

## **Intra-household differentials in women's status: household function and focus as determinants of children's illness management and care in rural Mali\***



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### **Abstract**

In West Africa, health-seeking behaviour can be better understood by assessing how women differ from each other, rather than how they differ from men, in terms of their socioeconomic and political power within the domestic environment. Anthropological and demographic data were collected among rural Malian Fulani and Dogon populations who possess similar health beliefs and who live in the same ecological area. However, real differences between the two ethnic groups were reflected in variations in maternal status defined according to women's support and/or autonomy in their households. When a child becomes sick, status obligations result in limited degrees of co-operation between marital female relatives. By contrast, on a day-to-day basis such assistance is rarely forthcoming and women rely on their own unmarried daughters or on external kin networks for surrogate child care. It is concluded that variations in health behaviour and mortality outcomes within these populations reflect not simply 'ethnic' differences in beliefs or culture, but rather real differences in mothers' social positions within their family environments and in their access to household resources for children's treatment and care.

### **Background**

Although much has been written about household variations in mortality and morbidity (DaVanzo 1984; Desai 1991) and on the household-community interface in structuring social relations (Guyer 1981; Harris 1981; Lloyd and Desai 1991), such research generally describes differences between the roles and responsibilities of men and women. Intra-household female status variations which distinguish how women differ from each other, rather than how they differ from men within their domestic circumstances have yet to be explored, together with their consequences for health-seeking behaviour and health outcomes. 'Within-' rather than 'between'-gender differences in social, economic and political household power are particularly important in Africa where the separation of spousal budgets and of male and female domestic roles has been widely documented (Abu 1983; Caldwell and Caldwell 1987). As the identification and early treatment of children's illnesses usually lie in the domain of women, such distinctions are important in understanding how children may be subject to increased risks, or be relatively advantaged, according to the social status of their mothers within their fathers' families.

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Evidence from rural Mali demonstrates that illness treatment strategies and the daily care of children depend very much upon the household context and support structure within which they take place. Demographic and anthropological data collected in these communities, who have yet to enter the health transition, indicate how women may be aided or constrained by their relationships with female members of their marital families, in pursuing effective treatment strategies, and in providing adequate day-to-day care for their children.

### **Defining 'the household'**

Conceptualizing an adequate definition of 'household' has presented problems for both qualitative and quantitative social scientists, particularly in delineating its intersection with family and in dealing with kinship ties that extend beyond its boundaries (Wilk and Netting 1984). Demographers using survey or census data usually focus on household definitions centred on common provision of food, for example, from a common granary, or use of a common hearth or cooking pot; or they enumerate all members who look to the same person as their household head (UN 1980). Little information is available about the social relationships of those defined as belonging to the same household, nor about the external networks of individuals on whom they may rely, or, by contrast, whom they may support.

Anthropologists, on the other hand, prefer the term 'domestic domain' which relates not only to the preparation of food but also to the socialization of children and transfer of property, and to the maintenance and reproduction of household values and influence (Bender 1967; Goody 1976). Importantly, these encompass functional features of household organization and processes of future household development associated, for example, with households splitting up or enlarging.

Bruce and Lloyd (1992) describe the need for a new research focus that transcends the physical and temporal boundaries of the household, and stress that 'in the long run, family links, rather than living arrangements may be the more important determinants of women's and children's welfare and of the viability of households' (Bruce and Lloyd 1992:3). In a similar vein, Scrimshaw (1989) describes household boundaries as 'semi-permeable membranes' through which information and resources flow. The concept of household 'permeability' is central to this study, which shows how a mother's ability and motivation to exploit external household resources vary with her social relationships with members of her husband's family and with the health status of her children.

### **Household function and focus**

Rather than assuming, as in standard neo-classical economic theory, that all household members have the common objective of pooling resources and maximizing collective benefits rather than personal gain (Becker 1976), we can better conceptualize variations in the means and motives of individuals by theories of bargaining or 'co-operative conflict' (Sen 1985, 1990). However, it is rarely recognized that both men and women may have different capacities for such transactions depending on their social relationships with other household members. In addition, individuals can bargain within their households using currencies, other than cash and income; which include children, social networking and household-based production, all of which determine women's position in their families and in the wider society (Bruce 1989). The evidence from rural Mali is that labour, cash and time are not simply interchangeable, but bargaining is mediated by the relative authority or autonomy ascribed to each household status position. Thus, decisions relating to children's health and care reflect a variety of negotiations, using a variety of currencies, rooted in the household's own political and social economy.

The household can therefore be viewed as a system, within which individuals have different roles of production and consumption, not just of socioeconomic resources but of information and knowledge for health. Within this framework, household function becomes an organizing factor. This does not refer simply to the control of domestic labour activities such as food cultivation, processing and

preparation, but rather reflects the focus of the internal female power relationships and social obligations around which these labour activities are based.

Wallman (1986) describes how within the household system, 'resource keepers' tend to be allocated, or to take over, the management of household material resources such as food or cash, and control non-material resources such as time, information and identity. Access to, and control over, these non-material resources have to do with household organization as well as structure and govern the relative autonomy and obligation of individual household members. In rural Mali the focus on female resource keepers and their influence, perpetuate variations in women's social status within their household environments and reflect the associated social, economic and political power they possess in relation to each other. Such status is a function of a woman's social relationship to the resource keeper who, in the survey communities, is usually the mother-in-law.

Thus an examination of household function rather than size, and household dynamics and focus rather than structure, provides a useful analytical framework for understanding how mothers gain and control material and non-material resources for health within their domestic environments. This theoretical base is used for the analysis of data from rural Mali to understand the causes and consequences for the care of children of intra-household variations in women's status.

