

Children's living arrangements in developing countries

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Abstract. This paper documents the wide variation in living arrangements experienced by children in developing regions using data from 19 Demographic and Health Surveys. Traditionally, researchers and policymakers concerned with child welfare have assumed that, apart from exceptional cases, children live with their mothers, experience childhood together with their siblings, and have access to resources from both biological parents. Data presented in this paper contradict this assumption. The data demonstrate that, in many countries of sub-Saharan Africa and Latin America as opposed to parts of Asia and North Africa, children spend substantial proportions of their childhood years apart from one or both parents and, by extension, apart from at least some of their siblings. The mothers of many of these children do not live with a partner or are in marital circumstances that may attenuate the link between the child and the father. In countries where child fostering is practiced, the likelihood that children will live apart from their mothers is negatively related to their mother's access to the resources of their fathers and other relatives and positively related to the number of younger siblings. The focus of the paper is on four essential elements of children's living arrangements that influence their access to resources: (1) mother-child co-residence, (2) father-child coresidence, (3) household structure and (4) the number, presence and spacing of siblings. The research suggests that significant proportions of young children, particularly in sub-Saharan Africa, benefit from the support provided by family members other than their parents. This support, which involves the co-residence of family members beyond the nuclear unit, can take many forms: the co-residence of three generations within the same household, the inclusion of a single mother and her children as a sub-family within a more complex household, or the exchange of children between kin. Surprisingly, despite enormous variations between countries in current fertility rates (ranging from roughly 2 to 7 births per woman), children in countries as diverse as Thailand and Mali spend their childhood with no more than 2 to 3 children on average sharing the same household. Thus, childhood as it is experienced in many parts of the developing world has much that is common despite apparent differences and much else that is different despite apparent similarities.

Introduction

Implicit in the design of policies for the benefit of children in developing countries are certain assumptions about who they live with and about the adults who are responsible for their care. The most basic assumption is that the child's biological mother is her/his primary caretaker. Therefore, policies designed to benefit young children are usually targeted at mothers. A related assumption is that a woman's children reside together and experience childhood as a group. While little is assumed about the presence and distribution

of other caretakers, a mother is assumed to mobilize family resources on her children's behalf, adapting her living arrangements as well as those of her children to suit their needs. Furthermore, while it is not assumed that all children live with their fathers, it is usually assumed that children have access to their father's resources.

In this paper, we examine various aspects of children's living arrangements in developing countries, using data from 19 Demographic and Health Surveys. These aspects include co-residence with mother; co-residence with father; the number, presence and spacing of siblings; and several dimensions of household structure. We begin with a discussion of the ways in which these different aspects of living arrangements might affect child welfare. We then discuss the opportunities and constraints embodied in the comparative data on living arrangements available from the Demographic and Health Surveys. The main body of the paper involves a discussion, by region, of the great variety of children's living arrangements depicted by the DHS data. The final section of the paper focuses on the determinants of mother-child co-residence, we consider these determinants because of the centrality of the mother-child unit to our understanding of other aspects of children's living arrangements and the design of policies for the benefit of children. In this paper, we define children as persons under the age of 15. This is the age most commonly used by governments to define entry into the economically active population (UN 1990).

The link between living arrangements and child welfare

Children are dependent on adults, in particular their parents, for essential care, economic support, and socialization. Thus children's welfare derives from their access to parents and other related adults committed to their care as well as from access to the resources these adults can provide. Access to parents and other relatives depends on their existence and their physical proximity, but parents' ability to provide adequate resources of time and money is a function of their productivity and resourcefulness as well as their other family commitments. Indeed, parents' role in children's welfare goes beyond the direct support they can provide and encompasses their role in gaining access to other social, community, and national resources (such as primary health care) on behalf of their children. Children are likely to be better off when they live with their parents and/or other close relatives and when they do not have to compete with too many dependent siblings for parental support.

Surprisingly, these hypotheses, while intuitively plausible and reasonably well supported by various studies in the United States, have not been explored systematically in third world settings. In relatively poor nations there has been greater emphasis on the basic issue of resource availability for children than on the more complex issues of the family's role in gaining

access to and distributing resources for their children's care and support. Thus, in the relatively brief discussion that follows, we will intersperse references to the literature from the developing world with occasional references to the literature on the United States.

Co-residence with mother. We look first at children's link with their mothers, on whom they are initially dependent completely and who usually remain their primary caretakers throughout childhood. A child's absence from his/her mother is often taken as a sign of extreme vulnerability, especially when the child is very young. Yet, in certain settings, most notably sub-Saharan Africa, it is not uncommon for children to live away from their mothers, particularly after the age of five (Page 1989). Various factors have been identified to explain the extent of mother-child separation – sometimes called fostering¹ – in these societies. Factors that might lead mothers to send their children to other households include (1) a lack of resources caused by a family crisis such as widowhood, divorce, or separation or a larger economic, political, or environmental crisis, (2) better opportunities elsewhere for children's education and training, and (3) the strengthening of family ties. Factors that might lead others to take in children that are not their own include (1) the need for labor, (2) the need for financial support, (3) strengthening of family ties (Goody 1976; Page 1989), and (4) childlessness. In some cases the decision to foster out may be taken with the children's best interests in mind; in other cases the interest of the parents or a large family will be dominant.

Few studies have compared fostered children with those remaining with their mothers, but limited evidence suggests that fostered children may be disadvantaged, particularly when they are fostered very young. A study of hospitalization, malnutrition, and death among fostered and non-fostered patients in a hospital in Sierra Leone suggests that foster children are sicker and at higher risk of mortality than those who reside with their mothers (Bledsoe & Brandon 1989). A study of fostering in Cote d'Ivoire shows that children living with neither natural parent work longer hours per week than children living with at least one parent (Ainsworth 1989).²

Co-residence with father. A good deal of research in the United States suggests that a father's presence in the home is closely linked to the extent of his financial and emotional commitment to his children. Research on child-support arrangements demonstrates that, when parents are divorced or separated, relatively few children receive financial support from their father (Peterson & Nord 1990). The effect of a father's absence is to substantially lower children's economic status (Macunovich & Easterlin 1990) and to increase the likelihood of poverty as well as its duration and severity (Garfinkel & McLanahan 1986; Duncan & Rodgers 1988; Weiss 1984).³ Poorer health and educational outcomes for children in mother-only families and in families containing neither biological parent have been linked to the relative

lack of resources in such families (Bumpass 1990; Mauldon 1990; Krein & Beller 1988) and to emotional stress and relative lack of attention and supervision (Dawson 1991).

