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Cultural Pressure On Sex Differences

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Abstract
This paper suggests that sex differences in the behavior of children exist but are not necessarily intensified under certain cultural conditions. Under conditions of culture change to a sedentary economy, certain elements of male and female differentiated behavior are exploited in the process of increasing sex differentiation.

The proponents of primarily environmental determination of sex differences often point to cultural forces such as economic requirements for sexual division of labor and attendant parallel sex role socialization of children and suggest that sex differences in skill, temperament, and behavioral style are results of the different experiences which individuals encounter in performing sex specific tasks. Thus the greater assertiveness, achievement, and self-reliance widely reported for males (both young and adult) has been interpreted as deriving from characteristically masculine experiences (Murdock 1949: 204–206; Barry, et al. 1957). Females are reported to be more nurturant, obedient, sensitive to the needs of others, and some claim that this results from pressure for particular kinds of behaviors in anticipation of eventual motherhood and primary child rearing responsibilities. In many societies girls get direct practical training in nurturant and prosocial[1] behaviors because they are expected to take care of younger children, whereas boys typically are not. Ember (1973) provides an ingenious case study of the capacity of child caretaking and other typically feminine tasks to increase the frequency of prosocial and nurturant behaviors in boys. In another study Whiting and Whiting (1971) show how a particular type of work, herding, can also affect other behaviors in non-herding contexts.

The implications of studies of this type are that an individual acquires habits of action and interaction which are conditioned by everyday experiences. These habits generalize or extend into other areas of an individual's life. Therefore, to the extent that girls and boys acquire different habits in the course of sex role socialization, these behaviors are thought to carry over into other areas, contributing to the characteristic and divergent sex role stereotypes reported for most societies. This interpretation of the findings about sex differences leans heavily on social learning theory (see Gewirtz 1969; Mussen 1969; Mischel 1966; Maccoby 1959; Kagan 1964).

Another interpretation of sex differences in behavior is that the sexes begin life with different repertoires of response potential and that in reaction to some categories of stimuli, at least, the sexes will respond differently, thereby conditioning differential responses in the people around them. The two types of explanation are not antagonistic, nor mutually exclusive. The latter merely assumes that biologically determined characteristics contribute to subtle differences of potential between the sexes and that

sex role socialization in most societies implicitly recognizes these differences. Considering the adaptive evolution of human behavior, one might expect some emotional and/or cognitive differences to coevolve with anatomical and functional reproductive differences. The species-wide system of human socialization and enculturation should develop in concert with underlying response proclivities, not in opposition to them. In these terms, social learning theory as an explanation for sex differentiated behavior is indebted to heredity insofar as it provides a structure for certain behaviors which are more easily learned for the one sex or the other.

The ethnographic literature contains a wealth of material on sex roles, and, while certain sources report apparent "reversals" of transhuman sex role stereotypes (Mead 1935) or instances in which particular behavioral dimensions typically associated with the opposite sex have been transposed (Barry, et al. 1957; Ember 1973; Whiting and Edwards 1973), the majority of reports indicate that males are more intractable, egoistic, spatially more explorative, rougher, less prosocial, and more peer-oriented, whereas females are typically more compliant, prosocial, less spatially explorative, less rough, and more involved in interaction with adults than are boys.

Unfortunately, the cross-cultural data on sex roles generally are not amenable to the conceptual separation of the contributions of environmental and hereditary forces in determining observed sex differences. There are at least two reasons for this: (1) most societies studied by anthropologists lack effective birth control, with the result that functional reproductive differences between the sexes are confounded with the fact that most women of childbearing ages are more or less continuously pregnant or lactating and very much involved in the practical, daily constraints of child rearing; (2) in most middle-range tribal societies in which the bulk of anthropological research has been conducted, males and females are socialized from early childhood into divergent "tracks"—usually as a consequence of the sex division of labor. But, as pointed out before, there is generally the realistic expectation that all girls will be mothers and that child rearing will be the critical attribute of the female role, an attribute which sets the ground rules for the various other pursuits which also occupy women.