### Study site

The study site consisted of five villages in the Douentza *cercle*, a semi-arid region of rural Mali, known locally as the Seno-Mango (the great dune) where I lived from September 1989 to January 1991. The survey was carried out among Islamic Fulani and Dogon<sup>1</sup> populations using Fulfulde, the language of the Fulani.

For the purposes of this study, the Dogon are divided into the Humbebe and the Troni, two clans who differ linguistically but who have similar social and economic organization. The Fulani are divided into 'free' agro-pastoralist Fulbe and their dependants, the Rimaibe. The main pillar of the Fulbe economy is cattle-herding which takes men and women from their sedentary villages of the arid Seno-Mango into the lush pastures of the inner Niger River delta for six or more months of the year. Fulbe women sell or exchange milk each day and weave straw mats which they sell in the local market. Fulbe men cultivate millet only minimally, and the women not at all, as they consider it to be rather an inferior occupation. By contrast, both men and women in the Dogon and Rimaibe communities cultivate millet, a proportion of which the Rimaibe are still often obliged to give to their former Fulbe masters. Rimaibe women also weave mats, while the Humbebe and Troni women practice extensive market trading in cotton and local condiments.

A health dispensary, a pharmacy and maternity facilities are located in Douentza, the market town which is the administrative centre for the region of the same name. The nearest village in the sample is just seven kilometres from Douentza, whilst the furthest is at a distance of 26 kilometres. Four out of the five villages have an *'aide-soignante'*, a health practitioner trained to deal with simple health problems. However, modern health services are rarely used, as children's illnesses in particular are often attributed to complex traditional taxonomies which can only be identified by traditional healers, and for which modern medical treatment is considered ineffective. None of the women in the sample

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<sup>1</sup> Although classified as 'Dogon' by the early French ethnographic expeditions into the area, the Humbebe distinguish themselves from the Dogon of the Bandiagara plateau documented by Griaule (1948) and Palau-Marti (1957). The Humbebe are united by a common ancestral lineage with the clan name 'Ongoiba', and by their separate language known as Djamsai. Unlike the Dogon of the southern areas of the escarpment, the Humbebe have almost daily contact with the Fulani and most Humbebe men and women speak Fulfulde fluently.

had been to school; indeed formal education is perceived to conflict with Koranic schooling which is a greater priority for most parents.

Both the Fulani and the Dogon are patrilineal, preferring endogamous marriages so that young mothers' natal kin are usually close at hand. However, male and female children of the two ethnic groups are considered to 'belong' to their mother's extended marital family. If a woman's mother-in-law lives in the same household she is thus expected to consult her about major decisions affecting her children, including action to be taken during their illnesses. The mother-in-law is therefore the 'resource keeper' controlling information and cash for treatment and often governing what kind of diagnosis is given.<sup>2</sup> The ethos of a woman having married into a work relationship with her husband's household and into a power relationship with his mother, if she lives in the same household, is extremely strong among the Humbebe and Fulani alike.

Interestingly, and contrary to the original hypothesis around which the fieldwork was based, neither traditional illness taxonomies nor perceptions of the cause, nature and prevention of more naturalistic illnesses such as diarrhoea, fevers and respiratory infections varied significantly between the Fulani and Dogon communities in the sample. This is possibly because the Fulani had very few professional traditional healers within their own villages and sought outside advice from the many Dogon traditional practitioners. Their knowledge of causes and treatments, usually elicited from divination, was widely renowned and well-respected by the Fulani and Dogon alike. Thus differences in illness management presented below do not reflect different beliefs about appropriate action for specific types of illnesses associated with each ethnic group. They are rather connected with pathways of decision-making linked to characteristics of the consultation process. This relates to the form and function of the mothers' household environments and to their social positions within them, which differ substantially between the two ethnic groups and between the Fulani social classes. Mortality differentials therefore reflect not simply ethnic differences in beliefs or culture but rather, as will be shown below, real variations in mothers' family environments and their social obligation or autonomy within them.

### **Field methodology**

Household censuses were taken to record the name, age, sex, marital status and occupation of each member of 180 households in the five villages selected for the initial demographic survey.<sup>3</sup> Birth histories were taken from 334 ever-married women aged 15–49 in these households and additional information was collected about the delivery circumstances, vaccination status, breastfeeding, supplementation and weaning of the 'last birth' of each of these women. One Fulani village and one Dogon village were then selected as a subsample for intensive monthly morbidity follow-ups. These involved the collection of illness profiles for every illness event experienced by each child under five years of age from January to December 1990. Four hundred and eleven such profiles were collected when each child's mother was questioned about the consultative and treatment pathways followed from the initial identification of the illness. In addition each child under five in the two villages (N=145) was weighed and measured each season.

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<sup>2</sup> Although women could never become professional traditional healers, post-menopausal women were considered knowledgeable diagnosticians and could recommend which healers would be effective for the illness in question. Importantly, some medicines such as the preventive medicines given daily to small children to prevent stomach aches, were often said to be effective only if administered by post-menopausal women.

<sup>3</sup> During the survey, all people who ate out of the same 'cooking pot' and who all looked to the same household head were enumerated as belonging to the same household.

At the end of the year, structured minute-by-minute observations were carried out in the Fulani subsample village amongst 16 selected families who exhibited high and low prevalence of child morbidity measured by the number of observed episodes of diarrhoeal disease and their weight-for-height 'Z-Score' in September 1990. These observations noted characteristics of the child's day-to-day care environment together with specific verbal and non-verbal interactions between children and their care-givers over two separate six-hour periods for each child.