Much less information is available on the precise effect of a father's presence or absence on children's welfare in developing countries, mainly because so much of the data on which we rely are derived from woman-based surveys such as the DHS, which link children with their biological mothers but not with their biological fathers. For example, recent evidence from the DHS in Zimbabwe suggests that the positive effect of the education of the respondent's husband on child nutrition is evident only when the respondent's husband resides with the child (Thomas 1990). While in the majority of cases the respondent's husband is the child's biological father, in some cases he is the child's stepfather.⁴

A child's access to the resources of her/his father as well as to his emotional and physical support will depend not only on his proximity but also on the extent of his commitment and on other competing demands. Recent research suggests the possibility of lesser commitment among partners in consensual unions than in formal marriages (Desai 1991) and of competing demands on polygamous husbands for the support of children of different mothers (Bledsoe 1988). Further evidence on this point comes from Ghana, where per capita levels of consumption were found to be substantially lower in households headed by divorced and widowed women than in those headed by women who were married but with an absent spouse (Lloyd & Gage-Brandon 1993).

Household structure. Several aspects of household structure are potentially relevant to child welfare. The availability of other related adults in the household may provide a child with greater access to financial resources and responsible child care arrangements. The sex of the head and the child's relationship to the head may affect the relative economic standing of the household and the child's access to a share of those resources.

In most countries, residents of female-headed households are worse off on average than residents of male-headed households (e.g. Levison 1989 for Brazil; Kossoudji & Mueller 1983 for Botswana; Adams 1991 for Zimbabwe; Kazi & Raza 1989 for Pakistan; Rosenhouse 1989 for Peru; Louat, Grosh & van der Gaag 1992 for Jamaica). But in some countries the differences do not appear to be large or statistically significant (e.g. Jamaica, Peru) and, in at least one case, female-headed households appear better off on average (in Ghana; see Lloyd & Gage-Brandon 1993). Some relatively poor children without fathers are likely to be found in male-headed households, moreover, because mother-child units that are not economically viable will be absorbed into larger household units. While other relatives may compensate for the absence of a parent, they may also compete for scarce resources. 'Living in an extended family household may only be a survival strategy of the poor

that would not be preferred if people could afford separate residences at a certain standard of living' (De Vos 1987: 517).

Furthermore, growing evidence suggests that female-headed households use their resources in ways that are more child-oriented (Dwyer & Bruce 1988; von Braun & Pandya-Lorch 1991). Recent evidence from Jamaica indicates that female-headed households consume foods of higher nutritional quality (Horton & Miller 1989; Louat, Grosh & van der Gaag 1992) and spend a larger share of their income on child goods and a significantly smaller share on alcohol (Louat, Grosh & van der Gaag 1992). Once income is controlled, it appears that a mother's resources may be used more directly and efficiently for the child's benefit when she is primarily responsible for the household and has decision-making authority (Kennedy & Peters 1991). Thus, children without fathers whose mothers are able to head their own households may be better off than those who live as part of a subunit within a larger household.

Number and spacing of siblings. For a child, siblings can be a source of competition for resources, but they may also serve as an additional source of familial support. The outcome will depend on the number of siblings, their distribution by age and sex, and the child's birth order. The empirical relationship between the overall number of siblings and children's welfare and economic opportunities varies by region and level of development (Mueller 1984). Evidence from some African countries suggests that additional siblings may enhance a child's educational opportunities in rural settings by spreading the burden of farm work and domestic chores and allowing at least some children to attend school (Mueller 1984a; Chernichovskiy 1985). However, in polygamous settings, where the expectation prevails that a husband must treat his wives and their respective children fairly, competition from the children of other wives may limit the resources available to each set of uterine siblings (i.e., siblings born of the same mother) and potentially restrict investments to one child per wife (Bledsoe 1988). Evidence from economically diverse settings in Asia and Latin America systematically document the negative relationship between family size and children's educational attainment as well as the negative relationship between the number of younger siblings and a child's current school enrollment.⁵ These regional differences in the effect of sibsize on various aspects of child welfare may be explained by differences in the economic boundaries between households. In a comparative analysis of DHS data, Desai (1991) shows that being born in a large family has a significant negative impact on child nutrition in several Latin American countries but no discernible effect in several West African countries.

With respect to spacing between siblings, it is firmly established that children who are born too close (within 24 months) to a younger or older sibling have a lower chance of survival (Working Group on the Health Consequences of Contraceptive Use 1989; Hobcraft, McDonald & Rutstein 1985; Hobcraft,

forthcoming). The evidence is less clear about the subsequent competition between closely spaced surviving siblings in terms of work roles and educational opportunities. Higher birth order has been found to be negatively related to long-term nutritional status in the Philippines (Horton 1988) and Côte d'Ivoire (Strauss 1990) and to educational attainment in Kenya (Gomes 1984). In very large families, however, the educational chances of the last born may be enhanced through the financial support of much older siblings, leading to a U-shaped relationship between birth order and children's opportunities. Such a relationship was found in Kenya (Gomes 1984).

