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SEX AND SEARCHING FOR CHILDREN AMONG AKA FORAGERS AND NGANDU FARMERS OF CENTRAL AFRICA

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ABSTRACT Few systematic studies exist on the sexual behavior of hunter-gatherers and rural central Africans. This study examines the reasons for having sex, the frequency of sex (coitus) per night, sexual practices during the post-partum sex taboo, and beliefs and practices regarding homosexuality, masturbation, the use of sexual stimulants and a variety of other sexual behaviors. Thirty-five Aka and twenty-one Ngandu adults who were or had been married were interviewed. For adults 18–45 years of age, the average frequency of sex per night was about three times among the Aka and two times among the Ngandu. Age had no impact on the frequency of sex per night. Aka averaged two days and Ngandu averaged three days between days with sexual activity. Aka and Ngandu cultural models or reasons for having frequent sex emphasized their desire for children rather than pleasure. Homosexuality and masturbation were rare or nonexistent in both groups. Aka men either did not believe in the post-partum taboo or if they had this belief they did not seek out other women during this period; almost all Ngandu men said they believed in the taboo but did not adhere to it and sought out other women. Aka men had the greatest knowledge and most frequent use of plants as sexual stimulants.

Key Words: Sexual behavior; Hunter-gatherers; Congo Basin; Cultural models; Frequency of sex.

INTRODUCTION

I. Sexual Behavior in Small-Scale Cultures

Sex is a human universal and part of every culture, but rarely do cultural anthropologists discuss sex in their ethnographies. What we do know about human sexuality is based primarily upon studies in urban industrial cultures; few systematic studies of sexual behavior exist in small-scale cultures, which are presumably somewhat closer to the non-stratified cultures that characterized most of human history and the environments of evolutionary adaptation.

Since few studies of sexual behavior exist in small-scale cultures, the primary aim of this paper is to describe sexual behavior among the Aka foragers and Ngandu farmers of central Africa and to place Aka and Ngandu sexual practices into broader cross-cultural context. Hundreds of studies exist on African hunter-gatherers, but as far as we know few systematic studies exist on the sexual behavior of these groups. *Nisa* (Shostak, 1981) is a popular book about the sexual activities of one !Kung woman, a paper by Bailey and Aunger (1995) on Efé

forager and Lese farmer sexuality focuses on sexually transmitted diseases, extramarital affairs, fertility patterns and papers by Tanaka (1989) and Sugawara (2005) describe social-sexual relationships and extramarital affairs among the |Gui/|Gana San. Ethnographic studies of sexual behavior among horticulturalists are more common, starting with the classic study by Malinowski (1929) followed by others, especially in South America (e.g., Gregor, 1985; Crocker & Crocker, 1994). Many cross-national and a few ethnographic studies of sexual behavior in Africa have been conducted in relation to the HIV/AIDS epidemic, but most of these studies are conducted by public health officials and focus on urban settings, risky sexual behavior, number of sexual partners, types of social-sexual relationships and knowledge about sexually transmitted diseases (Setel, 1999; Smith, 1991; Eaton et al., 2003; Parker, 2001). Our paper is different in that we focus on frequency of sex within marriage, reasons for having sex, and sexual beliefs and practices about the post-partum sex taboo and other aspects of sexuality of relatively rural central Africans.

We decided to systematically study sexual behavior after several campfire discussions with married middle-aged Aka men who mentioned in passing that they had sex three or four times during the night. At first we thought it was just men telling their stories, but we talked to women and they verified the men's assertions. We are not human sexuality specialists, but thought it worthy of systematic investigation, that is, to talk to many people of both genders, a variety of ages and from various localities about sexual beliefs and practices.

The paper is divided into three parts. The first part describes sexual behaviors and cultural models of sexuality among the Aka and Ngandu. The second part places the beliefs and behaviors described among the Aka and Ngandu into cross-cultural perspective. How unusual or common are the sexual beliefs and practices of the Aka and Ngandu? Sexual behavior literature in other small-scale cultures and Euro-American cultures is reviewed in this section. The final section summarizes and contextualizes the results.

II. Ethnographic Background

The Aka foragers and Ngandu farmers in this study are neighbors in the tropical forest region of the Central African Republic. The population density is less than one person per square km and both groups have similar high child mortality (35–45%) and high fertility (5–6 live births per woman).

Aka and Ngandu have frequent social, economic, and religious interactions and see each other on a regular basis, yet have distinct settlement patterns, modes of production, male-female relations, and patterns of child care (Hewlett, 1991). Aka camps consist of 5 to 8 small (1–2 m diameter) temporary houses with 25 to 35 individuals. The camp occupies an area of about a 55 m². Ngandu villages consist of 50 to 400 individuals and each house is at least 5 m away from the next. The Aka are primarily net-hunting foragers, move their villages several times a year, have minimal political hierarchy (i.e., chiefs with little/no power over others) and relatively high gender and intergenerational egalitarianism. The Ngandu are slash and burn farmers, live in the same house and work the same areas of land most

of their life, and have strong chiefs and marked gender and intergenerational inequality. Polygyny used to be common among the Ngandu (>35%), but is declining in frequency whereas polygyny among the Aka is relatively infrequent (<15%).