There is a long-standing tradition in anthropology of interest in sex roles, the division of labor, and the institutional correlates of sex differences. Two studies by Barry, Bacon, and Child point up the effect of economy on socialization and sex role socialization (1957, 1959). D'Andrade (1966) has surveyed the ways in which sex differences have been culturally institutionalized in human societies and has described the constellations of social institutions which accompany the types of sex role differentiation and sex inequality. Murdock (1949) extensively documented the regularities and irregularities in the sexual division of labor and noted that it is typically directly or indirectly attributable to differences in reproductive functions. Brown (1970) has pointed out that everywhere the work and social roles of women must be compatible with the demands of rearing and supervising young children. She argues that one need not assume that certain cross-culturally recurrent qualities of women's behavior were inherent, simply because women operate within situational constraints which make other behavioral and role choices impractical.

The fact that in certain societies some attributes of the regular pattern of sex role allocation have been reversed has been interpreted by some as indicating that cultural, rather than biological features are the primary forces shaping the division of labor. The studies by Barry, Bacon, and Child (1957), Whiting and Whiting (1971), Whiting and Edwards (1973), and Ember (1973) all provide support for this kind of assertion since in one way or another they indicate how experiences such as herding, or particular

types of task assignment, can considerably minimize sex differences in the behavior of children. Such research is, of course, crucial for our ability to quantify environmental input, though a limitation of these synchronic studies of the interaction of child behavior and cultural setting is that they do not answer the question about whether or not long-term changes have been made which will continue to minimize sex differences in the behavior of the individuals whose behavior was shown to be modified initially. In other words, it is still possible that ongoing socialization in concert with the shifting expectations and settings within which older individuals operate will reinstate conventional sex role and behavioral distinctions between adults.

Some material on !Kung Bushman child behavior which I collected in 1968 and 1969 bears directly on the heredity-environment perplex.[2] The data I will be discussing are drawn from two groups of !Kung who live in Botswana, Africa, on the northwestern edge of the Kalahari Desert. One group lives totally by nomadic foraging, the other group of !Kung, living about eighty miles to the north of the hunter-gatherer group, has recently become sedentary. The !Kung of these two economic bases provide insight into some areas of the heredity-environment puzzle because in the hunting and gathering groups most of the more obvious cultural practices which have been said in other societies to engender sex differentiated behavior are not present. The sedentary !Kung group has recently given up nomadic foraging and is in the process of changing over to a sedentary lifestyle in which cereal agriculture and small animal tending are economic mainstays with small inputs from wild food gathered by the women. In the settled economy, one can see the beginning of differential pressure on girls and boys which can be expected to have far reaching consequences in the area of adult sex role and power relationships (Draper and Cashdan n.d.).

The notion I will develop, however, is that in the hunting and gathering setting (which as stated does not put obvious differential socialization pressures on the sexes) there are, nevertheless, some consistent differences in the behavior of girls and boys which are not exploited or intensified by sex specific socialization practices. In the settled life and with a different economy, these differential proclivities of girls and boys persist, but in this context they are "picked up" and put to work. The particular dimensions of contrast in the behaviors of the foraging (bush) children are such that, without too much effort, one can see how girls in particular are "preadapted" to the exigencies of female role socialization which they encounter in the settled groups.

The Kalahari !Kung are well described in the anthropological literature. Scholarly reports in the 1950s and early 1960s came from Lorna Marshall in her description of !Kung living in South West Africa in areas immediately adjacent to the Botswana region on which I report. John Marshall has filmed and directed numerous ethnographic films on the !Kung of South West Africa. Richard B. Lee and Irven DeVore have contributed various articles on the !Kung of Botswana. More recently, a new series of publications has resulted from a "third generation" of !Kung researchers.[3] The !Kung are now quite reduced in numbers, amounting to only a few thousand, most of whom have given up their traditional hunting and gathering and who are now living sedentary lives, often in association with dominant, Bantu-speaking pastoral peoples of the area. A small minority of !Kung-speakers still live by nomadic hunting and gathering; of this minority I knew about 120 individuals who, in various band groupings, were living on the international border between Botswana and South West Africa in 1969. The majority of !Kung have given up nomadism and live near permanent water sources where they tend goats, donkeys, and a few cattle and attempt to raise crops. The people who are here described as "sedentary" are typical of many !Kung who no longer live by nomadic foraging. The village !Kung with whom I lived

had varying experiences with settled life. Some had been settled off-and-on for most of their lives; other families had taken up permanent residence for ten or fewer years.