Data on children from the DHS surveys

Each of the countries participating in the first round of the DHS used a simple household survey (designed to be nationally representative) to identify eligible female respondents for the survey of individuals. The latter asked women for detailed information on fertility, family planning, and child health, but little information was collected in the household survey itself on the characteristics of children, except their age, sex, and, in a little over 50 percent of the cases, relationship to head of household. In the survey of individuals, much more information about children was collected from the female respondents, whose eligibility for the interview was based on their age and marital status.⁶ Thus, our samples of children are drawn from the maternity histories of eligible respondents. These samples exclude children whose mothers have died as well as children whose mothers were under age 15 or over age 49.⁷ For the countries of North Africa and Asia, where relatively little childbearing occurs outside marriage, the samples also exclude children whose mothers had never married. Thus our child samples, while representative of eligible women, are not fully representative of all children in the population.

The last point can be illustrated using data from the Ghana Living Standards Measurement Survey (drawn from the same sample frame in the same year as the DHS in Ghana), from which the proportion of children with a dead mother and a living mother over the age of 49 can be derived directly (see Table 1). Among children aged 3–5, only 4 percent of all children are likely to have been missed by the individual sample (columns 1 and 2 combined). At the oldest ages, however, roughly 23 percent of children are likely to have been excluded from the survey. This represents a 'worst-case' scenario in terms of sample selectivity, as childbearing in Ghana continues until relatively late in a woman's reproductive years (Arnold & Blanc 1990) and maternal mortality is relatively high (UNICEF 1990).⁸

Table 2 shows the number of children reported by reproductive-age respondents in relation to the number of children counted in the household survey. Assuming rough parity at the population level between fostering in and out, the comparison between the two suggests the magnitude of sample selection

Table 1. Percent of all children in Ghana less than age 15 whose mother has died or is over age 49

Age	Mother dead	Mother over age 49*
0-2	0.1	0.7
3-5	1.4	2.5
6-8	2.8	6.9
9-11	3.6	12.0
12-14	4.6	18.8
Total	2.4	6.6

* The age of mothers who do not reside in the household is unknown. The distribution of children by age of mother for children whose mothers do not reside in the household is assumed to be the same as for children whose mothers do reside in the household.

Source: Ghana Living Standards Measurement Survey, 1987/88. First wave.

Table 2. Ratio of number of children from maternity histories to number of children from DHS household surveys

	All children of respondent				Resident children of respondent
	0-4	5-9	10-14	0-14	0-14
<i>Sub-Saharan Africa^a</i>					
Botswana	0.92	0.86	0.67	0.82	0.60
Burundi	0.91	0.82	0.67	0.81	0.78
Ghana	0.91	0.81	0.76	0.83	0.70
Kenya	0.90	0.83	0.69	0.81	0.75
Liberia	0.89	0.81	0.66	0.80	0.60
Mali	0.91	0.89	0.79	0.87	0.78
Zimbabwe	0.88	0.75	0.69	0.78	0.66
<i>North Africa & Asia</i>					
Indonesia	0.98	0.95	0.86	0.93	0.89
Morocco	0.93	0.90	0.77	0.87	0.84
Sri Lanka	0.96	0.86	0.75	0.85	0.83
Thailand	0.95	0.87	0.74	0.84	0.78
Tunisia	0.95	0.91	0.78	0.88	0.88
<i>Latin America^b & Caribbean</i>					
Colombia	1.05	0.83	0.76	0.87	0.82
Dominican Republic	0.92	0.84	0.76	0.84	0.73
Ecuador	0.91	0.86	0.74	0.84	0.81
Peru	0.93	0.87	0.78	0.86	0.83
Trinidad & Tobago	0.88	0.84	0.74	0.82	0.76

^a Not all eligible women in Senegal were interviewed.

^b Household data are not available for Brazil.

Source: DHS Standard Recode Tapes.

bias. For example, in Sri Lanka our sample of children captures roughly 96 percent of the 0–4-year-olds from the household population. Comparable figures for 5–9-year-olds and 10–14-year-olds are 86 percent and 75 percent respectively. The table shows that, although the representativeness of our samples varies across countries (based on their age-specific fertility and mortality schedules), we are able to capture at least 78 percent of the children under age 15, with the representativeness of the sample under 5 being much greater than that for children over 10.⁹

The implications of sample selectivity for our analysis depend on the extent to which the living arrangements of orphans and children of older mothers differ from those of other children. From Table 1, we know that the large majority of children excluded from the Ghana Survey have mothers over age 49. With the exception of teenage mothers, there is no reason to expect that, after controlling for family size, any relationship exists between mother's age and children's living arrangements. Obviously, by definition orphans cannot live with their mothers, and the loss of their mother is likely to have serious consequences for their welfare. However, the percentage of children who are orphans is relatively small even in a high-mortality country such as Ghana and, therefore, their omission is unlikely to seriously bias our results.

Full information on children's co-residential arrangements is available only for those children reported as living with their mother,¹⁰ because the focus of the individual interview was on the respondent and her living arrangements. The last column of Table 2 presents data on respondents' resident children in relation to all children under 15 reported in the household survey. The overall proportions of co-resident children in our samples vary across countries because of variations in the incidence of orphanhood, late child-bearing, and mother-child co-residence as well as variations between countries in the extent of coverage as defined by the eligibility criteria for respondents. On average, 75 percent of all children are represented in our samples of coresident children, with a range from 60 percent in Botswana and Liberia to 89 percent in Indonesia. Roughly 83 percent of children are represented in our samples from North Africa and Asia, 78 percent from Latin America and the Caribbean, and 70 percent from sub-Saharan Africa.