Aka sharing is substantially greater than among the Ngandu. The Aka share frequently (every day), with many individuals (most if not all of camp), and share most of what they capture or collect. The Ngandu share food on a daily basis with members of the household, and occasionally share food and labor with neighbors and clan members (i.e., cooperative labor a few times a year). Individuals who do not share and accumulate food or things are suspected of or the targets of sorcery, which is believed to cause illness or death. These beliefs and practices help maintain household equality and are deterrents to accumulation.

Aka men and women regularly contribute calories to the diet. Aka women are more likely to contribute a majority of the calories to the diet when they live near the village because Aka women often obtain village foods in exchange for working in the fields of Ngandu women. Aka men's contribution to the diet increases when they move to forest camps. Aka men and women conduct several subsistence activities together, including net hunting, the primary forest subsistence activity (Hewlett, 1991).

Gender egalitarianism among the Aka is about as pronounced as human societies get. Women frequently hunt, sometimes on their own, women usually have control over the distribution of food sources and gender roles are extremely flexible (Noss & Hewlett, 2001). Aka men provide more direct care to infants than fathers in any other known culture (Hewlett, 1991). By comparison, Ngandu women are the primary providers of calories to the diet and marked gender inequality exists. Ngandu men clear the fields for planting during the dry season, but women plant, weed and harvest food products throughout the year. If an Ngandu family has coffee fields, generally men are responsible for planting and production. Most Ngandu women engage in an informal market economy and sell one or more of the following: 1) manioc, peanuts, corn or plantains from their fields; 2) local alcohol; 3) forest products traded with Aka; or, 4) palm oil.

Gender inequality is also greater among the Ngandu in that women and children are supposed to demonstrate deference and respect to men, especially older men. Men and women eat separately, men are supposed to receive larger portions of food, women cannot touch hunting implements, such as spears, and women seldom occupy political positions, such as village chief.

III. Methods

The sample consisted of 56 individuals; the demographics of the sample are summarized in Table 1. We were primarily interested in the Aka when we started the research but decided to include some Ngandu as a basis of comparison. This is why fewer Ngandu are in the study. We included both older and younger individuals to try and get a sense of sexual behavior throughout the life course. We were primarily interested in sexual activity within marriage so all individuals interviewed had been married at least once, most had been married several times,

Table 1. Demographics of sample population

AKA	Number	Mean Age	Age Range
Females	17	33.4	18–75
Males	18	30.0	21–70
Total	35		

NGANDU	Number	Mean Age	Age Range
Females	11	27.5	25–70
Males	10	36.5	26–70
Total	21		

but a few, especially older women, were not married at the time of the interviews. All of the Aka belonged to the same band living along a particular forest trail and all of the Ngandu lived in the same village. None of the Ngandu men and women were married to each other and 37% of the Aka men and women were married to each other. Only a few members in each ethnic group were in polygynous relationships so we were unable to determine the impact of polygyny on sexual behavior.

The interviews focused on four topical areas: history of marital relations, history of frequency of sex in marriage, ideas about sex and fertility, and general questions about sexual practices. Questions about marital history focused on mate attraction, reasons for divorce, reasons men give for bringing in a second wife into the family, reasons women give for accepting a second wife, sexual jealousy and spousal violence. Once the marital history was established individuals were asked about the frequency of sex with each spouse, their explanations for frequency of sexual activity, and how they responded to the post-partum sex taboo after the birth of a child. Finally, individuals were asked general questions about their knowledge of masturbation, homosexuality, preferred locations for sexual activity, sexual positions and use of sexual stimulants. This paper presents analysis of the data on frequency of sex, cultural explanations for sex, and general sexual practices; data on divorce, jealousy and mate attraction are published elsewhere (Hewlett & Hewlett, 2008).

The first author interviewed men and the second author interviewed women. Interviews were conducted in the local languages, Diaka and Dingandu, but all interviews with Ngandu were conducted with male and female Ngandu research assistants. Ages were estimated from known event charts for the area and long-term research in the community. The authors conducted marital histories among the Aka, but Ngandu men or women who spoke Aka and French conducted interviews about sexual ideologies. Authorization to conduct the research was obtained at the national and local (e.g., village or camp) levels. Informed consent in the local language was obtained from each individual. Confidentiality was emphasized.

The Aka and Ngandu were very open and willing to talk to us about sexual behavior, but this was in part due to our long-term relationships in these communities. The first author has conducted research with these groups of Aka and

Ngandu for over 35 years and the second author has conducted research with them for over 10 years.