My primary goal in the research among the !Kung was to investigate childhood and socialization practices in this hunter-gatherer society and to utilize the techniques of behavior observation and analysis which have been developed by John Whiting and Beatrice Whiting, their co-workers, and the authors of the *Field Guide for the Study of Socialization* (1966). The cross-cultural study of Barry, Child, and Bacon (1959) on the relationship between subsistence economy and child training practices demonstrated a link between the low surplus accumulation by hunter-gatherers and a particular type of socialization. The authors' findings, however, were based on a search of ethnographic literature; I wanted to see a contemporary hunting and gathering group firsthand to assess child training practices in a particular context. I had not known beforehand that !Kung of two contrasting subsistence types would be available to me in the Kalahari and that by observing in both contexts I would be able to draw inferences about the impact of the changeover to sedentism on a variety of social practices, including sex role differentiation.

I have stated earlier that there are sex differences in the behavior of bush (foraging) children and that these differences are not attributable, at least in any obvious way, to differential socialization. I also suggested that such differences as do exist can be regarded as untapped proclivities for the more overt forms of the female behav-

Table 1. Proportion scores showing location of subject children during spot observations.

	Ages 0–14 years		
	Inside the village	Outside the village but within eye/ear contact of adults	Beyond eye/ear contact with village and adults
Bush Girls	.77	.07	.16
Bush Boys	.50	.15	.35
Sed. Girls	.63	.15	.23
Sed. Boys	.61	.08	.30

Total number of spot observations = 327.
Total number of subjects = 77.

Table 2. In camp with adult supervision.
Average scores of children in number of minutes in ten in which children are in camp under the supervision of adults

	Ages 4–14 years
Bush Girls	9.0
Bush Boys	8.4
Sed. Girls	6.9
Sed. Boys	5.5

Total number of subjects = 43.
Total number of ten-minute observations = 178.
Average number of observations per subject = 4.

Table 4. Peer preference.
Average score for being in face-to-face interactive clusters composed of children only (spot observations).

	Ages 0–14 years
Bush Girls	.23
Bush Boys	.34
Sed. Girls	.17
Sed. Boys	.24

Total number of spot observations = 285.
Total number of subjects = 77.

Table 3. Average number of adults with whom children were observed in face-to-face interaction (spot observations).

	Ages 0–14 years
Bush Girls	2.5
Bush Boys	1.9
Sed. Girls	2.2
Sed. Boys	1.9

Total number of spot observations = 285.
Total number of subjects = 77.

ioral stereotype of dependence, compliance, nurturance, and sensitivity to the needs of others. Some of the ways in which the bush children contrast, behaviorally, are as follows: (1) girls are closer to home base than boys are (Tables 1 and 2); (2) girls show preference for face-to-face groups which include more adults than those groups in which boys are characteristically found (Table 3); (3) girls gravitate less to peer-only play groups (Table 4); (4) girls have more frequent physical contact with another person (Tables 5a and 5b); (5) they are manded[4] more often than boys are (Table 6a); and (6) they are manded more by adult females than boys are (Tables 7a–7d). Because of the complex reduction of data which proportion scores represent for some of the charts and because these observations do not represent the outcome of controlled experiments, I have not attempted to assess the statistical significance of individual categories. The combined effect of every category showing deviations in accord with prior expectations should make the significance of all of the categories combined very high.

I used several observation techniques in collecting these data on child behavior. I took spot observations on each child on repeated occasions and at different times of the day. Each time a series of spot observations were collected on the children of a group the order in which the subjects were to be observed was randomized. In the spot observation I noted such information as the child's location in space, the names of others in his vicinity and in his immediate presence, the whereabouts

Table 5. Average rate of physical contact as measured in spot observations.