A further complication in this comparative analysis is that not all surveys included questions on all aspects of living arrangements. Usually, particular questions on type of marriage, co-residence with spouse and residence with parents were only used in those countries where particular types of deviations from the co-residential nuclear family unit were expected. Thus, questions on polygamy were included for most sub-Saharan African countries as well as Morocco. Questions on consensual or visiting unions were included in all Latin American surveys, most African surveys, and in Thailand. A question on actual co-residence with the current marital partner was asked in almost all sub-Saharan African countries as well as in Sri Lanka. Questions on co-residence with parents or parents-in-law were included in some but not all countries in all three regions. In the presentation which follows, we try to

Table 3. Percent of respondents' children living away from mother by age of child

	Age of child			
	Total	0-4	5-9	10-14
<i>Sub-Saharan Africa</i>				
Botswana	27.6	18.7	32.2	33.7
Burundi	4.8	1.2	6.4	9.5
Ghana	15.2	4.2	18.2	29.4
Kenya	6.8	2.8	7.7	11.4
Liberia	25.3	11.2	33.0	40.9
Mali	10.5	3.6	13.5	17.8
Senegal	13.6	5.7	16.3	24.0
Zimbabwe	14.3	6.8	15.9	22.8
<i>North Africa & Asia</i>				
Indonesia	3.7	1.5	3.3	6.5
Morocco	2.8	0.9	2.6	5.7
Sri Lanka	2.7	1.2	2.9	4.2
Thailand	7.0	4.0	6.5	10.4
Tunisia	0.5	0.2	0.4	0.9
<i>Latin America & Caribbean</i>				
Brazil	4.0	2.6	4.3	5.7
Colombia	6.0	2.8	6.3	9.6
Dominican Republic	12.4	6.6	12.9	18.8
Ecuador	3.7	1.5	3.6	6.6
Peru	3.5	1.3	3.1	6.5
Trinidad & Tobago	5.7	3.3	5.7	9.1

Source: DHS Standard Recode Tapes.

make the treatment of living arrangements as comparable as possible within regions, allowing the presentation to vary by region to take advantage of specific regional information on special types of arrangements, e.g., polygamy in sub-Saharan Africa and consensual unions in Latin America.

Children's living arrangements

Over the course of childhood, children's living arrangements change both because of changes in the life of their parents, including family building by the latter, and because of their own development, which may bring with it school and work demands. Although the prevalence of mother-child co-residence varies across countries, in every country studied here the proportion of children living away from home increases as children age (see Table 3). Furthermore, older children are more likely to live with mothers in polygamous unions in sub-Saharan Africa, while younger children are relatively more likely to live with mothers in consensual unions in Latin America (data not shown).¹¹ In order to summarize these age-dependent relationships, we have calculated synthetic cohort estimates of the number

of years a child can be expected to spend in different living arrangements¹² and present these below in terms of the percentage of total childhood years spent in different states. Because of the enormous regional variation in family formation rules and household living arrangements, we present the findings separately by region. For each region, we differentiate between children who live in household arrangements conforming to the Western norm (i.e., co-resident parents in a monogamous legal union) and those in other types of arrangements (i.e., living apart from mother, living with a mother who is not currently married, living with a mother who is in another type of union and/or whose partner is absent).¹³ We also show various dimensions of a child's household structure, including the proportion of children's years spent with their mother in a three-generation family with at least one grandparent, and the proportion of time spent in mother-headed and female-headed households.¹⁴ Finally, we show the number, presence and spacing of siblings.

Sub-Saharan Africa. The extent to which children live apart from their mothers over the course of childhood varies enormously within sub-Saharan Africa (see first row in Table 4a). Although child fostering is traditional in Africa, less than 10 percent of a child's years are spent away from his/her mother in Burundi and Kenya. On the other hand, children in Botswana and Liberia spend nearly 30 percent of their childhood apart from their mother.

With the exception of Botswana, no more than 10 percent of a child's years are spent living with a mother who is not currently married (row 2). But among children whose mothers are married, the absence of a mother's spouse increases children's exposure to the risk of receiving support from only one parent. After taking account of children whose mothers do not co-reside with a partner (rows 2, 3, and 4), the proportion of a child's years spent living with a mother with no partner doubles and sometimes triples, rising to nearly 30 percent or more in Ghana, Kenya, Zimbabwe and Botswana. By combining these proportions with the proportion of children living apart from their mother (rows 1, 2, 3, and 4), we can derive a minimum estimate of the proportion of childhood spent with no more than one parent. This varies from 18 to 20 percent of a child's years in Burundi and Mali to 45 percent in Zimbabwe, 47 percent in Ghana, and a high of 64 percent in Botswana. Finally, by adding the proportion of a child's years spent living with a mother who co-resides with a polygamous husband, we find that, with the exception of Burundi and Kenya, fewer than half of children's years are actually spent in what might be viewed in the West as a 'normal' arrangement (row 6).

Unfortunately, there are only three countries for which data on co-residence with grandparents are available: Burundi, Ghana, and Senegal. In Ghana and Senegal, at least one-quarter to one-third of childhood is spent with a mother in a three-generation household. In Ghana, however, these households are likely to be headed by women, whereas in Senegal such

Table 4. Children's living arrangements in sub-Saharan Africa

	Botswana	Burundi	Ghana	Kenya	Liberia	Mali	Senegal	Zimbabwe
a. Proportion of childhood years spent in various living arrangements								
Apart from mother	0.28	0.06	0.18	0.07	0.29	0.12	0.16	0.15
Living with mother:								
Mother without partner	0.26	0.08	0.08	0.10	0.10	0.02	0.04	0.08
Mother with partner								
Partner absent:								
Polygamous		0.02	0.09	0.04	–	0.03	0.06	0.04
Monogamous	0.10 ^a	0.02	0.12	0.13	–	0.03	0.06	0.18
Partner present:								
Polygamous		0.09	0.17	0.14	0.24 ^b	0.36	0.35	0.08
Monogamous	0.36 ^a	0.74	0.36	0.51	0.36 ^b	0.43	0.34	0.47
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Three-generation household with mother^c								
Mother head ^c	–	0.14	0.25	–	–	–	0.30	–
Female head ^c	0.31	0.08	0.21	0.18	0.10	0.04	0.02	0.29
Female head ^c	0.49	0.12	0.33	0.23	0.19	0.05	0.08	0.36
b. Number and spacing of siblings								
No. of living siblings	3.1	3.4	3.4	4.3	3.2	3.4	3.4	3.8
No. of resident siblings ^c	2.5	3.1	2.6	3.7	2.2	2.8	2.8	3.1
Percent with closely spaced siblings	20.6	26.6	19.4	39.1	30.3	29.4	21.9	24.8

– Not asked.