AKA AND NGANDU SEXUAL ACTIVITIES AND CULTURAL MODELS

I. Frequency of Sex per Night

Due to the limited data on sexual activity over age 45 the following analyses are limited to sexual activity when individuals were or are currently 18–45 years of age. Aka reported having significantly more frequent sex (coitus) per night than did Ngandu (Aka, 3.0 times per night on average versus Ngandu, 2.2 times per night on average, $t=2.7$, $df=56$, $p=.01$, two-tailed). Males and females in each ethnic group did not report significant differences in the frequency of sex per night (Aka males 3.0, Aka females 2.9 [$t=0.3$, $df=62$, $p=.79$, two-tailed]; Ngandu males 2.5, Ngandu females 1.8 [$t=1.7$, $df=29$, $p=.09$, two-tailed]) which explains why both Aka men and women reported significantly more frequent sex per night than did Ngandu men and women. Both Aka and Ngandu men and women reported resting or sleeping between each sexual episode during the night. We did not attempt to systematically determine whether males or females experienced orgasm during each sexual activity, but the few times we informally asked about this males said they experienced orgasm each time while females indicated it was experienced at some point or at least once during the night.

Frequency of sex per night declined slightly with age. Men in early marriages (when they were between 18 and 29 years-old) reported having sex with their spouse 3.1 times per night while men in marriages later in life (30–45 years-old) reported having sex 2.8 times per night. Frequency of sex for Aka women in marriages at those ages declined from 3.0 to 2.5 times per night. Ngandu men's reported frequency declined from 2.9 to 2.1 while Ngandu women reported a slight increase, 1.7 to 2.0. None of the age changes were statistically significant.

Frequency of sex over age 45 was not calculated because most of the older women were single due to the loss of their husband, divorced or stopped having sex with their husbands. There is a general belief and practice that when one's own children start to have children of their own it is time to reduce sexual activity to help with the grandchildren and make sure existing dependent children survive (Hewlett et al., n.d.). Once past menopause some women (and men) have sexual relations as concerns about pregnancy do not exist.

II. Days between Sex

Aka under the age of 45 also reported somewhat fewer days of rest between sexual encounters than did Ngandu of similar age (2.1 average number of days of rest between sexual activity for the Aka versus 2.7 days of rest for the Ngandu; $t=-1.9$, $df=34$, $p=.05$, two-tailed). Males and females in each ethnic group did not report significant differences in the number of days between sex (Aka males 2.2, Aka females 2.1; Ngandu males 3.0, Ngandu females 3.0). The data imply

that, on average, 18–45 year-old Aka have sex about three times per week and three times per night. Ngandu 18–45 year-olds have sex about twice a week and two times per night.

A significant relationship existed between age and number of days rest between sex for Aka ($r^2=.18$, $p=.001$, $n=57$) adults under age 45 and almost reached significance for the Ngandu ($r^2=.13$, $p=.06$, $n=26$) suggesting that more frequent sex during the night leads to more days rest, but the frequency of sex only explains 18% and 13% of the variability. Other factors are probably more important.

III. Cultural Models of Sexual Activity

Both Aka and Ngandu have frequent sex, in large part, because they feel that pregnancy and fetal development are linked to frequent sex. Frequent sex makes pregnancy more likely and enhances fetal development.

The Aka were the most emphatic on these points. One young Aka male said “I am now doing it five times a night to search for a child. If I do not do it five times my wife will not be happy because she wants children quickly.” Aka females had similar feelings as expressed by one woman “I had sex with him to get infants, not for pleasure, and to show that I loved him”. Another Aka woman said, “It is fun to have sex, but it is to look for a child.”

Ngandu had similar views as one male said “Having sex three times a night is to look for a child NOT for pleasure” and an Ngandu woman with high child mortality said that “after losing so many infants I lost courage to have sex.”

Aka males were the only ones to mention that they wanted to have frequent sex and many children to build a camp. “My father is dead and I need to make a big family. My first wife found my second wife for us because she was also looking to have many children.” This 35 year-old man with two wives reported having sex 3–4 times a night with 2 days of rest in between. A 25 year-old man said, “It is work to find children and get children to make a large camp like my father.” He reported having sex 4–5 times a night.

As is evidenced in some of the above quotes, having sex was often viewed as *bila* (work). Some of following comments from Aka men and women emphasize this point. “The work of the penis is the work to find a child.” “I am always looking for a child, it is pleasurable, but it is a big work.” “*Bila na bongedi*” (sexual desire is work). Several informants compared the work of getting food and the work of searching for a child. “Getting food is more difficult, but both are lots of work. Sex life is not as tiring as work during day; the work at night is easier because can make love then sleep.”

Sex was seen as pleasurable, but pleasure was secondary or tertiary to searching for a child or to demonstrate love towards a mate. Ngandu men and women were somewhat more likely than Aka to mention pleasure as an important part of sex life. Ngandu women said “Sex is pleasure, work, sign of love and necessary for infant growth” and “Sex is for pleasure and for work to find kids.”

The Aka emphasized the importance of male semen to fetal development as 87 percent of informants said male semen was essential to pregnancy and fetal development whereas Ngandu informants indicated both men and women contrib-

uted fluid to make pregnancy and fetal development. Ngandu women said they did not have to climax each time during a night, but that when women were excited or climaxed they contributed substance to fetal development.