(a) Ages 0–5 years	
Bush Girls	.70
Bush Boys	.42
Sed. Girls	.79
Sed. Boys	.39
Total number of spot observations = 139	

(b) Ages 0–14 years	
Bush Girls	.54
Bush Boys	.29
Sed. Girls	.45
Sed. Boys	.29
Total number of spot observations = 273.	

Table 6. Manding.

(a) Average rate of being manded per ten-minute observation, ages 4–14 years.	
Bush Girls	1.97
Bush Boys	1.32
Sed. Girls	1.54
Sed. Boys	1.45
Total number of ten-minute observations = 178.	
Total number of subjects = 43.	
Average number of observations per subject = 4.	

(b) Average rate of manding per ten-minute observation, ages 4–14 years.	
Bush Girls	1.18
Bush Boys	.69
Sed. Girls	1.47
Sed. Boys	.87

of his parents, and whether or not the child was in physical contact with another person. Along with the spot observations, I collected a series of systematic, randomized "elapsed time" observations on each child. These time observations ran in one case for ten minutes and in another case for one hour. In all cases only the subject child was the focus of the observation. I recorded commands issued by and received by the child as well as the age and sex characteristics of the mander and the mandee. Careful notations were also made on the location and location changes during the observation, personnel changes during the observation, along with a running description of the activity, if any, which absorbed the child's interest.

Table 7. Comparison of manders by sex and subsistence pattern.*

(a) Average number of mands received by bush girls; who accounts for what percentage of total mands directed at bush females, 4–14 years of age
Bush girls sent 25% of mands
Bush boys sent 17% of mands
Bush women sent 42% of mands
Bush men sent 16% of mands
Total number of mands received = 57.

(b) Average number of mands received by bush boys; who accounts for what percentage of total mands directed at bush boys, ages 4–14 years.
Bush girls sent 22% of mands
Bush boys sent 29% of mands
Bush women sent 35% of mands
Bush men sent 14% of mands
Total number of mands received = 58.

(c) Average number of mands received by sedentary girls; who account for what percentage of mands directed at sedentary girls, ages 4–14 years.
Sed. girls sent 44% of mands
Sed. boys sent 24% of mands
Sed. women sent 24% of mands
Sed. men sent 8% of mands
Total number of mands received = 72.

(d) Average number of mands received by sedentary boys; who accounts for what percentage of mands directed at sedentary boys, ages 4–14 years.
Sed. girls sent 39% of mands
Sed. boys sent 36% of mands
Sed. women sent 14% of mands
Sed. men sent 11% of mands
Total number of mands received = 84.

*These tables are based on the ten-minute observations.
Total number of subject = 43.
Total number of observations = 178.

From these observations (spot, ten minute, and one hour) computations were made of the various behaviors which appear in Tables 1–8. Some analyses are presented in the form of proportion scores. For example, a child received a proportion score of .4 on a particular behavior variable if he was observed four out of ten times exhibiting that behavior. Under certain conditions proportion scores can be more meaningful than the more intuitively tangible "average" behavior score for a class of subjects. This is especially true of these data on !Kung children since, due to their mobility, I was not always able to collect an equal number of observations of a given type on each child.

Table 8. Comparison of time spent in work by sex and subsistence pattern.

(a) Average scores showing number of minutes in ten-minute observations in which children were observed doing a type of work* which could be measured in minutes, ages 8–14 years.

	Type A	Type B
Bush Girls	0.0	1.25
Bush Boys	.39	0.0
Sed. Girls	.35	1.3
Sed. Boys	1.70	1.0

(b) Average number of minutes in an hour observation in which Bush children were observed doing a task which could be measured in minutes.

	2–6 years	7–14 years
Bush Girls	1	1
Bush Boys	.12	.60

Total number of hour observations = 18.
Total number of subjects = 18.

*Type A Work = Work such as fetching water, wood, herding or tending domestic animals, processing food, cooking. Type B Work = Gathering wild bush food in the vicinity of the camp or village. Data on this type of work are presented separately since this type of "work" is spontaneous (not directed by adults) and does not contribute to group welfare. (Children themselves immediately eat gathered food while they gather.)

Table 9. Child caretaking.[7]
Average number of child caring acts committed by a subject child per hour.