Towards the end of the study, a local measure of wealth was adopted for the Fulani village using a technique developed among pastoral communities (Grandin 1988). Key informants were asked to give a definition of 'wealth' and to rank their neighbours on the basis of perceived variations in their varying amounts of cattle, fields and children. Importantly, the method avoids asking for specific details of material possessions, such as numbers of animals, which it would have been considered inappropriate to discuss. Relative ranking with this technique created a consistent and accurate assessment of socioeconomic differentials using indigenous criteria.

### Childhood mortality amongst the sample populations

Probabilities of dying during the neonatal period, in infancy and in childhood, based on all births during the ten years preceding the survey, were calculated using life-table methods, and are shown in Table 1. It should be re-emphasized that the Humbebe-Troni division is one of clan whilst the Fulbe-Rimaibe difference is one of social class. The lowest probabilities of dying are found amongst the Troni and the highest amongst the Fulbe.<sup>4</sup> Amongst the Humbebe, over one-third of children are likely to die before age five, whilst amongst the Fulbe more than half can be expected to die before their fifth birthday. Using a Mantel-Haenzel odds ratio of the probability of dying by age five, differences between Fulbe and Rimaibe mortality were significant at the ten per cent level, and between both Fulani classes and both Dogon clans at the one per cent level. Probabilities of dying calculated for both the Humbebe and Troni combined were statistically different at the one per cent level from those calculated for the Fulbe and Rimaibe together.<sup>5</sup> No significant mortality differences were found by sex or socioeconomic status.

**Table 1**  
**Douentza sample probabilities of dying between selected ages (in months)**

Mortality per 1000 live births		Humbebe	Troni	ALL DOGON	Fulbe	Rimaibe	ALL FULANI
Neonatal	(1q0)	60	89	68	92	70	80
Infant	(12q0)	158	137	152	257	193	223
Child	(48q12)	257	83	209	415	319	361

<sup>4</sup> In addition to the structure of their household which facilitates mothers' autonomy and ability to pursue treatment of children's illnesses, the significantly lower Troni mortality is possibly associated with the fact that for many years the village had a resident French-trained nurse who treated simple ailments and distributed free chloroquine to children and pregnant women during the rainy season.

<sup>5</sup> These probabilities are slightly higher than those found within the Demographic and Health Survey of Mali (TraorŽ, KonatŽ and Stanton 1989), and compared with other national surveys (UNICEF 1989) and other surveys of the same region (Hill 1985). Compared with the southern Bambara groups who form the majority of the Malian population and the national samples, the Douentza communities have lower rates of vaccination, poorer health and educational infrastructures and were worse hit by the 1984–85 drought which decimated Fulbe cattle-herding economies in particular.

Under five (60q0)	375	209	330	566	450	504
<b>Number of live births</b>	300	114	414	215	184	399

The four groups exhibit fundamental differences both in their household size and also in their household structure. Differences in household morphology and internal dynamics between the two ethnic groups and between the Fulani social classes lead to variations in mothers' social power within their household environments. These internal status differentials account for differences in mothers' illness treatment strategies and care, and are ultimately reflected in variations in their children's health and nutritional outcomes. Thus characteristics of household structure and associated variation in household function, focus and maternal household status are the principal themes of the discussion.

### Intra-household female status variations

#### Definitions of female household status

Although a growing number of studies seek to understand the importance of female social support, obligation and autonomy within the domestic environment in relation to the household production of health (Buvenic, Graeff and Leslie 1987; Jeffery, Jeffery and Lyon 1989; Doan and Bisharat 1990), women's status is often ill-defined and results in many terms or concepts having different connotations for different authors, making cross-cultural comparisons difficult and often meaningless (Mason 1988). Categories of 'status' used in this analysis are based on the nature of a woman's intra-household support or autonomy. However, it is also necessary to recognize the importance of extra-household resources, and the evolution of a woman's status over time as her marital and reproductive careers unfold and as her household advances through its own life-cycle.<sup>6</sup>

The following categories are used to differentiate between women in different social positions within their households:

### Diagrammatical representations of women's intra-household social status and associated household types

Woman's Status	Household Type
<p>1. <b>Lone daughter-in-law</b></p> <p style="text-align: center;">○ ↑ *○</p>	<p><b>Small hierarchical</b></p>
<p>Woman is married to the son of the household head and lives in a small hierarchical family with her mother-in-law but with no other women of junior status. She is alone at the bottom of the female hierarchy and solely responsible for food preparation, water and fuel collection.</p>	
<p>2. <b>One of several daughters-in-law</b></p> <p style="text-align: center;">○ ↑</p>	<p><b>Large hierarchical</b></p>

<sup>6</sup> Although it is recognized that wife rank has an important role in organizing labour and power between women of the same husband, the purpose of this study is to analyse cooperation and hierarchy as it affects the whole household. Thus, although rivalry and jealousy have been documented between women of different wife rank (Clignet 1970, Fainzang and Journet 1988) it is felt that the presence or absence of women who can work for them, or for whom they are all obliged to work, is of more immediate importance in relation to children's health outcomes.

\*O↔O↔O

These women are also married to the son or sons of the household head, but have sisters-in-law in the same household who are obligated to the same mother-in-law. They can thus share the responsibility for household tasks under the supervision of the mother-in-law. Chores such as food preparation are carried out according to a strict rota.

**3. Head wife with daughters-in-law**

**Small hierarchical**



Wife of household head with woman or women of daughter-in-law status present in the small, but hierarchical household. These women are freed from household duties by the presence of daughters-in-law, but often have to provide the money for sauce condiments for each meal which can prove to be a financial burden. Any household tasks they carry out are done autonomously as they control their own time and labour and that of their son's wife or wives.

