla gorilla*), and orangutans (*Pongo pygmaeus*). They are the largest non-human primates and have the longest periods of immaturity. Bogin (2009; Chapter 2 this volume) postulates that adolescence does not exist in non-human primates, but researchers working with primates do not hesitate to use the term “adolescence” to refer to the period between puberty, determined by a variety of ways, to the attainment of full adult weight. Due to problems of operationally defining and determining adolescence, “adolescent primates have been somewhat neglected” (Setchell 2003). Definitions and signs of adolescence in non-human primates include puberty (e.g., measured by labial swelling in females and testes growth or first full copulation in males) to the attainment of adult weight, changes in hormonal functioning, a late growth spurt, and/or changes in social interactions. Walters (1987, 358) argues, “Puberty (in non-human primates) may be defined as all the events, beginning with altered hormonal function, leading to reproductive maturation. These patterns are broadly similar in all primates.” He identifies several behavioral patterns common to most non-human primate adolescents: dependence upon social learning about social and physical environments prior to reproduction, development of social bonds (play, grooming), increased aggressive behaviors, and dispersal (Walters 1987, 358–369). Setchell defines the adolescent period, between puberty and the attainment of full adult size and appearance, as a “distinct and important developmental period” in non-human primates

(2003, 1053). Accounting for a “significant proportion in a male’s reproductive lifespan in highly sexually dimorphic species” as adolescent male mandrills develop physically and developmentally, social behaviors (grooming and play) decrease, aggressive and sexual behaviors increase and males are peripheralized (*ibid.*).

Pusey’s (1990) study of chimpanzees indicates that adolescence, defined as the time from puberty, marked testicular growth, and ejaculation in males and sexual swelling in females, to the attainment of adult weight, about four to five years later, had several characteristic features. Adolescent males and females decreased their association and grooming time with their mothers. Adolescent males and females began engaging in sexual activity, and adolescent females began associating with adult males. Adolescent males associated with, and were more likely to groom, adult males and cycling females, with a few males forming strong, long-lasting associations with particular adult males. At this time adult male aggression toward adolescent males also increased. For both males and females time spent playing declined sharply from the juvenile period. Additionally, juveniles and young adolescents in both sexes had friendly relations with infants, but older adolescents rarely interacted with infants.

Adolescence is a time when individuals try to position themselves in the dominance hierarchy and establish alliances and support networks. Adolescent chimpanzee and gorilla males, in particular, show aggressive displays toward other males, establishing and contesting the dominance hierarchy. Adolescent chimpanzee and gorilla males take risks and receive their first wounds from other males as they shift their affiliations from mother to other adult females and males. Male chimpanzee and gorilla adolescents continually challenge adolescent females before achieving dominance over them, even if they are smaller than the females. The rate of adult–adolescent male aggression increases as adolescents mature. But adolescent chimpanzee and gorilla males also try to seek affiliation and proximity despite the rise in aggression toward them as they work their way into the male dominance hierarchy and the grooming and alliance networks (Watts and Pusey 2002).

Although the literature emphasizes male aggression and risk taking, females are also assertive, taking risks and trying to establish their reputations as they shift affiliations with their mothers and move into dominance hierarchies, establish relations with adult males, and obtain important information for survival.

Among orangutans, adolescent females are the most social of all age/sex classes and, unlike males, cannot generally be characterized as being solitary or even semi-solitary (Galdikas 1996). Adolescent females initiate, maintain and terminate interactions with adult males, displaying an eagerness to begin reproduction shortly after puberty and before full maturation, copulating with males at higher rates than adult females. Adolescent females are particularly social in order to increase learning—for

instance, learning how to solve social and environmental problems and how to increase foraging efficiency, and learning about resources in their home range (*ibid.*).

It is worth noting that researchers working with chimpanzee, gorilla, and orangutan adolescents distinguish early/young and late/older adolescents in their analysis. Younger adolescents' behavior is similar to that of juveniles (e.g., more time near and grooming by mother, less aggression) whereas older adolescents behavior is similar to adult behavior (e.g., more risk taking, aggression, and alliance building).

Although few studies exist and definitions vary, the research cited above suggests that higher primates, including humans, share the following characteristics:

1. Reputation building and increased risk taking, especially among males
2. Increase in sexual activity, beginning shortly after puberty
3. Increase in time spent around sexually active members of the opposite sex in late adolescence
4. Development of particularly close relationships and alliances with one or two members of the same sex
5. Increase in time learning complex social and subsistence skills

These are biological propensities and common in many cultures. Reputation building is a part of non-human primate adolescence as males and females try to negotiate dominance hierarchies and locate mates. Likewise, Aka adolescents have criteria for selecting mates; for example, an attractive mate is one known as a "hard worker". Both male and female adolescents try to build reputations that demonstrate that they are strong and able workers in their respective subsistence roles and activities. However, some male roles require more risk and lead to greater frequency of death. Figure 4.2 examines Aka male to female ratio of mortality by ages and demonstrates that adolescent males are particularly at risk of higher mortality. Adolescent mortality is relatively low by comparison to infant and young child mortality, but substantially more adolescent males than females die because they take greater risks to build reputations as hard workers, good hunters, strong and able men, and future providers. They may climb large trees looking for honey or fruit, or take risks on elephant or other large game hunts, e.g., volunteering to run underneath the elephant to spear it.

Unlike higher primates and humans in stratified and hierarchical cultures, reputation building among foragers does not regularly involve male-male aggression and violence due to their relatively egalitarian ethos and general disdain for competitive and aggressive individuals. Violence does occur, however, especially when older adolescent males travel great distances and have sexual affairs with, for example, married women.