	2-6 years	7-14 years
Bush Girls	0	1
Bush Boys	.5	2
Sed. Girls		5.3
Sed. Boys	0	.42

Total number of hour observations = 55.
Total number of subjects = 38.
Empty cell means no subjects available in that category.

There are several aspects of !Kung economy and ecology which must be understood and which relate to the assertion that differential cultural pressure does not account for the observed sex differences in the behavior of bush children. The practice of assigning children work is essentially nonexistent among the foraging !Kung. (This practice, as stated earlier, is one which in most other traditional societies differentiates children by sex early in childhood.) In addition, older bush children are not made responsible for tending younger children. This type of role training, which in other societies is typically made available to girls rather than boys, does not contribute to different experiences by boys and girls.

The nomadic !Kung are a remarkably leisured society. Men and women work on the average only about three days per week in the food quest (Lee 1968). This is due in part to the extremely low human population density in this area of the Kalahari (one

person per ten square miles) and minimal pressure on available resources. In addition, given the !Kung mobility and their complex knowledge of edible plant and animal foods, the Kalahari supplies them with an extremely rich food supply. Food is sufficiently abundant and predictable that there is no economic need for bringing children into the labor force. Table 8a shows the extremely low order of task behavior by bush children as measured in the ten minute observation. Table 8b gives the same picture for bush children as measured in a series of hour observations on the same children.

Not only is there no economic need for bringing children into the labor force, but there are reasons, recognized by the !Kung themselves, for not encouraging children to participate voluntarily in adult work. Both men and women in the course of hunting and gathering, respectively, travel out from camp over a distance of many miles. These treks take them over waterless territory and through daytime temperatures which in some seasons are as high as 120 degrees Fahrenheit. If children went with the adult work groups, water, in many cases, would have to be brought from camp for them to drink. The children themselves would grow weary and would have to be carried. Carrying water and/or carrying the children themselves would reduce the efficiency of the adults. The !Kung typically discourage children from coming, and the children are quite happy to stay in camp.[5]

There is no lack of supervision of children whose parents are working on a given day. Adults alternate their days of food collection with one or more days of rest in camp. There is a tradition among the !Kung of watching out for each others' children, and this procedure requires no special arrangements and creates no indebtedness among parents.

Having described the conditions which keep children from working at primary food extraction, let me add that they are not put to work at the camp site either. Since the !Kung have extremely rudimentary material possessions and no food storage, there are none of the preparatory and maintenance tasks for which children in more complex economies are trained. Cooking is simple, involving boiling or roasting game meat or merely baking vegetable foods in the hot ashes of the family fire. Men and women do most of the cooking of the family food, and children help themselves during the day to leftovers. (See Draper 1972 and n.d. for a fuller description of children's activities.) Since the bush-living !Kung are also nomadic, the shelters are small and quickly assembled. This work is done by women in a few hours, and they do not enlist the help of children.

Child caretaking is not a task which segregates the sexes. The average birth spacing between siblings is four years (Howell n.d.a), and this fact, together with the !Kung practice of nursing into the child's third year, means that the mother-child bond remains intense and strong. In most respects there is no role for a child nurse. Furthermore, given the ubiquitous presence of other adults in camp, the !Kung can and do rely on *adults,* not older children, to do the regular and reliable supervision of children. While older children show a great deal of interest in toddlers and infants, they are not charged with the responsibility of caring for them for periods of any notable duration. Table 9 documents this trend clearly.[6]

In summary, children in the bush groups do not work, and differential task assignment and the different types of skills, attitudes, and experiences which girls and boys might acquire in such work is not a factor in their sex role socialization. The sex differences which are expressed are apparently the result of different choices made by the girls and boys themselves. I could detect no attitudes or value on the part of the adults which may have influenced the behaviors of the children. The possibility remains, of course, that there were some external cultural forces which produced the sex differences which I observed.