**4. Alone**

**Nuclear**



Woman is sole woman of reproductive age in her household and therefore has no co-wives, sisters-in-law or daughters-in-law. She lives only with her husband and children in a nuclear unit.

5. **Sister-in-law**

\*O↔O↔O↔O↔O

Woman is wife of the household head, or of his brother, and is with other women of equal status in the same household (not controlling for wife rank). There is no mother-in-law-daughter-in-law hierarchy as the household structure extends laterally rather than vertically. The wives of the different men in the household are thus related to each other only as sisters-in-law.

**Lateral**6. **Woman living in her natal family (*suudu baba*)**

O (Mother)

\*O (Daughter)

↑

O (Daughter-in-law)

These women live with their *suudu baba* either because they are divorced or sick or disabled and unable to work in their marital family. Performing household tasks for their mother is done out of respect rather than obligation unlike a daughter-in-law who, if in the same household, is *required* to carry out such duties.

**Various**7. **Female head**

\*O

Two women in the subsample were heads of households. One was widowed during the survey and the other was the leviratic 'fifth' wife of a man who lived in a nearby town and whom she rarely saw.

**Female headed**

\*Index woman and direction of her labour cooperation or obligation.

Note that only women in groups 1–5 are currently married).

Table 2 considers the status of each woman in the sample in her own intra-household hierarchy. This shows that amongst the four groups considered, women not only were part of households of different sizes, but occupied different positions within them, which endowed them with different degrees of autonomy, obligation and control. These differences result not just from life-cycle factors, but also from mortality experiences and reproductive performance; they also reflect household and community preferences for specific living arrangements which facilitate production activities and satisfy labour requirements.

Thus 36 per cent of the Fulbe women were the only females of reproductive age in their households, and lived in small nuclear units with their husbands and children. By contrast, 36 per cent of the Humbebe were in laterally extended households where work was divided between sisters-in-law but where there was no mother-in-law-daughter-in-law hierarchy. In addition, 21 per cent of the Humbebe occupied high-status positions in hierarchical households where they had daughters-in-law to work for them, and thus were relieved of the majority of household duties. Nearly half the Troni were living in large hierarchical households where they were sharing household duties with other women under the direction of a mother-in-law. Only about half the proportion of Troni women were lone daughters-in-law (and thus low-status *and* lone workers) compared with the other groups.

**Table 2**  
**Distribution of women of reproductive age according to their social position within their households (September 1989)**

	Humbebe (N=106)	Troni (N=47)	Fulbe (N=87)	Rimaibe (N=94)	Mean age of woman
<b>Mean household size</b>	11.6	13.1	6.4	9.3	
	%	%	%	%	
<b>Woman's social status:</b>					
Lone daughter-in-law	12	6	15	13	<b>25.3</b>
One of several daughters-in-law	17	47	15	25	<b>27.0</b>
Head with daughters-in-law	21	6	5	16	<b>36.9</b>
Entirely alone	13	17	36	14	<b>35.4</b>
Sister-in-law	36	21	19	23	<b>34.3</b>
Daughter of head	2	2	9	9	<b>28.0</b>
Female head	–	–	1	–	<b>42.0</b>

Social position x ethnic group or social class (married women only):

$\chi^2=44.25$ , d.f.=12,  $p < 0.001$

### Maternal household status and children's illness management <sup>7</sup>

#### First informal discussion about the child's illness

Table 3 indicates that consulting someone informally about the child's illness appears to be associated with subsequently administering treatment, as three-quarters of those illness events where an opinion was sought or given were treated compared with just over half of illnesses during which no one was consulted. 'Consult' here denotes an informal discussion rather than advice seeking, and constitutes a verbal acknowledgement that the child is ill. It is not clear whether treatment was administered because the illness was perceived to be more serious and merited discussion with another individual, or whether the individual consulted suggested or supported treatment.

It is evident from Table 4 that a woman's household status has an influence on whom she consults about the child's illness or whether she even consults anyone at all. The table shows that for married women, a woman's place in the household hierarchy in relation to other women determines her ability to consult her husband. The data indicate that higher status, relatively autonomous women, such as those who live with their sisters-in-law in laterally extended non-hierarchical households, were more likely to consult their husbands. Similarly, women with daughters-in-law who are the organizational key to the function of a hierarchical household, and as such may be regarded more highly by the men as well as by the junior women, also consulted their husbands. Women who were the sole 'worker' (in this case women who were lone daughters-in-law or 'alone') tended to consult no one more than the other groups, whilst over one third of women living with their biological parents consulted their

<sup>7</sup> Rather than simply carrying out a dichotomous analysis according to Humbebe and Fulani 'ethnic' characteristics which would mask the determinants of health-seeking behaviour at the household level, the analysis of the children's illness-management data describes variations within the whole study population according to the status categories described above. Columns may not add up to exactly 100 per cent because of rounding.

mothers. Women who were female heads of household were automatically forced into an extra-household consultation, or consulted no one at all. Those who were one of several daughters-in-law sought consultation with their mother-in-law rather than their husbands, although observation and monthly questioning revealed that the husbands of these low-status women are more likely to be absent on seasonal labour migration. However, as children's illness diagnoses lie within the knowledge domain of older women rather than young men, husbands' absences probably do not greatly influence consultative patterns in hierarchical households, as a woman would be expected to consult her mother-in-law even if her husband were present. The  $\chi^2$  test applied to those consulting their husband, someone else or no one by status group for married women only was statistically significant ( $\chi^2=15.6$ , d.f.=8,  $p<0.05$ ).