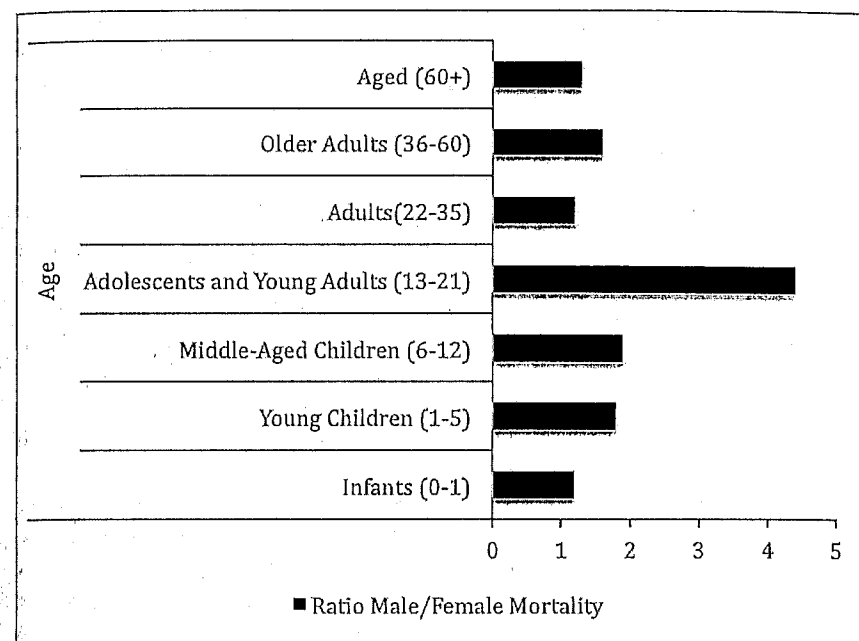


Figure 4.2 Aka male-female ratio of mortality by age.

Like other higher primates, forager adolescents begin sexual activity shortly after puberty. Timing and frequency of sexual activity varies by individual and culture, but many forager males and females have their first sexual experiences by the time they are fifteen years of age. Likewise, once past puberty and especially in late adolescence, hunter-gatherers spend more time among sexually active members of the opposite sex than they did in middle childhood and early adolescence.

Higher primate adolescents also start to spend more time with particular individuals of the same sex. Likewise, Aka adolescents develop deep friendships with one or two other adolescents/young adults of the same sex during this period. Since forager camps are small, close friends may be several years younger or older. These individuals spend much of the day together hunting, collecting, and socializing, but unlike non-human higher primates they often sleep together at night. These friendships remain important social and economic relationships well into adulthood.

Like non-human higher primates, foragers acquire more complex subsistence and social skills in adolescence. Technology and subsistence activities in humans are greater than those of higher non-human primates, and Kaplan et al. (2000) hypothesize that adolescence in humans is longer because it takes a more time to learn these complex skills. A study of Aka cultural transmission (Hewlett and Cavalli-Sforza 1986) demonstrated that

most subsistence and social skills were learned by age 10, but mating skills, how to hunt large game, and knowledge about special medicine and the supernatural were acquired in adolescence.

The Human Adaptive Pattern and Hunter-Gatherer Adolescence

It is important to understand the phylogenetic heritage of human adolescence, but it is also worthwhile to briefly describe how humans are relatively distinct from non-human higher primates and how these differences impact hunter-gatherer adolescence. First, unlike non-human higher primates, humans are cooperative breeders. Chimpanzee, gorilla, and orangutan mothers may receive sporadic assistance from others, whereas allomaternal care and provisioning by many other individuals—men, other women, children—are regular and significant in humans. Although allomaternal care exists among some New World monkeys, such as marmosets, capuchins, and tamarins, it does not occur among non-human higher primates, humans' closest living relatives. Second, non-human primate mothers and others seldom, if ever, provision juveniles or adolescents after weaning. Post weaning, juveniles and adolescents subsist primarily on their own. Juveniles and adolescents in all human societies seldom, if ever, provide all of the calories they consume. This generally applies to co-sleeping as well. Young non-human primates sleep with mother until they are weaned, but they often sleep alone as juveniles and adolescents, whereas human juveniles usually co-sleep. Third, humans have relatively long-term pair-bonds with relatively high male investment (protecting, provisioning, social learning) in offspring. Finally, humans have language, an extensive symbolic system that includes beliefs in the supernatural, a substantially longer juvenile/adolescent period, and increased social cognitive learning skills. Debate continues on the extent of ape-human differences in cognitive abilities, but human's social learning abilities enable them to learn rapidly from others. Great apes are extremely intelligent and have complex tools and culture, i.e., socially transmitted and learned skills and behaviors, but they do not appear to have natural pedagogy, over-imitation, and cumulative culture.

Generalizations about hunter-gatherer adolescence that are associated with specific features of human nature, evolution and adaptation as discussed above include the following:

1. Caregiving, particularly by adolescent females, of infants and young children
2. Sexual division of labor in which adolescent males and females learn different complex tasks
3. Adults provide moderate to intensive food and care to adolescents
4. Marriage (relatively stable pair bonding) and birth of first child in late adolescence (especially females)

5. Adolescents often live with stepparents

6. Adolescents acquire in-depth understanding of supernatural beliefs

Humans are cooperative breeders; therefore, adolescents, especially females, in many societies provide important care to younger brothers and sisters. Allomaternal care is particularly pronounced in forager cultures (Hewlett et al. 2011), and adolescents, both male and female, watch, tend, and provide care for infants and young children, although as noted earlier, it is nonobligatory care. Sexual division of labor is a human universal that emerged as part of the human adaptive pattern. This, of course, occurs with the Aka and other foragers, but what is striking about foragers is the gender flexibility that exists in subsistence and other roles and tasks. For instance, men usually carry the spears and nets on hunts, but it is not unusual to see an Aka adolescent girl carry these implements as well. Taboos and sanctions on females handling hunting spears or nets do not exist (except when a female is menstruating), whereas taboos and restrictions associated with females touching hunting implements are common among farmers and pastoralists, where pronounced gender hierarchy is the norm.