^a No data on polygamy.

^b No data on residence with current spouse/partner.

^c Children living with mother only.

Source: DHS Standard Recode Tapes.

arrangements are relatively rare as can be seen by the proportion of time living in female-headed households. In Burundi, Mali, and Senegal female-headed households are uncommon, but children spend at least a third of their childhood in such households in Ghana and Zimbabwe and almost 50 percent in Botswana. Not all of these female-headed households are run by children's mothers, however. While the majority of children in female-headed households have their mother as household head in Botswana, Ghana, and Liberia, roughly 10 percent or more of childhood years are spent with mothers in households headed by other women.

The average number of siblings per child varies between 3 and 4, and the average number of siblings with whom children currently reside varies between 2 to 3. However, Kenya, with 3.7, is an exception (see Table 4b). This may seem surprisingly low given current fertility rates in the range of 5 to 7 births per woman. Child mortality and high rates of fostering are likely explanations. The proportion of children with a living sibling (older or

Table 5. Children's living arrangements in Latin America

	Brazil	Colombia	Dominican Republic	Ecuador	Peru	Trinidad & Tobago
a. Proportion of childhood years spent in various living arrangements						
Apart from mother	0.04	0.06	0.13	0.04	0.04	0.06
Living with mother						
Mother without partner	0.09	0.13	0.14	0.07	0.09	0.17 ^a
Mother with partner						
Consensual	0.12	0.29	0.51	0.30	0.25	0.19
Legal	0.76	0.51	0.21	0.59	0.62	0.58
Total	1.00	1.00	1.00	1.00	1.00	1.00
Three-generation						
household with mother ^b	-	0.16	0.12	0.17	0.21	0.22
Mother headed ^b	0.14	0.08	0.15	0.06	0.11	0.05
Female headed ^b	-	0.13	0.17	0.09	-	0.06
b. Number and spacing of siblings						
No. of living siblings	3.1	3.1	3.7	3.3	3.5	2.8
No. of resident siblings ^b	2.8	2.6	2.9	3.0	3.1	2.5
Percent with closely spaced siblings	45.1	43.3	48.2	42.7	41.7	43.9

- Not asked.

^a Includes visiting unions.

^b Children living with mother only.

Source: DHS Standard Recode Tapes.

younger) who was born less than 24 months earlier or later varies between 20 and 30 except in Kenya, where it rises to close to 40 percent.

Latin America. In contrast to sub-Saharan Africa, the amount of time children spend away from their mothers is relatively small in all the Latin American countries included here except the Dominican Republic, where absence from mother represents 13 percent of childhood years on average (see Table 5a). By combining time spent apart from mother with time spent with a mother who has no current spouse or partner, we can derive a minimum estimate of the amount of time spent without both parents. This ranges from 11 percent of a child's years in Ecuador to 23 percent in Trinidad and Tobago and 27 percent in the Dominican Republic. Unfortunately, there is no information for the Latin American countries on the presence of a spouse or partner, but we can use the distinction between consensual unions (and visiting unions in Trinidad and Tobago) and legal unions as a proxy for the degree of partner commitment.¹⁵ In Brazil, more than three-fourths of a child's years on average are spent living with a mother who is legally married. The proportion ranges between 50 and 60 percent in Colombia,

Table 6. Children's living arrangements in North Africa and Asia

	Indonesia	Morocco	Sri Lanka	Thailand	Tunisia
a. Proportion of childhood years spent in various living arrangements					
Apart from mother	0.04	0.03	0.03	0.07	0.01
Living with mother					
Mother without partner	0.04	0.04	0.05	0.05	0.02
Mother with partner	0.92	0.93	–	0.88	0.97
Partner absent	–	–	0.01	–	–
Partner present	–	–	0.93	–	–
Total	1.00	1.00	1.00	1.00	1.00
Three-generation					
household with mother ^a	–	0.28	0.24	0.25	0.22
Mother headed ^a	0.03	0.07	0.05	0.07	0.05
Female headed ^a	0.06	0.09	0.12	0.16	0.06
b. Number and spacing of siblings					
No. of living siblings	3.3	4.1	2.6	2.2	3.6
No. of resident siblings ^a	2.6	3.7	2.4	1.9	3.5
Percent with closely spaced siblings	29.7	38.3	33.4	29.4	44.8

– Not asked.

^a Children living with mother only.

Source: DHS Standard Recode Tapes.

Ecuador, Peru, and Trinidad and Tobago but is no more than one-fifth in the Dominican Republic.

The overall proportion of children living in three-generation households with their mothers ranges from 10 to 20 percent. In contrast to many sub-Saharan African countries, most female-headed households in which children reside are headed by their mothers and not by other (possibly older) females. The proportion of a child's time spent in a female-headed household ranges from 6 to 17 percent.

It is striking that Latin American children co-reside with roughly the same number of siblings as children from sub-Saharan Africa despite the much lower fertility found in Latin American countries. This is largely due to better child survival and lower rates of child fosterage. The number of co-resident siblings varies from 2.5 to 3. On the other hand, a much larger percentage of children experience close spacing – between 42 to 48 percent in these six Latin American and Caribbean countries.