**Table 3**  
**Child's illness treated by whether informal consultation took place**

		Informal consultation took place	
		Yes (N=163) %	No (N=206) %
<b>Illness treated:</b>	<b>Yes %</b>	75	54
	<b>No %</b>	24	45

$\chi^2=16.46$ , d.f.=1,  $p < 0.001$

#### Illness treatment

Table 4 also shows that the proportions of children treated varied significantly with their mothers' social positions in their households.<sup>8</sup> Women with peers, whether they were one of several daughters-in-law obligated to a mother-in-law, or whether they lived only with their sisters-in-law in laterally extended household structures, were more likely to treat their children. These women, although experiencing different degrees of autonomy and obligation, are in labour rotas where their household tasks are shared and where, in theory, their time can be more flexibly rearranged to seek treatment. In addition, women with peers, whether obligated to a mother-in-law or not, were more likely to have consulted someone about their child's illness. They therefore may have had more ideas about how to proceed with treatment, and indeed may even have been encouraged, or felt obliged, to do so.

**Table 4**  
**Informal consultation and child's illness treatment by mother's social position in household**

	Mother's social position in household						
	Lone daughter-in-law (N=28) %	One of several D-laws (N=100) %	Head with D-laws (N=14) %	Alone (N=80) %	Sister-in-law (N=108) %	Maternal family (N=31) %	Female head (N=8) %

<sup>8</sup> The majority of treatments administered consisted of traditional herbal remedies, and although some no doubt have considerable healing properties, their overall clinical efficacy is likely to be limited. However, treatment in this case is taken as a proxy for an acknowledgement of the illness and for a mother's attempt to control or alleviate symptoms.

<b>Person informally consulted</b>							
Husband	11	11	14	13	20	–	–
Mother-in-law	14	18	7	5	13	3	–
Other member of marital family	7	6	7	7	12	–	–
Mother	4	6	–	1	1	36	–
Neighbour	4	2	–	2	4	3	25
Old woman	–	2	14	2	6	–	25
No one	61	55	57	70	44	58	50
<b>% Children subsequently treated</b>							
	55	73	41	61	73	53	50

In contrast, only about half the children of lone daughters-in-law, female heads and women living in their natal families had their illnesses attended to. Compared with women in other status positions, these mothers not only lacked social and economic power in their households, but were extremely powerless in the external world and lacked authority and influence in the community. They were thus doubly constrained in being able to gain time or cash to treat their children. Interestingly, women who had daughters-in-law only treated 41 per cent of their children's illness events, possibly because the financial burden imposed on mothers-in-law by providing their daughters-in-law with condiments for food preparation, may preclude spending extra cash on treatment. Those mothers who were alone in nuclear families treated 61 per cent of their children's illnesses having usually discussed the illness with no one and therefore using intuitive rather than 'received' knowledge.

#### **Choice of healer**

Table 5 shows the type of healer first chosen according to the mother's status in her household. Higher-status women, particularly those with social support such as women living in laterally extended families with their sisters-in-law, were able to treat the child themselves, as did nearly three-quarters of those who live alone, female heads and heads with daughters-in-law. What these women have in common is autonomy and time to collect and prepare particular herbal remedies. By contrast, just over half of the daughters-in-law, either with or without peers, treated their children themselves. Such women lack knowledge about remedies or an ability to apply it, they lack the freedom to leave household tasks because of their junior status, and most importantly, they require the social sanctioning from their mother-in-law of any treatment that they may undertake.

**Table 5**  
**Choice of first healer by mother's social position in household**

Healer	Mother's social position in household						
	Lone daughter-in-law (N=16) %	One of several D-laws (N=68) %	Head with D-laws (N=7) %	Alone (N=50) %	Sister-in-law (N=80) %	Maternal family (N=17) %	Female head (N=4) %
Husband	6	4	14	8	3	–	–
Child's mother	56	54	71	74	81	65	75
Mother-in-law	–	15	–	–	3	–	–
Other member of marital family	–	4	–	–	3	–	–
Mother	–	–	–	2	1	23	–
Traditional healer	19	9	14	4	6	6	25
Marabout	–	3	–	4	–	–	–
Old woman	13	3	–	–	–	6	–
Modern practitioner	6	7	–	8	3	–	–

Treatment by child's mother or treatment by others x status (married women only):

$$\chi^2=15.21, \text{ d.f.}=4, p < 0.005$$

A surprisingly high proportion of children of lone daughters-in-law (19%) were treated by traditional healers and an additional 13 per cent visited old women with reported powers of healing, without trying a home remedy first. This is important for two reasons: first, lone daughters-in-law have very little time of their own or autonomy to pursue treatments using their own intuition. Thus, a visit to a healer, although more expensive and time-consuming, means that a diagnosis is made, and a cure already prepared. Secondly, and more importantly, the illness is publicly recognized as needing treatment. This is particularly important as the children of lone daughters-in-law, unlike those of daughters-in-law with peers, are the sole means by which their household can replicate itself in the future. Thus, responsibility for the illness and a child's potential death is diffused away from the mother who can claim to the household and to the community that she acted appropriately by seeking professional advice.

#### Payment for first treatment

Table 6 illustrates how the first treatment was paid for and shows that the greatest number of women choosing free treatments were female heads of household, women who were alone with no adult female support, or the heads with daughters-in-law who have to incur the expense that this high-status position brings. Lone daughters-in-law paid with money, as they lack the time to gain cash from supplementary economic activities or to collect free treatments, a knowledge of appropriate remedies and autonomy to wander freely into the bush to search for them. In addition, the fact that many were using healers meant that cash payment was usually obligatory.