Pair bonding is also part of human nature and most forager females marry and have their first child before they turn twenty. Aka, Ache, Agta, and !Kung forager girls marry between fourteen and nineteen years of age and usually have their first child two years later. Forager males tend to marry three to five years later than females, so they are usually married in late adolescence or early adulthood (i.e., by age twenty-three or so). As Takeuchi reports in Chapter 7 (this volume), social adulthood begins when Aka females give birth, and men become skilled hunters. These of course vary by individual. Although !Kung marriages are arranged, forager marriages are generally informal and are established by the couple living together in the same hut for some time.

Adult provisioning of children (after weaning) and adolescents is also a distinctive feature of the human adaptive pattern. Among the Aka, provisioning continues beyond the time of marriage. The first author conducted a study of adolescent food provisioning. Single and married Aka adolescents (none had children or were regarded yet as adults) were asked four times during the day, for ten random days during a month, how many meals or snacks they had consumed since the previous visit, what foods they had eaten and who provided the food. Six married adolescent Aka couples and twenty single adolescents participated in the study. Figures 4.3 and 4.4 compare provisioning in the two groups. Although married adolescents report getting substantially more of their own food, mothers continued to contribute food to their adolescents after their marriage. This was especially true for adolescent females who lived matrilocally while their new husbands performed brideservice.

The same study also looked at the number of meals or snacks eaten per day by older and younger adolescents and the number of meals or snacks

Provisioning of married adolescents

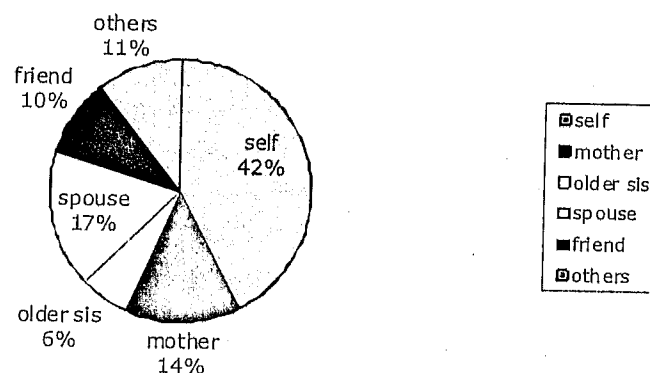


Figure 4.3 Individuals who provisioned married Aka adolescents.

Provisioning of unmarried adolescents

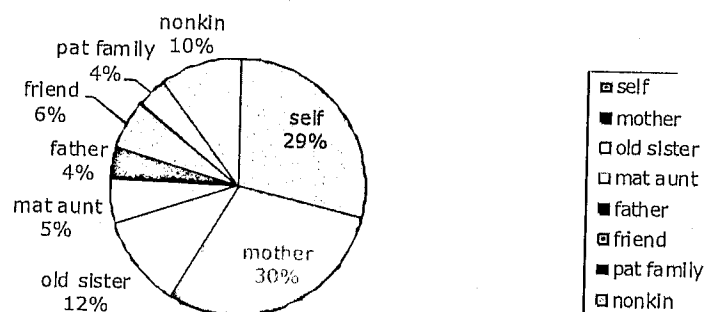


Figure 4.4 Individuals who provisioned single Aka adolescents.

eaten by married and single older adolescents. Older adolescents ate more meals or snacks per day than younger adolescents, even when marriage was controlled for in the older adolescents. The data suggest that older adolescents obtain more (and also possibly food of higher quality, i.e., meat, high carbohydrate content) meals and snacks. This is likely due to increased skill, knowledge, and motivation in building, and maintaining, a reputation as a hard worker and an able and good provider.

Young Aka adolescents are shifting from skill acquisition and low productivity in low skill tasks to high productivity and acquisition of higher skills. Kaplan et al. (2000) found this pattern among several forager groups. Generally, the increase in efficiency did not reach adult levels until age twenty or so, the age at which individuals began to establish their own households. Both sexes reached their peak rates of daily fruit acquisition in their mid to late teens. Increased skill and strength are required in the daily acquisition of more important food resources. Among the Hadza, like the Ache of Eastern Paraguay and the Venezuelan Hiwi, there is a switch from easier tasks, such as fruit collection, shallow tuber extraction, and baobab processing to honey extraction and hunting (for boys) in their mid to late teens (ibid.). Indeed, Kaplan et al. (2000) found that among the three societies, hunter-gatherer children produce little food compared to adults, and daily food acquisition rates rose dramatically in the late juvenile period, especially for males.

No children in any forager group in their study produced as many calories as they consumed until they reach their mid to late teens; by age fifteen, children in their forager sample had consumed 25 percent of their expected lifetime energy consumption but had acquired less than 5 percent of their lifetime energy acquisition (Kaplan et al. 2000, 161). This study suggests that older adolescents (i.e., over the age of fifteen) begin acquiring at a greater rate, but that younger adolescents are either provisioned or are surviving on less if not provisioned by others (ibid.). A study by Kramer (2005) argues that as humans develop, they are often "subsidized by others" not only during childhood but well into adolescence. As "consumers and producers," children and adolescents contribute more economically in childcare (allomaternal care) activities, regardless of mode of production. Their "low cost" help, although important in increasing parental reproductive success, is dependent on and varies according to the "costs and benefits specific to subsistence ecology and social organization" (2005, 224–234). Kaplan et al. suggest that juveniles and young adolescents have an "evolutionary dependency on adults to provide their daily energy needs" (2000, 161).

Step-parenting is part of the human landscape, especially in small-scale cultures, because of adult mortality and regular divorce. About one in four Aka marriages ends in divorce, and 42 percent of young adolescents (eleven to fifteen years old) and 71 percent of older adolescents (sixteen to twenty years old) live with step-parents or in single-parent households (Hewlett 1992). Similar demographic patterns exist among the Venezuelan horticultural Yanomamo

(Chagnon 1997) and we assume step-parenting is relatively common in other small-scale cultures where divorce and high adult death rates exist.