IV. Other Aspects of Sexual Activity

1. *Sexual stimulants*

All Aka and Ngandu men and women were aware of the bark of particular trees and plants that were sexual stimulants for men, but none for women. Women did not use any of the plants identified for men and often did not know the local names of the sexual stimulants. Men varied dramatically in their knowledge and frequency of use of the sexual stimulants. Among the Aka, *bolumba* (botanical identification unknown) was by far the most common. One chews on the bark of the tree, preferably while drinking palm wine, which is said to enhance the effects of *bolumba*. All Aka men had taken it at least once during their life, most took it once or twice a month and one man indicated he took it as often as twice a week. Aka men also identified a greater number of stimulants by comparison to Ngandu men. Half of the Aka men identified the bark of two trees or vines and one man identified five. Only one Ngandu man identified two sexual stimulants and several indicated they obtained the sexual stimulants from the Aka. Aka spend most of the year in the forest so it is not surprising they have more knowledge about the properties of forest plants. Ngandu, but not Aka, men also indicated that simple enemas were sexual stimulants. Enemas are viewed as contributing to general good health among the Ngandu, and Ngandu men indicated an enema “gives force to the penis.”

There was no clear relationship between age and frequency of use of sexual stimulants. Most indicated they learned about the bark from friends when they first married.

We also asked informants about what happens if man is not able to perform. Aka men and women generally indicated it was not a problem. They simply go back to sleep, wait awhile, and try again later. A few women said that if it continued for several days that they would go into the forest to find *bolumba*. Ngandu women also indicated it was not a major event and that they would wait and be patient. Ngandu men exhibited the greatest anxiety about not being able to perform. One man indicated his wife takes his penis and says to it “What is going on here?” She then rubs it, stimulates it, and they have sex. If he does not keep it up she will not give him water, coffee or food in the morning. If he is not able to maintain an erection she will divorce him. “She must climax otherwise she will not be happy.” One Ngandu man said “It is very important for the penis to work, if not it leads to divorce. Men are obliged to have sex.”

2. *Homosexuality and masturbation*

Another reason we conducted a study of sexual behavior was that several years ago we asked Aka men about homosexuality and masturbation and were surprised that they were not aware of these practices, did not have terms for them and how difficult it was to explain both sexual practices. They laughed as we tried

to explain and describe the sexual activities. We thought that maybe they were shy or embarrassed individuals, but this would have been uncharacteristic of the Aka we had known so long.

All Aka and Ngandu indicated that homosexuality (gay or lesbian) was unknown or rare. The Aka, in particular, had a difficult time understanding the concept and mechanics of same sex relationships. No word existed and it was necessary to repeatedly describe the sexual act. Some mentioned that sometimes children of the same sex (two boys or two girls) imitate parental sex while playing in camp and we have observed these playful interactions.

Ngandu were familiar with the concept, but no word existed for it and they said they did not know of any such relationships in or around the village. Men who had traveled to the capital, Bangui, said it existed in the city and was called “PD” (French for *par derriere* or from behind).

Like homosexuality, it was difficult to explain self-stimulation to the Aka. They found it unusual and said it may happen far away in Congo, but they did not know it. A specific word did not exist for it. We asked men, in particular, about masturbating before they were married or during the post-partum sex taboo and all indicated this did not occur.

While the idea or practice of self-stimulation appears to be strange to the Aka, their origin myth indicates that Tolé, the mythical first human created by *bémbé*, the creator god, had sex with fruit of *pombé* (*Strychnos aculeate*) while he was away from his spouse for long periods of time to hunt elephants or other activities (Thomas et al., 2007). Pombé is a long vine and the vine supposedly connected husband and wife while they were apart, so having sex with pombé fruit was connected to having sex with his wife. Aka men said they preferred a woman who tasted good, which at first we thought may refer to cunnilingus, but it was instead a reference to the symbolic relationship between the pombé fruit and women in the origin myth.

Masturbation also appears to be rare in other forest areas. We asked Robert Bailey (personal communication) about his experiences of trying collect semen for fertility studies from Lese men in the Ituri forest of the Democratic Republic of Congo. He indicated it was very difficult to explain to men how to self-stimulate to obtain semen samples. He said that despite explicit and lengthy instructions three of four semen specimens came to him mixed with vaginal secretions.

3. Locations and positions of sexual activity

We also asked Aka and Ngandu about where they usually have sex, sexual positions, and oral and anal intercourse.

Most sex is preferably at night in the hut or house. Two young Aka men said they made love in the forest with lovers while another man said he makes love in the forest if he has to. One Aka woman said she made love in the forest while collecting caterpillars when nobody was around. As one Aka man said “We do not have much sex during the day because women close their legs during the day so men do not get excited.” Ngandu men and women said they always have sex in the house, usually during the evening.

All Aka indicated that men mounted women whereas most Ngandu men but no Ngandu women said that women sometimes mount men. Ngandu men indicated that women mount men when they had affairs, especially in travels to the city. About half of the Aka men and all Aka women said either the man or woman can initiate sex, while among the Ngandu about half the men and women said either can initiate sex. Most Ngandu women said they were shy about initiating sex and complained about their husband's advances. Aka women were not shy about initiating sex and did not complain about their husband's advances.