For those who paid with cash, nearly three-quarters of women who lived with their sisters-in-law in laterally extended households paid with their own money, as did over half of lone daughters-in-law. More lone daughters-in-law received payment from their mothers-in-law than those who were one of several daughters-in-law. The latter appeared able to rely on the mother-in-law for consultation and treatment but turned to their husbands, the marital family or their own mothers for cash. More of the lone daughters-in-law received money from their mothers-in-law for treatment perhaps because, as

discussed, the child, whether male or female, constitutes the only member of the next generation of that household to date. Furthermore as described, the focus on children's influential agnatic kin becomes stronger when they are sick. A mother's marital relatives are expected to cover expenses when her child becomes sick as the child is said to belong to their family.

**Table 6**  
**Source of cash to pay for first treatment by mother's social position**

	Mother's social position in household						
	Lone daughter-in-law (N=16) %	One of several D-laws (N=68) %	Head with D-laws (N=7) %	Alone (N=50) %	Sister-in-law (N=73) %	Maternal family (N=16) %	Female head (N=4) %
<b>% using free treatments:</b>	31	44	43	62	47	50	75
<b>Of those paying with cash, cash provided by</b>							
Child's mother	54	29	25	45	74	50	100
Husband	27	32	75	27	21	—	—
Mother-in-law	18	12	—	5	—	—	—
Other member of marital family	—	15	—	9	—	12	—
Woman's mother	—	12	—	14	5	37	—

Mother pays/other pays x status (married women only):

$$\chi^2=15.03, \text{ d.f.}=4, p < 0.005$$

Thus, a child's illness which is perceived to threaten the common household good or equilibrium acts as a catalyst for the intensification of household focus, and female members of the marital family appear to offer each other limited advice and support when their children become sick. However, evidence from the observational data presented below shows that for children's day-to-day care, intra-household co-operation between female marital relatives is rarely forthcoming: a mother's own children and her natal kin constitute her main child-care resources.

#### **Maternal household status and children's anthropometric outcomes**

Intra-household female status variations also appear to have an impact on children's anthropometric outcomes. Weight-for-age is presented in Table 7 because it reflects the effects of recent nutritional insults in addition to episodes of illness. The table shows that children of women who live in laterally structured households with their sisters-in-law have better nutritional outcomes. Children of lone women in nuclear units also appear to do better perhaps because their mothers are not in competition with other women for household resources. By contrast, children of heads with daughters-in-law are also malnourished, which may reflect the lack of cash and time their mothers can devote to their care, owing to their responsibilities for running their households and paying for their daughters-in-law's expenses, as well as risks associated with their children's likely higher parity.

**Table 7**  
**Percentage of children whose weight for age is more than two standard deviations below the NCHS median by mothers' social position in household**

Social position	Percentage	Total number of children
Lone daughter-in-law	69	13
Several daughters-in-law	47	34
Head + daughter-in-law	57	7
Alone	39	33
Sister-in-law	21	28
Maternal family	71	7
Female head	100	2

Over two-thirds of children of lone daughters-in-law are malnourished (more than two standard deviations below the NCHS median) compared with fewer than half of the children of daughters-in-law who have peers in the household. The most malnourished children are those of women who lived in their natal families and the two children of the female heads of household. These women not only lack status in their households through not being married, but also status in the community, where they have very little political or social power. The differences in the proportions of malnourished children by their mothers' household status (married women only) were statistically significant ( $\chi^2=9.94$ , d.f=4,  $p<0.05$ ).

### Children's day-to-day care

As described, 16 children were chosen for intensive observation based on their 'good' and 'bad' composite health scores using the number of episodes of diarrhoeal disease and weight-for-height Z-score in September 1990. Table 8 summarizes some basic household characteristics of the 16 families. As can be clearly seen, most 'healthiest' children were mainly of lone women. By contrast, the 'sickest' children were those of women of daughter-in-law status, although none in either group was a lone daughter-in-law. Importantly, although a greater number of mothers of the 'sickest' children had other women of reproductive age in the household, a greater number of the 'healthiest' children had unmarried sisters over eight years of age who proved to be invaluable in assisting their mothers both with household tasks and child care.

Interestingly, half of the eight households of the sickest children were in the 'richest' category according to the wealth ranking, but all the mothers of these children in these wealthy households were of daughter-in-law status. Similarly, the mothers of two of the healthiest children were lone women in the poorest households. It is possible therefore, that a mother's social position in her household and her access to household wealth rather than the overall level of wealth in the household, may be more important in determining the health and nutritional status of her child. Also noteworthy is the fact that most of the natal families of the mothers of the 'healthiest' children were present in the village. By contrast, most natal families of the mothers of the 'sickest' children lived elsewhere.