Finally, beliefs in the supernatural become pronounced in modern humans and are part of the human adaptive complex. Adolescence is a time in which learning about the supernatural world intensifies. This is due to the adolescents' enhanced cognitive abilities to hypothesize, generalize, and imagine, but it is also influenced dramatically by the physical changes of puberty and adolescents desire to learn more about the adult world. Puberty and menstrual blood, for instance, are associated with many taboos and are often entry points for learning more about the supernatural (Lewis 2008). Classic work by Margaret Mead (1928) in *Manus* showed that children generally have naturalistic explanations for illnesses whereas adults are much more likely to invoke supernatural causation. Beliefs in the supernatural are a characteristic feature of humanity, and it seems reasonable to hypothesize that these beliefs are integrated into young people's belief systems during adolescence.

Distinct Features of Hunter-Gatherer Adolescence

This section identifies and describes features of hunter-gatherer adolescence that are relatively unique by comparison to the lived experiences of adolescents in farming and herding societies.

Relatively High Sexual Freedom

Konner's (2005) hunter-gatherer childhood model indicates that forager adolescents have greater sexual freedom than non-forager adolescents. He finds cross-cultural support among Agta, !Kung, and Ache foragers as they value, or at least permit, premarital sexual freedom. A cross-cultural study by Textor (1967) shows sexual freedom declines with cultural complexity, and a more recent study by Korotayev and Kazankov (2003) demonstrates that premarital sexual freedom in mobile hunter-gatherers is higher than in other subsistence systems. Their study shows that it is high regardless of descent system or post-marital residence pattern, both of which are good predictors of premarital sexual freedom in farming and pastoral cultures.

Sexual freedom also exists among Aka adolescents. A favorite activity during adolescence is traveling to other camps to visit and "check out" the opposite sex. Camp dances are a good time and place to flirt and possibly get together for sex. A lot of energy and time goes into flirting and looking for a prospective mate: "At a dance, the young people flirt and get together for sex. A girl can have different boys on the same day and take turns" (young adolescent male). The visiting *bokola* (Aka male adolescent) regards the presence of an *ngondo* (Aka female adolescent) hut as signaling her readiness for sexual relations and, perhaps, marriage. If the young adolescents are interested in each other, the boy approaches the girl. If she

is in agreement they may have a brief sexual liaison or begin a long-term relationship. If the two adolescents remain interested in each other, the *bokola* will stay in the girl's natal camp and perform brideservice.

Generally, as noted earlier, Aka females enter puberty at around thirteen years of age, with menarche at about fifteen to sixteen. Girls are non-fertile for several years and by age eighteen to twenty are generally married and able to sustain a pregnancy. Aka males tend to be nineteen to twenty-two or so when they first marry. Both sexes say that this stage of life is the "best" as they can now "look to marriage" and family. However, individual variation exists in the adolescents' decisions regarding when to move out of their parents' home, with whom to engage in sexual activity, and when to marry. Many adolescents mention beginning sexual activity early, although many wait until late adolescence. Some prefer multiple partners, but numerous, both male and female, do not. As with every aspect of their lives, there is great tolerance and respect for individual variation and choice.

The Aka do not value chastity highly. Whatever choices Aka adolescents may make regarding sex, such as when to engage in sexual relations, with whom, how many partners to have, and mate selection, are made without parental influence:

The girls like to sleep in their own homes. When the breasts start coming out is when they know to build their hut and then the men start coming to ask for them . . . It's better if your parents like the boy that you like and want sex with, but we do not have to get our parents approval. (Young Aka adolescent girl)

Early sexual experimentation is not uncommon among hunter-gatherer groups. Jerome Lewis found among the Central African Mbendjele hunter-gatherers that "kids do plenty of sexual experimentation in a very free and uninhibited way" (personal communication, 2010). Early sexual activity is a way in which adolescents establish new corollary social networks and closer bonds with their peers, and find potential mates and future "helpers at the nest" prior to the adult responsibilities of significant subsistence contribution, parenting, and marriage.

Long-Distance Exploration

Most studies of forager mobility have focused on subsistence and residential movements, but here we focus on how long-distance mobility in forager adolescence impacts mating and the development of social-economic networks. Adolescents are transitioning from investment in somatic to reproductive interests and are particularly interested in finding a marriageable partner. A quantitative study of how far Aka individuals of various ages and both genders travel in their lifetime found that individuals were most likely to explore and travel long distances between ten and twenty-five years

of age (Hewlett et al. 1986b). Aka travel for a variety of reasons—attend a funeral or dance, locate places to forage, and/or visit family. Traveling is important for maintaining and establishing social-economic networks and finding mates. Mating distances were calculated and a strong relationship was found between exploratory range and mating distance for males, but not females; how far an Aka male travels related to how far he had to go to find a mate.

A study comparing mating distances of foragers and farmers/herders found that foragers have significantly greater mating distances (MacDonald and Hewlett 1999). Forager population density is lower, so they have to travel farther to find a similar number of potential mates. Because foragers generally marry in late adolescence, this is the time of long-distance travel. It is important to point out that risk-taking exists during these exploratory treks. Travel is perilous, as any number of hazards can be encountered such as illness, strangers, or injuries. Travel and exploration are important in forager adolescent life as they can lead to marriage and the establishment of social-economic networks, both of which can enhance their fitness and survival.

Autonomy and Self-Directed Social Learning

Respect for autonomy is, as noted, a foundational schema among the Aka and most foragers. Forager autonomy and self-directed learning have been described for infants and children (Hewlett et al. 2011), and here we provide examples of its development and amplification during adolescence. Aka adolescents come and go as they please; travel to other camps; work or not work; begin sexual activity; build their huts; and receive scarifications for beauty—how, where, and when they want. In the Aka egalitarian society, autonomy, freedom of choice, and individual expression are vital, “sacred” ideologies fiercely upheld and valued. Young adolescents choose, for example, when to have their front teeth filed. As a young Aka girl related,

If you are a young girl, you decide to point your teeth. Pointing the teeth is for beauty. If you do not get your teeth pointed, people will laugh at you and think you look like a chimpanzee so you get your teeth pointed to distinguish yourself. It is good to do this. If you are a man or woman searching for a wife or husband and you see someone who does not have pointed teeth, you say, ‘You there, you are like a chimpanzee. You have big teeth like a chimpanzee! I do not want you.