Aka men said they never touched their wife's clitoris before intercourse, but said they would touch or pull her pubic hair. Most Ngandu men said they touched a woman's clitoris or vagina before intercourse. Oral and anal sexual activities were unknown or very rare. Ngandu men who traveled to the capital city were familiar with oral sex and said they liked it, but said women in the village did not do it. One Aka woman said that a "man never puts the clitoris in his mouth; if he does he will vomit."

We did not investigate how often men or women had orgasm during coitus. Ngandu and Aka had terms for male ejaculation, but not for female orgasm. All informants clearly understood female orgasm as they described women shaking and trembling during coitus. Aka and Ngandu men indicated they climaxed each time they had intercourse during the night, while women generally reported experiencing orgasm, but not necessarily each time.

Robert Moise, an anthropologist who conducted research in the same village, was kind enough to share the following story with us about a song the children developed about orgasm (Moise, personal communication).

Some children were walking in the forest one day and suddenly they heard some strange sounds in the distance. So they crept stealthily over in the direction of the sounds and they discovered two adults from their camp who were having sex. They decided to hide at a comfortable distance and watch the proceedings. The conversation between the two adults is then recounted and it goes something like this:

Suma (man)—How do you want it?

Saki—Oh, I want it big.

Suma—How do you want it?

Saki—Oh, I want it long ...

Saki—Oh, Suma, its so big and long ...

They continue to have sex, each time Suma thrusts (*ba*), he says, "*Engba-di?*" (Did you come?)

They continue to have sex until both of them have orgasm. The children crept away and then took off, running and laughing. They then made up a song that recounts the event, whose chorus is "*Ba! Engba-di?*" "*Ba! Engba-di?*" "*Ba!*" (the male act of thrusting) and "*Engba-di?*" (The literal translation of *Engba-di* refers to the state of having your eyes roll up in your head, i.e., the moment of orgasm).

4. *Post-partum sex taboo*

The post-partum sex taboo is a cultural belief that a husband and wife should abstain from sexual activity after the birth of a child until the child is walking

Table 2. Male responses to the post-partum sex taboo

	Do not believe in taboo and has sex with wife (number of responses)	Respects taboo and does not search for other women	Respects taboo, but searches for other women
Aka men	27% (5)	45% (8)	27% (5)
Ngandu men	0%	10% (1)	90% (9)

well. If a parent sleeps with someone else the child will get a specific illness, called *ekila dibongo* (taboo/illness of the knees), and potentially die. Beliefs vary by individual, but several individuals said that if you happen to sleep with someone else that you could obtain indigenous medications to prevent the child from becoming ill. The post-partum sex taboo has been of interest to anthropologists for some time, but few data exist of what individuals actually do during this period. Do all individuals have this belief? If they have the belief do they respect it or do they engage in other sexual activities (masturbation, homosexuality, sex with others)?

Table 2 summarizes the responses of Aka and Ngandu men. Some Aka men did not believe in the post-partum taboo and continued to sleep with their spouse while most Aka men believed and respected the conditions of the taboo and did not seek out other women. About one-fourth of the Aka men said they would seek out other women, but these were primarily males under 25. It is not clear if this is due to changes in cultural beliefs or a function of their age. Ngandu men on the other hand, almost always searched for other women during this time regardless of their age. As one Ngandu man expressed “no way I will wait one year. I will search for another woman; masturbation is not an option. If I search far away I will use a condom. I am not searching for children, only pleasure.” We asked the men if they masturbated during this time, but as mentioned above, masturbation and homosexuality are not cultural options, not because they are known and punished, but because they simply do not believe or engage in these forms of sexual activity.

All Ngandu and 72% of Aka women said they followed the taboo and said that their husbands either followed or women hoped their husbands respected the taboo. This period is a risky time of marriage, especially among the Ngandu, as mothers usually work a little less during this period and have increased energy requirements, but the husband may be searching for another wife.

CROSS-CULTURAL COMPARISONS

I. Comparisons to Sexual Behavior Studies in Other Small-Scale Cultures

How do sexual behaviors among the Aka and Ngandu compare to the sexual beliefs and practices in other small-scale cultures?

Several studies exist on sexual behavior in nation states (Francoeur, 1999), but systematic studies of sexuality in small-scale cultures are rare. Cross-cultural studies

of sexual behavior in small-scale cultures exist (e.g., Ford & Beach, 1951; Beach, 1977; Broude & Greene, 1976; Frayser, 1985), but these studies are problematic because the sexual data are extracted from general ethnographies. Sexual data are often based upon interviews with one or two informants, from missionary or traveler's accounts, or a Victorian-era male with clear ideas about appropriate sexual behavior (Davis & Whitten, 1987).

Suggs (1971) demonstrates these problems in his critique of Linton's (1939) classic study of Marquesan sexuality. Linton indicated Marquesan sexuality was open (e.g., absence of restriction of sexual gratification), oral sex was common and that mothers spoon fed infants rather than nurse them because mothers were concerned about how feeding might impact their breasts as a means of sexual attraction. Linton's ethnography provided the basis for Kardiner's (1939) theory of child development that suggested Marquesan mothers did not have maternal instincts. Suggs ethnohistoric and systematic ethnographic study of Marquesan sexuality rejected these and other characterizations of Marquesan culture. Linton based his descriptions on one informant and one or two observations.