**Table 8**  
**Household characteristics of children in observational sample**

Mother's age	Mother's natal kin in village?	Mother's proportion dead CEB	Number of siblings under five	Mother's status	Father polygynous?	Women aged 15-49 in household	Number of sisters 8+ years old	Wealth ranking
<b>healthiest children</b>								

<b>breastfed</b>								
35	No	0.25	2	Alone	No	0	2	Poorest
31	Yes	0.4	2	One of several daughters-in-law	Yes	3	1	Richest
24	Yes	0	2	Lives in natal family	No	0	1	Rich
41	No	0.73	1	Alone (but with widowed sister-in-law)	No	1	0	Poorest
<b>weaned</b>								
31	Yes	0.33	2	Alone	No	0	0	Rich
35	Yes	0.43	1	Sister-in-law	No	1	1	Poor
30	Yes	0.16	3	Alone (but with divorced sister-in-law)	No	1	1	Rich
60	Yes	–	1	Head with daughters-in-law	Yes	3	0	Richest
<b>sickest children</b>								
22	No	0	3	Alone	No	0	0	Poorest
28	No	0.2	2	One of several daughters-in-law	Yes	3	0	Richest
23	Yes	0.5	1	Head with daughters-in-law <sup>b</sup>	No	3	0	Rich
28	Yes	0.4	1	One of several daughters-in-law	No	3	0	Richest
<b>weaned</b>								
59	No	1.00	1	Female head	Yes <sup>c</sup>	0	0	Poor
25	No	0.4	2 <sup>a</sup>	One of several daughters-in-law	No	3	0	Richest
23	No	0	3	One of several daughters-in-law	No	1	0	Richest
36	Yes	0.57	1 <sup>a</sup>	Sister-in-law	No	1	2	Poor

<sup>a</sup>+ one additional death of another child within previous six months.

<sup>b</sup>Woman was divorced and residing in her natal family until September 1990, when she married the head of another household whose son's wife subsequently worked for her. Thus, where the child became sick and malnourished and where she was observed are two different households where she occupied two different status positions.

<sup>c</sup>Husband and co-wives do not live in same village.

#### **Intra-household social status and maternal time allocation**

Table 9 shows the specific distribution of women's time allocation on household tasks, child care and commercial activity and also indicates the percentage of observation time women in each status category were spending within the physical limits of their marital families' compounds. Daughters-in-law, not surprisingly, carried out household chores for a greater proportion of time than women in any other status group and spent 82 per cent of the observation period within their marital families' compounds. Even though household tasks are, in theory, carried out on a rota basis, each woman was constantly involved in further household duties for her mother-in-law such as pounding millet, fetching water, and firewood or cleaning pots. Daughters-in-law spent over half their time in such activities

compared with women who lived with sisters-in-law in laterally structured households, who only spent 16 per cent of the observation time engaged in household duties. The latter, who lived with peers but unlike the daughters-in-law were in non-hierarchical households, spent only 56 per cent of their time actually in their husbands' households, and were more often to be found within their natal families or visiting friends and neighbours. Surprisingly, the heads with daughters-in-law were also carrying out a large amount of household work. This was, however, voluntary rather than obligatory, and most importantly consisted of labour over which they themselves had control. Table 9 also shows that women who lived with their sisters-in-law in laterally structured households were performing the fewest household tasks and the least child care but a much greater amount of personal commercial activity, trading condiments, kola nuts, batteries, sweets and medicines such as aspirin and chloroquine, within the village.

It seems that women who live in households with other women with similar claims to household resources, organize their time according to the presence or absence of a central resource keeper, the mother-in-law. This person controls the labour of women in hierarchical households and serves to focus their time and obligation more intensively within the physical confines of the household. Most importantly, the presence of a central resource keeper means that women who are obligated to her have a sanctioned channel to redirect to the higher echelons of the hierarchy financial and social responsibility during crises such as children's illnesses. Daughters-in-law therefore have less need for personal economic activity to provide them with cash in such emergencies, as they know that they can be helped by higher-status persons to whom they, and their husbands, are under an obligation. In addition, their labour obligations and intensive focus on the marital family, manifested by the large amount of time they spend within its boundaries, mean that they have little opportunity to pursue activities elsewhere for their individual gain.

However, women with peers in laterally structured households lack a mother-in-law to act as resource keeper, and yet live with other women who have a more-or-less equal claim on the household's resources. They therefore require economic independence as, unlike junior women in hierarchical arrangements, they do not have a socially sanctioned channel of access to household assets. Nor do they have an ability, by virtue of their social position and the structure of their household, to transfer responsibility and expenses to individuals at a higher level. Furthermore, the husbands of these women are themselves solely responsible for trying to support the extended family, unlike the husbands of the daughters-in-law, who are obligated to, but also supported by, their elderly fathers. Thus during crises, including children's illness, women who live with their sisters-in-law in laterally extended households can rely on their peers and husbands for advice and support but not for money: hence their high participation in commercial activity for their own gain. The illness profiles confirm that because of the combination of social support and autonomy associated with their status, they were able to treat their children much more frequently than other women. Table 6 shows that they paid for over half the therapies with their own cash and only infrequently received financial assistance from their husbands.

**Table 9**  
**Percentage of time spent in household tasks, child care and within the marital family compound by mother's social position in household**

	Mother's social position in household					
	One of several D-laws (N=5) %	Head with D-laws (N=2) %	Alone (N=5) %	Sister-in-law (N=2) %	Maternal family (N=1) %	Female head (N=1) %
Number of women						

Time spent in household tasks	54	41	40	16	39	32
Time spent in child care	14	14	19	6	27	18
Time spent in commercial activity	1	–	3	24	13	–
Time spent in marital household compound	82	72	74	56	8	50

Time spent in household tasks: daughters-in-law vs. other married women. Wilcoxon ranked sum  $p < 0.05$ .

Time spent in household tasks: sisters-in-law vs. other married women. Wilcoxon ranked sum  $p < 0.05$ .

Time spent in commercial activity: sisters-in-law vs. other married women. Wilcoxon ranked sum  $p < 0.05$ .

Time spent in marital family compound: sisters-in-law vs. other married women. Wilcoxon ranked sum  $p < 0.1$ .