Adolescents choose when to have their teeth pointed, but they are not, as the young Aka girl explained, simply choosing *when* to have this done; they are choosing to form a distinct social identity, different from the neighboring farmers, but similar to those immediately around them. Teeth-pointing is, as well, a way of establishing and signaling self-identity as a maturing, attractive, and available mate.

As with teeth pointing, travel, and other forms of autonomous decision making, knowledge acquisition is generally self-directed. Aka adolescents choose when and whom to follow, and this occurs within a context of continued close physical and emotional contact, an environment where trust and social-emotional security are pervasive. The social context of learning, whom the Aka are close to most of the time, and at what ages and how often they are around these “teachers” is important in understanding from whom learning occurs, the way in which self-directed learning occurs, and what Aka adolescents are learning. Prior to adolescence, Aka children learn through a variety of mechanisms (e.g., play, dancing, singing, exploration) cultural values, beliefs, and practices within specific and differing social and physical contexts (Hewlett et al. 2011). A good proportion of Aka social learning is early, rapid, and mostly vertical (meaning from parent to child) up to age four to five (Hewlett et al. 2011). As previously noted in the study by Kaplan, a great deal of social learning also occurs in adolescence (Bogin 2011). Emotional and physical closeness are such that parents continue to be key facilitators of cultural transmission. Adults other than parents also play important roles in adolescents’ daily lives, providing the potential for both horizontal (friends and peers) and oblique (other adults) cultural transmission (Hewlett et al. 2011). Although they usually learn from their same-sex parent, as noted, knowledge acquisition is generally self-directed; and, with autonomy paramount, the adolescents choose which parent, or other knowledgeable person, to follow and to learn from: “These children need to have this knowledge and desire and they themselves decide when to learn . . . But the knowledge of each person is different, a person is not wrong in what they say and do” (Aka mother). As several adolescents told me: “My father taught me the work of women, to prepare food, and my mother taught me this too and how to hunt and kill the animal” (a young adolescent girl). “Father taught me how to care for babies, to soothe and feed them” (adolescent boy). These were not unusual cases, as learning, like earlier infant nursing and weaning, is initiated by the individual. During adolescence Aka males are learning complex rituals associated with hunting, mating, and childcare practices (see Takeuchi, this volume), whereas adolescent females learn complex subsistence, social and sexual skills, through a variety of mechanisms such as imitation, observation, and play (Hewlett et al. 2011; Hewlett 1986a).

The increasing range of adolescent social and sexual exploration, acquisition of complex subsistence skills, and increasing knowledge of the supernatural world are taking place at a distinct period of adolescent brain development, a time in which “abstract thought is possible” (Lewis 2008, 299). With some combination of these “biological changes in brain” and changes in socio-cultural contexts, “new cognitive capacities” arise (Nasir 2005; Tamnes et al. 2010). As a young adolescent Aka girl explained, “My parents did not teach me this when I was too little and did not have knowledge, but when I was older . . . I was given knowledge. This knowledge

comes from both your mother and father, from grandparents to grandparents. It is passed down generation after generation."

Minimal, Nonobligatory, Responsibility for Subsistence or Baby Care

Konner's (2005) childhood model also indicated that middle childhood and adolescence were relatively "carefree" in that not much was expected or asked of them in terms of sibling care or subsistence contribution. By comparison, farmer and herder children, especially girls, are expected to be "helpers at the nest." Infant care is obligatory, as may well be other subsistence responsibilities, such as watching and managing livestock or working in the family garden or fields. This lack of responsibilities is found in the three other forager groups reviewed by Konner (2010). This does not mean that forager adolescents do not assist with childcare or subsistence. They help in a variety of ways, but their efforts are nonobligatory and generally self-motivated and directed. The exception is the Hadza whose children and adolescents provide a substantial percentage of their daily calories and are expected to help with infant care (Blurton-Jones et al. 1994). Among the Aka, sibling care (care given by siblings including juveniles and adolescents) in both matrilineal or patrilineal settings is less than other female caretakers combined (Meehan 2005, 74). Caretaking by Aka adolescent boys and girls exists, but it is infrequent.

Bahuchet's (1990, 38) quantitative study of Aka subsistence work by age found that adolescents provided 19 percent of the total work of in a camp; adult males contributed 35 percent, adult females 34 percent and elders 6 percent. Adults did most of the work to provision children, adolescents, and the elderly. Although adolescents take care of their siblings and make marked contributions to subsistence procurement, the important point is that their contribution is nonobligatory, and few or no social sanctions exist for refusal to contribute. As an older Aka woman explained, "When they (adolescents) are asked to get water or find the manioc, they refuse. They would rather do amusing things. They prefer to do what they want to do with their friends. When the parents ask, they do not do these things." This is in sharp contrast to their farming neighbors whose adolescents face physical punishment and social sanctions if they refuse to contribute to subsistence activities or sibling care.

Lack of Reliance on Specific Others for Subsistence and Health

Part of the human adaptive pattern is that adults provision their adolescents. Considerable debate exists in anthropology as to which allomaternal caregivers are particularly important for child survival—some say grandmothers (Hawkes 1998) and others say fathers (Hill et al. 1996). A study by Draper and Howell (2005) shows that no specific relative(s) had an impact on !Kung forager child growth. The first author replicated their study with

the Aka but used more detailed health indicators (e.g., body mass index, mid-upper arm circumference measurement, body fat percentage, and skin fold thicknesses), and found the same—a full complement of biological relatives, or even specific kin such as grandmothers, had no overall bearing on the nutritional status and health of Aka adolescents. Both studies suggest forager ethos of giving and extensive sharing ensures that children and adolescents are fed and taken care of by many individuals rather than one or a few specific individuals (i.e., grandmother or father).