But even with these limitations, these studies provide some estimation of the prevalence of certain sexual beliefs and practices. This section examines these large cross-cultural studies as well as a few detailed studies of human sexuality in small-scale cultures as they pertain the data described on the Aka and Ngandu.

1. Frequency of sex

Few studies exist on frequency of sex per night. Broude & Greene (1976) found that frequent sexual activity between spouses is highly desirable in 17% of the cultures with data, but that the modal incidence of intercourse cross-culturally is once per day. The most common citation of frequent sex per night (e.g., Ford & Beach, 1951; Hatfield & Rapson, 1996) comes from Gorer (1938) who reports the Lepcha men of Tibet have intercourse 5–9 times a night. But if one reads his ethnography, he states this frequency may occur with young and first married couples, but “copulation once nightly is still the general rule for married couples” (Gorer, 1938: 330). Most of his informants were men.

Aranda of Australia (Roheim, 1933) are also noted for having coitus 3–5 times per night, but again if one reads the ethnography the frequency refers to young and healthy men. Junod's (1962: 520) description of the Thonga is also widely cited. He reports men having intercourse with three or four wives in one night, but the data come from a single footnoted report from a Western physician treating Thonga men who sought treatments to help procreate children.

Based upon a few focus group interviews with the Mangaian males (no females) of Polynesia, Marshall (1971: 123) reports that 18 year-old males have three orgasms per night, 7 nights per week, but by age 38 males report having sex once per night 2–4 times per week. Marshall thought the young male reports were exaggerated.

Merriam (1971) was one of the few to try and systematically collect data on frequency of sex among the Bala of the Democratic Republic of Congo. He asked 10 men how often they had sex that night for 10 days. The 10 men, who averaged 47 years of age, had a mean frequency of 1.5 times per night, which is not

substantially different from the 2.1 reported above for Ngandu males. All 10 men reported having intercourse three times or more during the 10 day period and on 18% of all nights men had sex three or more times.

2. Reasons for having sex

Although no systematic study exists, the idea that frequent and regular sex is linked to fetal development and a strong desire for children is common in the ethnographic record. Ford's (1945) study of reproduction found that conception required repeated intercourse among the Ainu, Hopi, Jivaro, Kwoma, Sema and Tikopia.

In South America, the belief that a woman has to have regular intercourse, with one or more men, for normal fetal development is common (Beckerman & Valentine, 2002). Vivieros de Castro (1992) calls these practices "seminal nurture" because many South American cultures have ideas about conception as "nurture"; the fetus grows as it is fed regular infusions of semen from men and blood from women. Among the Barsana, semen is a "kind of milk." The idea that conception happens at one point in time is rare or nonexistent (Beckerman & Valentine, 2002).

The links between sex, fetal growth and the desire for children is also found in many part of Africa. When Merriam (1971: 98) asked Bala men about reasons for having intercourse they persistently stressed, without exception, the importance of having children. The men pointed out that having children was the best thing in life, and the worst thing in life was to have children die. Many men stated that the purpose of life was to have children. Other reasons stated for intercourse, in no particular order, included to have pleasure, because a man "loves" his wife, and to have something to eat, "because the woman you have intercourse with will prepare food for you."

In terms of the role of male versus female fluids being essential for fetal development, Ford's (1945) limited cross cultural study found that 8 cultures were similar to the Aka where male semen were essential for fetal development (i.e., the female womb being the place of growth, but reliant on male feeding of semen) while 9 cultures were similar to the Ngandu where both male and female fluids were essential for fetal growth.

3. Homosexuality

Ford & Beach (1951) conducted one of the first cross-cultural studies of homosexuality and found that 37% of cultures for which information was available (76 cultures), homosexual activities among adults were totally absent, very rare, or only occurred in secret. The authors suggest that this is, in part, due to punishments or social pressures against homosexuality. In 63% of cultures homosexual activities were considered normal or socially acceptable for certain members of society.

Minturn et al. (1969) conducted a survey of cultures in the Human Relations Area Files (HRAF) and found data on male homosexuality in 52 of 135 cultures (almost no data on female sexual preferences). It was either not known or ignored in 8% of cultures, was acceptable in 27% of cultures, condemned or ridiculed in 48% of cultures, and a well-accepted practice in 17% of cultures.

Broude & Greene's (1976) cross-cultural study of sexual practices used the

Standard Cross Cultural Sample (SCCS), which is considered the best representative sample of the world's cultures, and found that homosexuality was absent or rare in 59% of cultures with data. In terms of attitudes towards homosexuality, 21% of cultures with data (42 cultures) accepted or ignored homosexuality, 12% of cultures had no concept, 26% of cultures ridiculed or mildly disapproved, but did not punish homosexuality, and 41% of cultures strongly disapproved and punished.

The Aka and Ngandu data on homosexuality are not inconsistent with the cross-cultural record. Homosexuality does not exist in all cultures.