### Status-related variation in the types of surrogate carers employed

Table 10 shows the characteristics of specific surrogate caretakers used by women in different status groups for their children during the observation periods. The table indicates that women who lived with their sisters-in-law in laterally extended households where there was no mother-in-law, exhibited very different patterns of care-giving from women living in vertically hierarchical households where they were obligated to their husband's mother. The data show that both these groups received very little help with child care from their marital female relatives within their households. The children of women who lived in lateral households with their sisters-in-law spent less than half their time even inside their fathers' households, and were cared for by their maternal relatives often in their mothers' natal families. By contrast, the children of daughters-in-law spent over 80 per cent of the time within the compound of their agnatic families but were cared for, not by their paternal grandmothers, and only briefly by their paternal aunts, but rather by their older sisters.<sup>9</sup>

**Table 10**

**Maternal and surrogate care of children by mother's social position in household**

Number of children	Mother's social position in household					
	One of several D-laws (N=5) %	Head with D-laws (N=2) %	Alone (N=5) %	Sister-in-law (N=2) %	Maternal family (N=1) %	Female head (N=1) %
<b>Observed time child spent with</b>						
Mother	61	65	63	24	66	68
Father	4	–	6	7	–	–
Brother	1	–	3	28	–	–
Sister	16	–	7	3	–	–

<sup>9</sup> Obviously, the use of siblings as surrogate caretakers depends on whether siblings of the appropriate age reside in the household. Similarly the presence or absence of maternal natal kin determines their use as potential caretakers. For a description of each child's circumstances the reader is referred back to Table 8.

Paternal grandmother <sup>a</sup>	–	–	1	–	–	–
Paternal aunt <sup>a</sup>	2	–	4	–	–	–
Maternal grandmother/aunt	–	8	8	19	10	–
Neighbour	4	2	1	1	5	6
No one	11	24	6	19	16	26
<b>Time spent in father's compound</b>	<b>83</b>	<b>82</b>	<b>70</b>	<b>35</b>	<b>–</b>	<b>86</b>

<sup>a</sup>Mother's marital female relatives

Time spent being cared for by mothers:

Children of sisters-in-law vs. children of other married women: Wilcoxon ranked sum  $p < 0.1$ .

Time spent within father's compound:

Children of sisters-in-law vs. children of other married women: Wilcoxon ranked sum  $p < 0.1$ .

Children of daughters-in-law vs. children of other married women: Wilcoxon ranked sum  $p < 0.1$ .

Thus, an increasing intensification of household focus on the mother-in-law or resource keeper is inversely related to household permeability. Under these circumstances, individual activity is concentrated within the household confines, despite the fact that paradoxically, there is negligible interaction between marital female relatives within this limited range. Thus, for women such as daughters-in-law with peers, the structure of their immediate nuclear unit within the extended family, and particularly the presence of older female unmarried children, are their main resources for child care. Conversely, women in household environments where female labour and power relationships are less intensively focused, can move in and out of their household boundaries and exploit external household networks such as their natal kin more frequently on a daily basis.

## Conclusion

'Ethnic' differences in mortality between the study populations do not reflect variations in beliefs about illness management and disease causation nor socioeconomic disparities, but rather result from real variations in women's social power within their domestic environments. Thus, lower Dogon mortality is a function of greater proportions of laterally structured households where women are free to pursue outside economic activity and yet have social support for household chores. Higher Fulani mortality reflects the more isolated nature of women's household circumstances, their lack of time and autonomy to become financially independent and their lack of social support within their domestic environments.

Most importantly, the study demonstrates that mothers have differing types and degrees of social and financial assistance at their disposal when their children become ill compared with those available for their daily care. Therefore, data which analyse only household determinants of children's illness management and ignore the nature of their daily care may be misleading, as mothers are entitled to different household resources, and indeed to resources from different households, depending on the perceived health status of their children.

Adherents to new models of household-economic behaviour and policy developers are increasingly asking 'who pays for the kids?' (Folbre 1992), and articulate that 'children's rights are implicit in their parents'—usually their mother's—marital status' (Bruce and Lloyd 1992:21). What the data from rural Mali show is that we should not just be asking who pays in terms of cash, but also who pays in terms of time? Examining 'who pays for the kids?' in monetary terms would indicate a degree of mutual support and cooperation between marital family members, particularly during children's illness. Examining who pays in terms of time, however, presents an entirely different picture. Although cash is received

from socially powerful individuals within the marital household, time is given by members of mothers' own nuclear units within their extended family, or from outside members such as their natal kin.

These data represent a mere 'snapshot' in the lives of particular women in certain households. The rights and responsibilities associated with specific status categories may change during a mother's reproductive years and with the social reproduction of her household: a woman may move from being a lone daughter-in-law to becoming a head with daughters-in-law within her reproductive life time. By contrast, she may remain in the same position her whole life, if her children form their own households on their marriage. Studies such as those concerned with explaining the clustering of child deaths (Das Gupta 1990) which assume a woman's rights and resources to be constant throughout her childbearing years fail to take into account that a mother's first and last birth may occur when she occupies a different status within her household. She thus may be subject to different obligations, and have access to different resources as she progresses through her reproductive career, because of the changing nature of her power and influence in her household environment.

Evidence from these communities indicates that women's social position within their family circumstances, in relation to each other, rather than in relation to men, is crucial in determining their access to household resources for child care, and in influencing their need and capacity for external independent economic activity. Thus while beliefs influence behaviour, the behaviours themselves are governed as much by access to, and control over, necessary resources, specifically information, time, labour and cash, as by appraisals of situational demands and notions of required or appropriate action. Examining aspects of household function and focus which govern these behaviours and the dissemination and control of information within the domestic environment among populations which have not yet begun mortality or fertility declines, may indicate how such reductions may be precipitated.

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