The process of identification with a parent, especially a same sex parent, is undoubtedly an additional factor which contributes to sex differentiated behavior in children. This phenomenon is not easily understood as an "external cultural force" since the impetus presumably originates within the child himself. Environmental factors, such as living arrangements, marriage form, work schedule, daily routine, etc., will impinge on the identification process in the degree to which any one or all of these factors affect the influence of the parent over the child and the access by the child to the parent. In !Kung society, women (as noted earlier) provide intensive care of children through the third year. This is most dramatically apparent in the practice of prolonged breast feeding and back carrying. These customs and their attendant effect on the behaviors of adult females with young children surely are noticed and internalized by girls. Once this happens, according to the theory of identification, the child will monitor her own actions, striving to approximate various aspects of the model's behavior. Beatrice Whiting (personal communication) has pointed out that since both men and women of the hunting and gathering groups of !Kung have equal power, girls should have little conflict in identifying with the same sex parent. Possibly in this egalitarian setting (and others) learning of sex role can proceed largely by identification for both sexes and without the need for overt instruction as it occurs in many other societies in secular and ritual guises.

I am assuming for the present that underlying biological differences accounted for the behaviors. While it is beyond the scope of this paper to discuss the physiological mechanisms involved in this differentiation, many scholars subscribe to the notion that fetal hormones act on the central nervous system in a way that presensitizes or pre-programs the brain to respond differentially to certain classes of stimuli (see Bermant and Davidson 1974; Broverman, et al. 1968; Diamond 1965; Gray 1971; Gray and Buffery 1971; Levine 1966; Kimura 1967; Garai and Scheinfeld 1968; Money and Ehrhardt 1968; Young, et al. 1964).

There are several behaviors which are characteristic of the bush girls and which have implications for the extent to which they come under the influence of adults. The girls are closer at hand from an adult point of view (Tables 1 and 2), they have a greater preference for adult society (Table 3), and they have less interest in their peers in comparison with boys (Table 4). The data on their social interactions (Tables 7a–7d) show that they interact more with adults, particularly women, but also with men. This is no doubt related both to their spatial proximity to supervising adults and to their apparent preference for adult company. It is also possible that adults call on them more frequently because of the two factors cited above. Such a pattern of being interrupted and redirected frequently by others may well reinforce a pattern of staying close to adults. Whiting and Edwards (1973) discuss similar findings and suggest that it may be related to higher female compliance. At any rate, it appeared to me while observing !Kung boys and girls that the bush girls gravitated more to the adults but that the adults did not deliberately select female targets from among the children; the adults simply interacted more frequently with those children who were closest.

The more restricted spatial range of females is a sex difference which has been reported in many studies by Western researchers. Blurton-Jones and Konner (n.d.) found a similar pattern in a different sample of !Kung children (see also Goldberg and Lewis 1969; Mendel 1965). Primatologists find a comparable sex difference (see Harlow 1965; Harlow and Harlow 1962; Harlow, et al. 1963; Jay 1963; Jensen and Bobbitt 1965; Jensen, et al. 1967a, 1967b; Jensen, et al. 1968; Mason, et al. 1960; Poirier 1972; Young, et al. 1964). The notion that females are more sensitive to social cues and to the needs of others may have its origins in the restricted mobility and

greater orientation to adults of females. If girls do follow such a pattern, this would set the stage for a more consistent socialization environment in which positive rewards could be used to a greater extent than with boys who are, on the average, farther away and less aware of what an adult may want and whose behavior therefore would be less easy to shape consistently.

In general, the bush children strike the observer as remarkably free of constraints and minimally differentiated in their behavior in comparison, say, with American grade school children. In fact, the four- to seven-year-old bush girls exceeded their male agemates in average scores for roughhousing, although the more usual picture of males being higher in roughhousing had established itself for the eight- to fourteen-year-old group. Blurton- Jones and Konner (1973) found their sample of !Kung girls to be higher than a sample of London girls matched for age. This finding, as well as my more impressionistic report that the sexes seem minimally differentiated, may be attributable to the usual pattern of heterosexual play groups in the bush camps. The typical size of the bush band is about thirty-five to forty individuals, with only about ten of these being under fourteen years of age. As a result of the small average group size there is little opportunity to form same-sex, same-age play groups. Young girls may well develop a rougher style of interaction due to their interaction with boys, as Blurton-Jones and Konner suggest, though why it should drop off with age remains unexplained.