4. Masturbation

Ford & Beach's survey (1951) of world cultures at the time indicated that masturbation by males or females was seldom reported in ethnographies. "Despite societal disapproval, there is evidence that adult males masturbate, at least occasionally, in a few societies other than our own, although this behavior is apparently rare." The authors go on to describe cultures when men do it in secret. In terms of females, "some women in a few societies other than our own occasionally masturbate, although the practice generally meets with social disapproval (Ford & Beach, 1951: 158)." The ethnographies in their survey were conducted in the 1900–1945 time period so the possibility exists that the ethnographers' biases influenced the limited data and impressions of cultural disapproval of the practice.

5. Post-partum sex taboo

Few data exist on men and women's views of the post-partum sex taboo. Merriam (1971: 87) indicates "Bala men say that no man could go for this length of time without having sexual relations, and therefore, it is reasonable to expect that he will search for other women during the post-partum sex taboo."

6. Location

Sex is generally in the house or hut when a group lives in private family dwellings or partitioned rooms but if the group lives in unpartitioned multiple dwellings, couples prefer to have sex in private in outdoor locations (Ford & Beach, 1951). Diamond (1997) indicates that the desire for privacy during sex is part of human nature.

II. Comparisons to Sexual Behavior Studies in Euro-American Cultures

How do the Aka, Ngandu and other small-scale data compare to what is known in Euro-American cultures?

1. Frequency of sex

Existing national surveys of sexual behavior do not ask individuals about frequency of sex per day; they ask questions about the frequency of sex per week or per month (Smith, 1991; Wellings et al., 1994). No Euro-American or other national study that we are aware of has examined frequency of coitus per night. Most national sexuality research focuses on number and types of sexual partners and types of sexual activity (Francoeur, 1999).

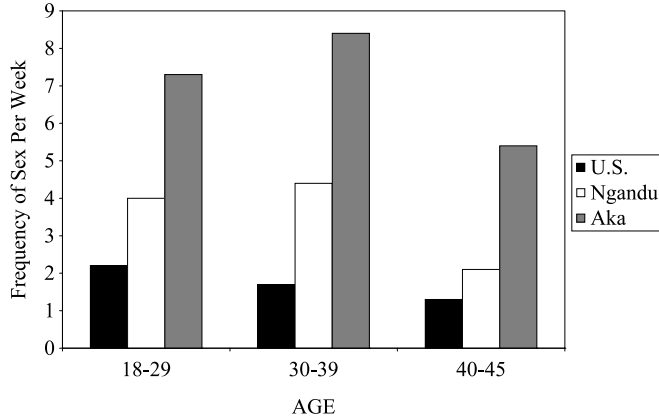


Fig. 1. Frequency of sex per week by age in three groups.
Note: U.S. data from Smith (1998)

Figure 1 converts Aka and Ngandu frequency of sex per day and days rest by age into weekly rates of sexual activity and compares them with reported weekly rates of married couples in the U.S. Aka and Ngandu have substantially more frequent intercourse than U.S. couples and Aka couples have more than twice as frequent sex than any of the other two groups. It is also interesting that frequency of sex per week increases somewhat in middle age among the Aka and Ngandu. Aka and Ngandu reasons for having sex help to explain the slight increase as these are prime years to build and have children and it is necessary to make greater efforts than in the younger years. It also provides another line of evidence that an age effect up to age 45 for sexual frequency is minimal for Aka and Ngandu.

2. Reasons for having sex

Meston & Buss (2007: 477) point out “Why people have sex is an extremely important, but surprisingly little studied topic.” Euro-American cultural models emphasize that intercourse is primarily a recreational and pleasurable activity that can promote social-emotional health and well being of individuals or couples. In the West, the procreative role of coitus is of secondary or tertiary importance, except in cases of infertility (Coates, 1999; Francoeur, 1999). The Meston & Buss study (2007) was one of the first to systematically evaluate why people had sex in the U.S. They interviewed over 1,500 undergraduate men and women and found several themes that characterized the top reasons for having sex: pure attraction to the other person, experiencing physical pleasure, expression of love, having sex because of feeling desired by the other, curiosity or seeking new experiences, making a special occasion for celebration, and having sex to escalate the depth of the relationship. Having sex to have a child was rarely mentioned and in the bottom 50 of the 277 reasons given. While this study is biased in several ways, it is worth pointing out that the young adults in our study, i.e., those under 25 years of age, were some of the most adamant about having sex to build a child. The Western cultural emphasis on recreational sex has also led some researchers (e.g., Small, 1993), to suggest that human sexuality is similar to bonobo apes

because they have frequent non-reproductive sex, engage in sex throughout the female cycle, and use sex to reduce social tensions (i.e., linked to social-emotional health). The bonobo view may apply to Euro-Americans (plural), but from an Aka or Ngandu viewpoint sex is linked to reproduction and building a family.

3. *Homosexuality and masturbation*

The Euro-American human sexuality literature gives the impression that male and female homosexuality and masturbation are common if not human universal, in part, due to a reliance on several systematic and detailed studies conducted in nation states. One human sexuality college textbook states, “it is reasonable to conclude from the data we have that masturbation is a very common practice among adolescents, and that the vast majority of people masturbate at some time in their lives” (Kelly, 1998: 359). The same textbook indicates that “Same-gender orientations and relationships apparently exist to varying degrees in all cultures... subcultures of people with same-gender orientations seem to appear in all societies, and social norms apparently have little effect on whether these orientations emerge” (Kelly, 1998: 393). Most nation-state studies indicate homosexuality occurs in 1–3% of the population (Hock, 2006).