Physical and Emotional Intimacy with Parents and Other Adults

Unlike great apes, foragers do not have a dramatic break from mothers at adolescence. Aka adolescents grow up living in a physical and social world with intimate physical and emotional proximity to others to whom they are related and who know them from early infancy. Forager camps are small, living space is dense, and Aka are in near-constant physical contact and/or visual and hearing range of one another. From birth onward, they are in nearly constant physical contact with others, being held quite regularly as two, three, and four years old (44 percent, 27 percent, and 8 percent of daylight hours) (Hewlett 2007; Hewlett et al. 2011). Older children, adolescents, and adults engaged in a wide range of activities, e.g., hunting, gathering, or working on farms, often situate themselves so they are physically close to one another. At dances or when singing, cooking, visiting, making baskets, they sit thigh to thigh or with their arms and legs intertwined.

By adolescence, foragers spent 25 percent of their time in adult-child proximity groups and 45 percent of their time in child-only proximity groups while in camp. They spend 60 percent of the day in adult social or work groups and 40 percent of day in child-only social and work groups while outside of camp (Boyette unpublished manuscript; Hewlett 1992). Continued close physical contact with parents and others in dense social context continues into the night hours, as forager children (never) and adolescents (rarely) sleep alone. Between the ages of eight and twelve, Aka children sleep with adults and others 85 percent of the time, and even by the age of eighteen, Aka adolescents are sleeping with adults or others (but not next to a sexually active family member of the opposite sex) 75 percent of the time (Hewlett 2007). As the beds are small, there is constant physical contact during the night. At the age of eleven or so (the timing is up to them), as noted, the boys and girls may decide to build their own huts. But it is not unusual for the adolescent, particularly on cold nights, to return to the small family bed of their parents or grandparents.

But it is not simply physical proximity that is important to Aka foragers. Emotional intimacy is significant as well. In a study the first author conducted on Aka foragers' and neighboring farmers' adolescent grief, it was found that Aka foragers placed an emphasis on the love and emotional bonds they had with others, which helped them work through their grief,

whereas for farmer adolescents, it was the material items of the deceased they received that helped to assuage their feelings of grief (Hewlett 2005).

Physical closeness was a source of comfort in grief also, as mothers, fathers, or other kin held the young Aka as they grieved. A young adolescent boy, deeply grieved over the loss of his uncle, explained, "I loved him a lot and he went with me into the forest to hunt and walk . . . I cried a lot, and after the burial the people in camp listened to me and held me and after a while the sadness lessened. I understand that death is for all the world, and with death it is all finished." One young Aka girl sadly shared, "After the death, I was afraid for a long time. I did not eat well or sing and dance, and I cried for a long time, but then my mother held me and helped to find good food for me and amusing things to do, then the sadness diminished." For the Aka, it is within the intimate circle of family and friends that the adolescent finds comfort in the face of the finality of death and the sadness of their loss: "My family consoled me and happiness came again."

Aka adolescents are protected, held, slept with, valued, and continually surrounded by other children and adults in the intimate life of the camp while they are physically, socially, and cognitively developing. Physical and emotional proximity are "key" not only for physiological and emotional support in an environment of risk, where approximately half of all children die before the age of fifteen, but also for social learning and identity formation. This is an extension of the infant and childhood pattern but is unexpected from a Western developmental psychology perspective as generally it is thought adolescence is a time in which there is increasing identity separation from parents. This level of adolescent closeness and proximity to adults is not as common in farming or pastoral societies (Hewlett et al. 2011).

Female Initiation Ceremonies

Adolescent initiation ceremonies exist in forager and non-forager cultures in relatively similar frequencies (57 percent of forager and 55 percent of non-forager cultures in the SCCS), but foragers are much more likely to have public rituals for a girl's first menstruation than are non-foragers. Nine of eleven forager cultures and thirty-six of seventy-nine non-forager cultures with data in the SCCS have menstruation ceremonies (Fishers exact test, $p = .05$ [two-tailed]) (see also Barry and Schlegel 1980; Schlegel and Barry 1985). Why are rites of passage for girls particularly pronounced in hunting-gathering societies? Brown (1963) argues that menarche or puberty ceremonies are more likely to be found in societies with matrilineal or bilocal residence patterns, which are common to hunter-gatherers, because it is a way to mark the adolescent female's transition to adult status. By contrast, a young woman's transition to adult status in patrilineal societies is marked by her departure to her husband's household. The rites of passage, Brown suggests, help to aid the girl and her community in commemorating and adjusting to her new status and role as a reproductive adult member.

Paige and Paige tested a hypothesis somewhat similar to that of Brown and found that female menstrual ceremonies are more likely in societies with social structures that inhibit male-male alliances and strong fraternal interest groups (i.e., those with matrilineal residence or a "weak resources base" both of which are common among hunter-gatherers) in order to elicit social support for female initiates. Additionally, societies lacking a surplus of resources to support more elaborate ceremonies tend to have "simpler and less costly" menarche ceremonies (103).

For an egalitarian society such as the Aka, gender roles and tasks are fluid, and what differentiation does exist becomes pronounced in adolescence. As Turnbull (1961) describes of the Mbuti's *elima* and as Takeuchi describes in Chapter 7, girls are "presented with a dance ritual" when they reach menarche and young adolescent boys "on their first hunt receive medicine thought to possess magical properties from their fathers". Transitioning from childhood, adolescent males are taught specific hunting rituals, medicine, and techniques, and adolescent girls acquire gender-specific social-sexual knowledge. Once the young girl begins to menstruate, she is taught specific food taboos, and while she is "seeing" her monthly blood can no longer sleep in the same family bed with males that hunt (father or brothers), and in the past, touch hunting implements.