I have described a set of behaviors which differentiate the sexes in the bush groups, and I have given reasons why cultural pressure does not, in any obvious way, account for the differences. Earlier, I stated that certain behavioral proclivities of the girls were more or less ignored by the foraging !Kung but were exploited by the !Kung leading sedentary lives.

The major contrast between the two subsistence styles is in the area of work. The sedentary !Kung themselves say, "We have work," meaning that they are people with affairs to be attended to. Indeed, on first visiting a settled !Kung village after staying with the bush groups one notices a certain bustle, a level of activity of various types which simply does not occur in the bush. Naturally, with a more complex economy based on cereal crops and goat herding, there is considerable work to be done. Harvested foods must be sorted, dried, and stored. Corn and sorghum require pounding, then grinding before they are ready to eat. In the bush, of course, none of these operations is necessary; nature stores the food until someone wants to eat it, and if it is not eaten raw the only "preparation" it receives is in the form of cooking. Similarly, keeping domestic animals initiates a host of tasks for the villagers, not the least of which is keeping these animals from eating the food in the gardens or the stored food in the village.

The !Kung of the sedentary groups with whom I worked were essentially newcomers to the sedentary life style. Adults were not expert at the new technology and its applications. They also were far from expert in exacting cooperation from their children (Draper and Cashdan 1974). Interestingly, a pattern of a high incidence of adult-child interaction which is well established among the bush people has clearly decreased into an opposite pattern for the sedentary children who choose peers for social interaction about 70 percent of the time. Cashdan and I suggest that this in part reflects the fact that sedentary children avoid interaction with adults because they know the adults are likely to put them to work.

In this context of greater subsistence activity (and especially subsistence work which is going on within the confines of the village), girls are ready targets for heightened pressure for cooperation, errand running, and child tending. Table 9 shows the high scores of sedentary girls on child caretaking, substantially higher than any other group. This, in all likelihood, is a combined result of both the ease of access to girls

by mothers and the fact that the mothers are busier and need someone to help with child-tending duties so they can be freed for other chores. In the same paper, we report that sedentary girls are much more likely to be assigned work in brief episodes (such as errand running, but also child tending) than boys are. Sedentary boys also work, but their work is typically of longer duration, such as driving animals in and out of the kraals or policing gardens to drive out goats and donkeys. Not only is boys' work done farther away from the village, but it is often done without adult supervision. Here we can see the emergence of a familiar pattern in the division of labor by sex: females inside and males outside; females doing many tasks and under the pressure of more or less continuous supervision, and males doing fewer tasks, which take place one at a time and with less supervision by adults.

In some measure, it appears to me that girls are pre-adapted to succeed (or to please their tutors) under conditions of what we have come to recognize as conventional female sex role socialization. They are already close by, they value adult company, and they are presumably more sensitive to social cues from adults. When the need arises, the stage is set for efficient and consistent shaping of their behaviors. Boys, on the other hand, may be harder to find when their help is needed; if they find peers more attractive than adults, then adults will have an additional difficulty in motivating them to emulate adult behavior and values. In this sense it seems that peripheralizing young males by assigning them either little work or work which takes them away from the domestic space is a tacit recognition of their unique sex-specific potential for learning.

Notes

1 In the service of other people, rather than in the service of oneself.

2 Fieldwork for this research was supported by NIMH grant No. MH-136111 to Irven DeVore and Richard B. Lee.

3 Yellen, Harpending, Konner, Shostak, Howell, Biesele, Draper, Katz.

4 A mand has been defined as an attempt by one person to influence a change in the behavior of another person.

5 Children occasionally go on gathering trips, but this occurs when (1) a short trek is planned, (2) water will be found along the way and/or when temperatures are cool. I have observed children in gathering trips, and they do little if any serious gathering. It is mainly an "outing" for them, and they treat it as such.

6 Note that these data are presented in terms of number of acts, not number of minutes. This is because the episodes in which an older child nurtured a younger child were so fleeting that they could not be measured in minutes.

7 Child caretaking includes such things as feeds, amuses, wipes face, dresses, comforts, helps a younger child. Each episode of holding or carrying a child was counted once.

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