Overall, the Euro-American patterns are relatively unusual by cross-cultural standards—frequency of sex appears to be greater in small-scale cultures, at least in the two cultures in this study, the reasons for having sex are substantially different and homosexuality and masturbation appear to be more frequent in Euro-American cultures. This makes sense as the cultural, demographic and political-economic settings are dramatically different. But as more people in the world move towards a Western political-economic system, it is possible that more people will begin to think that the Western patterns are common, if not universal and natural, when in fact cross-cultural data suggest the sexual patterns in the West are quite unusual.

DISCUSSION

This is the first study to document the frequency of coitus per night of men and women in small-scale cultures. Previous ethnographers suggested frequent coitus per night in young men, but no study has examined reports of both men and women. Since few other studies exist it is hard to know how common frequent coitus per night is. But it is clear that the primary reason for frequent coitus per night in these two ethnic groups is the desire for children, not pleasure or recreation. But pleasure clearly motivated some sexual activity because Aka and Ngandu men sought sexual partners during the post-partum taboo period and some couples older than 50 reported sexual activities. Sexual activity was also perceived as taking considerable time and energy. Another contributing factor to frequent sex per night is that both Aka and Ngandu wake up several times during the night for other reasons such as, to keep the fire going, take care of a fussy baby, talk or eat. Lack of electricity in Aka and Ngandu settlements may also contribute to the frequency of sex.

Two factors possibly contribute to the Western perception that coitus happens once per night. First, the biology of human sexual reproduction may have influenced Western perceptions. Biologically, males, but not females, need rest (refractory period) after orgasm before having intercourse again and unlike some females, most males generally do not experience multiple orgasms during intercourse (Kelly, 1998). These facts may give the impression sex cannot occur much more than once a day. It is also possible that Western sexual practices influenced how biological research was conducted and represented. Second, most Western cultures value sleeping through the night. These values are reflected in the great efforts Western middle class parents expend to get their young children to sleep through the night. These factors may, in part, contribute to the perception that couples have intercourse and then fall asleep for the remainder of the night.

The lack of male or female homosexuality and masturbation surprised us. Existing human sexuality textbooks give the impression these are human universals, but it was a struggle to explain these behaviors to all Aka and most Ngandu. Sexual play is common in childhood (e.g., Aka children mimic adult intercourse in the middle of camp, and Ngandu children make human wooden puppets that have intercourse) and sexual activity is a frequent and open topic of conversation. The general egalitarianism and openness about sexuality gave us the impression that homosexuality and masturbation would be common or at least known to most people. Several factors may help to understand these patterns. First, sexual intercourse in marriage is regular and frequent and most Aka and Ngandu adults are married throughout their reproductive years so the need for alternative sexual expressions may not be necessary. Second, local cultural models emphasize the desire for and importance of children and the role of intercourse in building a child. Homosexuality and masturbation take energy and do not help to build a child. Finally, ideas and practices of homosexuality and masturbation are limited in sub-Saharan Africa (see Evans-Pritchard, 1932, for an exception) by comparison to other culture areas, such as Melanesia (e.g., Herdt, 1999).

Cultural models and contexts clearly influence human sexual activities. Aka and Ngandu have coitus several times per night, in part, because strong feelings about searching for children exist. Homosexuality and masturbation are rare or nonexistent, not because they are frowned upon or punished, but because they are not part of the cultural models of sexuality in either ethnic group.

Cultural contexts may help to explain some of the observed differences between Aka and Ngandu. Ngandu women do most of farming, provide most of the family calories, and receive little assistance in childcare or provisioning from fathers or others by comparison to Aka women. Consequently, Ngandu women are more likely than Ngandu men to be tired at the end of the day. Ngandu women indicated that they were often exhausted at the end of the day and that their husbands usually initiated sexual activity. Aka women did not complain about their workloads and both men and women were described as initiators of sexual activity. The lack of sharing and women's workload among the Ngandu may help to explain why coitus per night was less frequent among the Ngandu than among the Aka.

One of our fears in writing this paper was that the Aka and Ngandu might be viewed as "others" with unusual and exotic sexual practices, which was a common

practice in early anthropological descriptions of human sexuality (Davis & Whitten, 1987). But hopefully the cross-cultural data make it clear that Aka and Ngandu sexual practices and beliefs are not unusual by cross-cultural standards. We have also neglected to emphasize the commonalities shared by married couples in most cultures of the world: passion and love of mates, desire for privacy during sexual activities and jealousy over having intercourse with others.

Finally, the frequency of coitus, the reasons for having sex, homosexuality, masturbation, and other presented in this paper question how human sexuality is represented in many college textbooks. Representations often reflect the interests and priorities of middle-class Euro-American cultural models. We know very little about human sexuality cross-culturally and we have to be extremely cautious about generalizing.

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