Key foundational schema are transmitted and framed around biological development, i.e., knowledge of menstruation as *ekila*, referring to "blood, taboo, a hunter's meal, animals power to harm and particular dangers to human reproduction, production health and sanity" (Lewis 2008, 299). Taboos associated with *ekila* "begin to suggest explanations for key areas of cultural practice . . . defin[ing] reproductive potential, productive activities . . . moral and personal qualities . . . shared so that group members experience good health, unproblematic childbirth and child rearing and successful hunting and gathering . . . the basic components of a good life" (ibid.). Maturing into adults, adolescents develop the cognitive ability to learn and understand "key areas of cultural knowledge, cosmological, gender and political ideology" (ibid.).

Rite of passage ceremonies prepare the way for entry into new roles, identities and knowledge as maturing individuals. The Aka, with an egalitarian ethos as part of their foundational schema, practice prestige avoidance and discourage drawing attention to particular persons, therefore rite of passage ceremonies are of a short duration and without much public display or fanfare.

Lack of Adolescent Identity Crises

Adolescent identity development as described by Erikson (1968) and Marcia (1966; 1980) is a time of conflict, crisis, doubt, confusion, insecurity, and questioning of self. These issues are rare or do not exist as characteristic features of adolescence among the Aka and other foragers (Condon 1987).

This may also be true in some farming and pastoral cultures, but due to the foundational schema and habitus described previously, these patterns are particularly less likely with foragers. There is great predictability in social relations, generally everyone is known in the community. There is a sense of belonging, trust, acceptance of individual choices, autonomy, temperaments, and personalities. Caregiving patterns throughout childhood and adolescence are consistent, indulgent, and supportive. Adults give and provide emotional, social, and economic support but they seldom, if ever, direct or intervene in the choices and lives of their adolescents. Adult contingencies, common in the West, such as "once you show me you can take on xxx responsibilities, you can have more freedom to stay out later," do not exist. The Aka and other foragers also have an immediate return mode of thought, which means concerns about where one is going, what one will do later in life, or who one will be are minimal to nonexistent among the Aka. Some may think that foragers have no "identity crisis" because they have few alternative choices available to them. However, there are other ways of being and opportunities available and known to them as they live in close proximity to farming populations and visitors from the capital city and foreign visitors as well (NGO's, missionaries, anthropologists) are frequently observed.

For the Aka, the intimate relations experienced in infancy continue into adolescence and adulthood. Through these interactions with parents and others in camp, the child learns how to survive and flourish in the tropical environment, what it means to be Aka, and what is expected of them in later life. While adolescents are traveling to different camps, working on villager farms, meeting strangers, establishing social networks independent of their parents, it is within the embrace and intimacy of the extended family. This contributes to the development of autonomy and the integration of social and personal identity. Adolescence for many, in Western psychology, is a time in which the child begins to assert his or her identity as a unique individual, but for the Aka, this process of individuation and autonomy, in a sense, began in infancy. As adolescents, the Aka do not express desires to separate from parents, nor do they have ambivalent feelings about who they once were, who they are and who they can become.

Parent-child conflict, occurring when the "wants and desires of the maturing individual no longer coincide with the expectations of the parent" (Condon 1987, 15), seldom occurs for Aka adolescents. The "wants and desires" of both the parent and the adolescent are somewhat similar—to continue and expand family bonds and the intimate relations built around the core values of a sharing and trust. All sixty-five adolescents interviewed in a study by the first author said that the most important people in their lives were parents or other family members. Adolescents also listed parents as those to whom they turned for comfort and advice, who they spent most of the day with, and to whom they felt "closest". Peers were seldom listed as the persons to whom they felt closest or turned to for comfort. This may

have to do with the fact that their peer groups are small, especially in the forest camps, but in some large Aka camps where peer groups were larger, the answers were the same. Although it is often assumed that the relationship between the adolescent and parent changes in the adolescent's bid for identity and autonomy, creating conflict, these expressions of individuality, such as acting out, rebellion, and separation from parents via conflict, are rare or do not exist among the Aka. Condon (1987) describes the same among Inuit foragers.

It may be in part that the close relations are due to hunting and gathering as an activity, a social event among friends and family, in which children, adolescents, mothers, and fathers all participate together. But hunting and gathering among the Aka is also a social activity with the forest itself. The trust and confidence that they feel toward the forest, (demonstrated by the freedom and sense of security in which they travel through the environment) is similar to the confidence and intimacy they feel within the family. Human-to-human relations and human-to-nature relations are similar; there is not a dichotomy between the two (Hewlett et al. 2000). The bonds that adolescents feel toward their parents are based upon an ideology of intimacy, and sharing, ideologies that are a reflection of the bond the Aka feel toward the forest. The Aka trust in the future as they trust in forest; the future will take care of itself. The forest is an integral part of their lives, patterning behavior and ideology, and Aka adolescent social and self-identity.

It is in some ways remarkable that social-emotional security, high self-esteem, and trust in what tomorrow will bring, appear common in spite of high mortality rates in which 45 percent of Aka children die before reaching the age of fifteen (Hewlett 1992). This pattern would tend to promote low parental investment, (see Ellis Chapter 3, this volume), fear, and insecurity in the future, but Aka adolescents, surrounded by a social-emotional environment of trust, intimacy, and care, are confident, autonomous, secure individuals.

Cultural Energy, Creativity, and Play

In the context of increased cognitive abilities, reputation building, lack of subsistence obligations, substantial leisure time, forager values and social structures, and enhanced physical health, forager adolescents often take the lead in energizing the community. Forager communities are relatively small and forager subsistence is demanding. Aka adolescents are often the ones to get dances and singing going, interact vigorously with infants, and "play" on the net hunt. Foragers value autonomy, creativity, and play. While children play to learn, Aka adolescents "play" to practice and learn adult economic, social, sexual skills, to improve the success of first reproduction (Bogin 2011). The "play" continuing into adolescence often takes the form of dancing in which adolescents express ingenuity and invention,

as well as learn about gender roles and sexuality. "Playful" polyphonic singing and other forms of music emphasize and transmit values of intimacy, autonomy, innovation, and creativity. A combination of these features demonstrates their interest and abilities in creativity and innovation. This is probably the most speculative of the forager characteristics, but we include it here as this has impressed us for years, many aspects of forager life amplify these features, and our informal observations of farmers and pastoralists suggest they are less pronounced in these groups although we have been unable to quantify it.