North Africa and Asia. These regions display much less variance in children's living arrangements, and children are much less likely to find themselves living apart from either their mother or father (see Table 6). Only in Thailand are more than 5 percent of a child's years spent away from his or her mother. In North Africa, such an experience is exceedingly rare. Furthermore, rela-

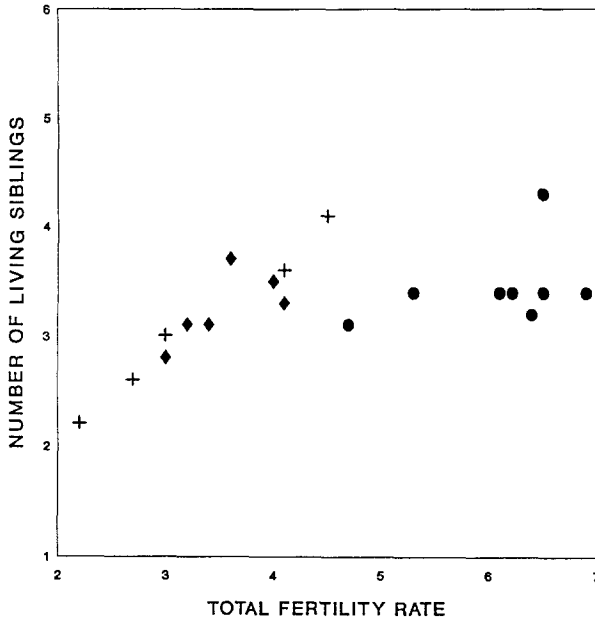


Figure 1. Relationship between total fertility rates and children's sibsize. ● Sub-Saharan Africa; + North Africa & Asia; ◆ Latin America & Caribbean.

tively few children have unmarried mothers. As a result, in all countries but Thailand, more than 90 percent of a child's years on average are spent living with a mother who is legally married. While it is not known whether the mother's spouse is present in all cases, data on spousal absence is unlikely to alter the picture considerably.

The proportion of childhood years spent living in three-generation households is consistently over 20 percent, higher than most of the Latin American countries for which data are available and in the range of proportions found in Ghana and Senegal. The proportion of childhood years spent in female-headed households is similar to that found in Latin America, but the proportion of children whose own mothers are household heads appears consistently low.

Fertility has fallen dramatically in Thailand, and children there have the smallest number of co-resident siblings (1.9). In other countries of Asia and North Africa where fertility has also fallen but not as rapidly, the number of co-resident siblings remains relatively high (e.g., 3.7 in Morocco and 3.5 in Tunisia). The extent to which close birth spacing occurs occupies an intermediate position in this region between sub-Saharan Africa and Latin America.

Although there is great variation in fertility across countries and regions, it has been noted that the number of uterine siblings per child varies much less. Sibsize varies from a low of 2.2 in Thailand to a high of 4.3 in Kenya,

while the TFR ranges between 2.2 and 6.9 (see Figure 1). High fertility is not automatically linked with large sibsize. For example, although the TFR in Burundi is nearly twice that of the Dominican Republic (6.5 and 3.6 respectively), a child under 15 has fewer living siblings on average in Burundi (3.4) than in the Dominican Republic (3.7). Thus, children's experience of family size change much more slowly than women's fertility over the course of the fertility transition.¹⁶

Factors affecting the separation of mothers and children

Because of the limitations of DHS data, we have no information for any of the regions included here about the living arrangements of children who do not live with their mothers. Their welfare will depend not only on the composition of the households in which they reside (i.e., whether they live with their father, whether they live in a male- or female-headed household, their relationship with the head of household, etc.) but also on the circumstances of their biological mother. Because the mother-child bond is seen as so important to a child's welfare, the factors influencing the likelihood that a child will be living away from his or her mother are of particular interest in a study of childhood living arrangements. A child's separation from his/her mother will be affected by the types of factors discussed above, including the mother's resources, her other parental responsibilities, and the child's access to resources from other family members.

To test the relative importance of these factors as well as the influence of certain of the child's own characteristics such as age, sex, and parity, we examine the probability that a child will live apart from his/her mother using logistic regression in those countries where children spent at least 6 percent of their childhood away from their mother. There are nine such countries and they include all the sub-Saharan African countries except Burundi as well as the Dominican Republic and Thailand. The variables in the regression are as follows: dummy variables indicating the index child's characteristics, including age (with age 0–4 as the omitted category), sex, and whether the child is the oldest of his/her mother's living children; dummy variables indicating mother's circumstances including her household headship, residence in an urban area, illiteracy, migration within the past five years, polygamous marriage, lack of a residential partner, mother's age and age squared; the child's total number of living (uterine) siblings of all ages, the number of siblings younger than the index child, and the number of adult (age 20–59) males and females in the household. The sample included all children under age 15 born to mothers interviewed in DHS. Since multiple children from a family are included in this analysis, results are somewhat biased by correlation across cases caused by unobserved family-specific factors.¹⁷ The

results, presented in Table 7, are organized according to major groups of factors, including mother's resources, access to other resources, and competition with siblings.

We would expect that children whose mothers have less access to resources either on their own account or from the child's father or other family members are more likely to be living apart from their mother. Our results consistently bear this out in all countries regardless of region. With respect to a mother's own resources, the probability of living apart decreases consistently with a mother's age (with statistically significant effects in four of the eight countries) and is greater for illiterate than literate mothers (but the effect is only statistically significant in Senegal, the Dominican Republic and Thailand). With respect to a mother's access to the resources of her partner and/or other family members, the likelihood that a child will live apart is significantly greater in all nine countries when the child's mother has no residential spouse or partner and when the mother is in a polygamous union in sub-Saharan Africa. The likelihood a child will live apart is always significantly greater if the child's mother is a recent migrant and if she lives in an urban area. It is likely that women migrate to a new area without their children, at least initially, and that women without strong family ties in urban areas send their children to live with relatives still residing in their original village. The one puzzling result is the positive effect of additional adult female household members in all countries except Botswana.

We see variables such as maternal age, marital status, coresidence with partner, recent migrant status, literacy status, and urban residence as proxies for a mother's access to resources. We expect the headship status of a child's mother to provide a measure of her control over household resources. In the absence of resource constraints, we assume that a mother would prefer to live with her children, particularly if she is a household head without an adult male present. Our results provide partial support for this hypothesis. In Kenya and Zimbabwe, having a mother who is a household head significantly reduces the chance a child will live away from his/her mother. The results for Botswana, Liberia and Thailand appear to provide evidence to the contrary. The reason for these differences is not obvious. It may be that DHS data do not provide adequate information on a household's access to resources and/or that systematic differences exist between countries in women's access to cash income and productive land that are not properly controlled in these regressions.