DISCUSSION AND CONCLUSION

Generalization about forager adolescence can be understood in the context the non-human primate literature, distinctive features of human evolution, and foundational schema common to foragers. Table 4.2 summarizes the features of hunter-gatherer adolescence described above. Items 1–5 are part of our non-human primate heritage and exist in many cultures, 6–11 are part of the human adaptive complex and are also common to most cultures, and items 12–20 are relatively unique to hunter-gatherers due to their foundational schema and culturally constructed niche.

The foundational schema of extensive sharing plays a role as forager adolescents are provided for by many individuals; their health and development is not impacted by a specific person, and the dramatic shift from mothers to others that occurs among higher primates does not occur with foragers or in other societies. Mothers continue to remain nearby and help provision Aka adolescents even after marriage. Consistent with the forager values of egalitarianism and respect for autonomy, adolescents have great freedom and self-direction. Adults do not have structural authority over adolescents as they do in farming and herding or other small-scale cultures.

Some features of forager adolescence are simply a matter of demography—i.e., their culturally constructed niche. Camps have twenty-five to thirty-five individuals and population densities are low. This means there may be three to four other adolescents in a camp, with one or two of the same gender. It is not surprising, therefore, that in early adolescence they develop close friendships with one or two other individuals of the same gender, that most social or "play" groups consist of children and adolescents of various ages, and that adults remain proximal. Foragers also value close physical and emotional proximity to others, they learn this in infancy and childhood, and it persists into adolescence. Adolescents continue to co-sleep with their parents and other adults (e.g., grandparents). Also, because population densities are low adolescents have to travel further to meet, and choose from, a reasonable number of alternative mates.

Mixed support exists for Bogin's hypothesis regarding the function of human adolescence. Forager adolescents do not have many obligations, have

Table 4.2 Summary of Hunter-Gatherer Adolescence

Characteristic features that humans share with other higher primates:

1. Reputation building and increased risk taking, especially among males
2. Increase in sexual activity, beginning shortly after puberty
3. Increase in time spent around sexually active members of the opposite sex
4. Increase in time with members of the same sex to develop alliances and networks
5. Increase in time learning complex social and subsistence skills

Characteristic features that emerged as part of the human adaptive complex:

6. Caregiving, particularly by adolescent females, of infants and young children
7. Sexual division of labor in which adolescent males and females learn different complex tasks
8. Moderate to intensive food and care provisioning by adults
9. Marriage (relatively stable pair bonding) and birth of first child often by late adolescence (especially for females)
10. Adolescents often live with stepparents
11. Adolescents acquire in-depth understanding of supernatural beliefs

Characteristic features relatively unique to hunter-gatherers due to their foundational schema and culturally constructed niche:

12. Relatively high sexual freedom
13. Long distance exploration
14. Autonomy and self-directed social learning
15. Minimal, nonobligatory, responsibility for subsistence or baby care
16. Physical and emotional intimacy with parents and other adults
17. Lack of reliance on specific others for subsistence and health
18. Female initiation ceremonies are common
19. Lack of adolescent identity crises
20. Cultural energy, creativity, and play

considerable free time, and experience increases in weight and BMI in late adolescence (larger body size, increasing skill in subsistence activities, consume more) consistent with hypotheses that reserve capacity building occurs. On the other hand, forager adolescents do not appear to provide much allo-maternal care, or at least not that much more than middle-aged foragers. By comparison to farmers, forager adolescents, especially females, provide substantially less care of infants and young children (Hewlett et al. 2011).

How do forager data inform issues regarding U.S. adolescents? The Inuit forager versus U.S. comparison by Condon (1987) is excellent and applicable to the data in this chapter. Inuit, Aka, and other forager adolescents have a high degree of autonomy, lack of parental interference, and go and do as

they please. Everyone knows everyone, strangers are few and far between, adolescents have access to any resources they can find, and do not experience an identity crisis as described earlier. Condon points out that by comparison, an adolescent's life in the urban industrialized West is characterized by movement throughout the day to substantially different social-emotional settings (e.g., school, sports events, stores, friends' houses); adolescents are often surrounded by complete strangers, or people he/she did not grow up with or know very well; low physical and emotional proximity to others; unequal access to resources; and, pronounced parental control and authority. Social hierarchy and power are important because the child learns from an early age that people are judged better or worse than others, that inequality is part of daily life. Grades in school are a classic example, but teacher-student, parent-child, supervisor-worker are other examples of daily experiences with hierarchy. By comparison, foragers have cultural mechanisms that reinforce extensive sharing and equality, that it is important to respect the autonomy and worth of each person. As Condon points out, it is not surprising that U.S. adolescents, in a world of strangers and lack of power and autonomy, are more likely to act out, rebel, and engage in risky behaviors as they try to assert individual identity (1987).

Konner argues that departure from the hunter-gathering patterns of infant and childcare may "constitute a discordance and . . . have psychological and biological consequences that merit further study" (2005, 64). This chapter identifies features unique to forager adolescence, several of which are inconsistent with characteristic features of adolescents in other small-scale and urban-industrial cultures. We are not in a position to identify psychological and biological consequences of the discordance, but agree with Konner that future research should evaluate the implications.

University libraries contain a plethora books about the nature of adolescence in Western urban industrial cultures while only a handful of books exist on hunter-gatherer adolescence. While research on hunter-gatherer children does take place, it is generally focused on babies and young children (Hewlett and Lamb 2005). Our hope is that this chapter will encourage others to test our characterizations, determine whether the discordance between forager and urban industrial adolescence is important or not, and provide more ethnographic details of hunter-gatherer adolescence, a way of life that characterized most of modern human history.

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