The relationship between family size, birth order, and motherchild separation appears to be quite complex. A number of researchers have suggested that parents who have many children sometimes use fostering as a mechanism for spreading the costs and benefits of children around the larger kin network (Caldwell & Caldwell 1987; Blanc & Lloyd, forthcoming). From an individual child's perspective, however, having many siblings does not automatically mean that he or she will be the one to live away. Some of the other siblings may live away and, depending upon the birth order, the index child from a

Table 7. Effect of family characteristics on a child's probability of living apart from mother (logistic regressions)

	Botswana	Dominican Republic	Ghana	Kenya	Liberia	Mali	Senegal	Thailand	Zimbabwe
<i>Mother's resources^a</i>									
Age	-0.07*	-0.07*	-0.90*	-0.00	-0.02	-0.14**	-0.02	-0.16**	-0.08*
Mother headed	0.26**	0.09	0.08	-0.41**	0.19**	0.09	-0.19	0.37**	-0.37**
Illiterate	0.07	0.37**	0.10	0.04	-0.09	0.08	0.28**	0.25*	0.01
<i>Access to other resources</i>									
Recent migrant	-	1.08**	0.86**	0.68	-	0.80**	0.80**	1.17**	0.85
Polygamous	-	-	0.05	0.29**	0.16*	0.20*	0.18**	-	0.40**
No partner resident	0.68**	0.95*	0.21*	0.89**	0.56**	0.76**	0.89**	1.02**	0.80**
Adult male present	0.03	0.07 ⁺	0.03	-0.09*	-0.03	-0.00	0.00	-0.15**	0.05
Adult female present	-0.15**	0.12**	0.02	0.15**	0.05**	0.00	0.03**	0.08 ⁺	0.03
Urban residence	0.81**	0.10 ⁺	0.03	1.27**	0.03	0.56*	0.16	1.06**	0.71**
<i>Competition with siblings</i>									
Number of siblings	-0.09**	-0.00	-0.18**	-0.15 ⁺	-0.03	-0.15**	-0.11**	0.01	-0.06**
Oldest child	-0.02	0.14 ⁺	0.03	0.13	0.04 ⁺	0.18	0.10	-0.01	0.13
Number of younger siblings	-0.07 ⁺	0.16**	0.21**	0.08**	0.15**	0.22**	0.24**	0.11 ⁺	0.08 ⁺
<i>Child's characteristics</i>									
Male	0.03	-0.17**	-0.20**	-0.06	-0.08*	-0.21*	0.14	0.18*	-0.08
Age 5-9	0.96**	1.06**	1.68**	1.26**	1.41**	1.65**	1.09**	0.97**	1.36**
Age 10-14	1.20**	1.66**	2.22**	1.81**	1.76**	1.96**	1.45**	1.77**	2.00**
Constant	-0.48	-1.94**	-1.82	-4.39	-1.65	-1.46*	-3.52	-1.11	-1.94
(Chi-Square)	841	1050	1004	1068	1241	601	780	721	943
(df)	(14)	(15)	(16)	(16)	(15)	(16)	(16)	(15)	(16)
N	7889	12247	8815	16870	10043	6968	8780	10781	8307

Two-tailed test: ** $p < 0.01$; * $p < 0.05$; ⁺ $p < 0.10$.

- Not asked.

^a Age squared controlled but not present because coefficients were equal to zero.

Source: DHS Standard Recode Tapes.

large family may be less likely to live away than one from a small family. In our multivariate analysis, we include three variables to capture different dimensions of family size: total number of living siblings, a dummy variable indicating whether the index child is the oldest, and number of younger living siblings. The results for all countries present a consistent picture. The index child is less likely to live away if he or she is born in a large family. However, the addition of younger siblings is likely to increase the probability of living apart. Additionally, independent of family size, oldest children in a family are more likely to live away, but this effect is rarely statistically significant.

These results suggest two distinct aspects of mother-child separation. First, older children may be sent away in order to reduce the family's financial burden. Hence, children who have many younger siblings are much more likely to be separated from their mother. Second, independent of family size, all families may want to participate in the exchange of children among relatives in order to widen their children's social network, strengthen family ties, and socialize the children. If this is true, at least some children in every family are likely to experience a period of separation from their mother, regardless of family size. Thus, having a large number of siblings increases the pool of children who can participate in these arrangements, thereby reducing the probability that any one child within a family will live apart.

Discussion

It is often assumed that, apart from exceptional cases, children live with their mothers, experience childhood together with their siblings and have access to the resources from both biological parents. Data presented above contradict this assumption and document the wide variation in living arrangements experienced by children in the developing world. These data demonstrate that, in many countries of sub-Saharan Africa and Latin America as opposed to parts of Asia and North Africa, children spend substantial proportions of their childhood years apart from one or both parents and, by extension, apart from at least some of their siblings. The mothers of many of these children do not live with a partner or are in marital circumstances that may attenuate the link between the child and the father.

Household formation rules vary across societies and are responsive to socioeconomic conditions and the availability of kin with whom to co-reside (De Vos 1987). But they are also likely to depend on the extent to which family members other than children's biological parents are involved in their care and financial support. Past research emphasized the primary role of parents in the support of their own children, but there has been relatively little exploration of the role of extended kin and non-kin networks in providing support for children. Our results suggest that a large proportion of young children, particularly in sub-Saharan Africa, benefit from the support provided by others. This support can take many forms. Those forms most

directly observed in our data involve the co-residence of family members beyond the nuclear unit in several types of arrangements: the co-residence of three generations within the same household, the inclusion of a single mother and her children as a sub-family within a more complex household, and the exchange of children between kin so that not all siblings experience childhood together in the same household. Although actual levels of support vary according to individual circumstances, these alternative residential arrangements are likely to involve financial support as well as the provision of child care.

The results from our multivariate analysis suggest that the likelihood a child will receive such support – i.e., the likelihood that a child lives apart from his/her mother – is greatly influenced by a mother's access to resources and the competing demands on those resources. In sub-Saharan Africa, however, where the broader sharing of child support and child rearing among family members and others is a regular feature of the social support system, the institution of child fostering is not just a response to lack of resources but also a mechanism for enhanced opportunities and the strengthening of family ties. Our results suggest that these aspects of fostering will remain important as living standards improve.

Finally, despite enormous variations between countries in current fertility rates (ranging from roughly 2 to 7 births per woman), children experience childhood with no more than 2 to 3 children on average; such sharing of the same household occurs in countries as diverse as Thailand and Mali. Thus, childhood as it is experienced in many parts of the developing world has much that is common despite apparent differences and much else that is different despite apparent similarities.

These findings have important policy implications. Public policies, particularly those devised by international bodies such as the World Bank, are frequently based on a vision of nuclear families devoted to children's care and welfare. For example, during the process of structural adjustment, many countries are moving from generalized food subsidies to subsidies targeted more directly toward poor families (UN Development Programme 1991). However, given the tendency towards non-nuclear (and frequently changing) family configurations in many societies, it is difficult to identify vulnerable children and target subsidies appropriately. This is particularly problematic if the poor are more likely to send children for fostering (crisis fostering) or are more likely to utilize household reconfiguration and extended family living as a survival strategy (Jelin 1991). Thus, in societies with a large proportion of non-nuclear families, and/or physically separated families, some of which may constantly be in a state of flux, generalized assistance may be more appropriate than targeted programs. In this way, all children are eligible for a particular program of assistance on the basis of their own individual circumstances regardless of the economic position of their parents' household(s) in which they may or may not reside.

The achievement of universal primary enrollment – a goal of most de-

veloping countries – is another social arena where knowledge of children's living arrangements could be important in effective policy design. School-aged children living in mother-headed households may need access to flexible hours and full day care to make attendance feasible, whereas school-aged children living away from their parents may need improved educational access in proximity to their parents. Indeed, an important factor causing parent-child separation in poor settings is the maldistribution of educational resources.

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Notes

1. The literature is not consistent on the definition of fostering. It is sometimes defined as absence from both parents and sometimes as absence from only one (usually the mother).
2. However, if fostering is defined as the mother's absence only, this is no longer true. This may suggest that many children who are not living with their mother are living with their father and are thus more likely to receive equal treatment with other children in the same household.
3. Children in father-absent families lose access to their father's income and have to rely solely on their mother's income. Additionally, mother's earnings are likely to be lower than father's because of wage discrimination and women's greater specialization in non-market work.
4. In Zimbabwe, 11 percent of women with living children under the age of 5 have been married more than once.
5. These studies include Behrman & Wolfe (1987) for Nicaragua; Birdsall (1980) for Colombia; Psacharopoulos & Arriagada (1989) for Brazil; Cochrane & Jamison (1982) for Thailand; Knodel, Havanon & Sittitrai (1990) for Thailand; Jamison & Lockheed (1987) for Nepal; Chernichovshy & Meesook (1985) for Indonesia; Hermalin, Seltzer & Lin (1982) for Taiwan.
6. In Senegal, where the sampling design was based on the compound, which is often larger than the household, all eligible women in compounds of fewer than 20 residents were selected for individual interviews. But in larger compounds fewer were selected, using the following rule: compounds of 20–40: every second eligible woman; compounds of 40–60: every third eligible woman, etc. (Scott 1986).
7. An exception is Brazil, where the upper age limit for respondents was 44.
8. Sample selectivity is also a potential problem when never married women are excluded from interview but only countries with very low rates of out-of-wedlock childbearing exclude the never married.
9. Information on the number of children in the household is entirely independent of the respondent's own accounting of her resident children, which she provides separately in the individual interview. These data were not reconciled, and it is likely that the age reporting of children will be more accurate in the birth histories than in the household data. If there is greater age heaping in the household surveys than in the individual surveys, as was typical

- in the WFS (UN 1987a), some children aged 4, 9, and 14 may be reported as aged 5, 10, and 15 respectively in the household surveys, leading to an underestimate of the sampling bias, and in extreme cases, to ratios of over 1.00 such as in the case of Colombia.
10. Mothers were asked only to report as living away those children who were at boarding school or permanently living elsewhere, not children temporarily absent (Institute for Resource Development 1987).
 11. It is difficult to sort out the period and age (or duration) effects in the relationship between children's age and living arrangements. In the case of polygamy, mothers of young children are themselves apt to be younger and, therefore, less likely to have acquired co-wives. In the case of consensual unions, the dissolution rate rises with union duration either because of legalization or union dissolution (Pebley & Goldman 1981). But in addition to the age/duration effect, there may also be some time trends in the prevalence of consensual or polygamous unions. For countries with comparable data from the WFS and the DHS, there is evidence of a slight decline in the proportion of currently married women in polygamous unions in Ghana, Kenya, and Senegal (most noticeably in Kenya) and a slight rise in the proportion of reproductive-age women in consensual unions in Colombia, Ecuador, and Trinidad and Tobago but no similar trends in the Dominican Republic or Peru (various WFS and DHS First Country Reports, UN 1987a).
 12. This is calculated as the sum of the age-specific proportions of children (by single year of age) in each living arrangement.
 13. We should emphasize, however, that when a child is living with his/her mother and spouse, we do not know whether that spouse is the child's father or stepfather.
 14. In the case of three-generation households and female-headed households, this is a lower-bound estimate of the proportion of children in these arrangements, as children not living with their mother are excluded because it is not known what type of household they live in.
 15. Although some consensual unions are very stable, others are not. In general, consensual unions have a substantially higher rate of dissolution than formal unions (Goldman 1981).
 16. Improvements in child survival, the rapidity of the fertility decline, and the increased variance in women's fertility that occurs at the beginning of the transition (Preston 1976) are all factors that would explain the fact that the variance in sibsize is so much less than the variance in fertility for this group of developing countries.
 17. Unobserved family-specific conditions, such as parental illness, may affect fostering probabilities of all children within a family. These unobserved factors are reflected in the error term of our logistic regression for each child. Since multiple children from the same sample are included in our analysis, the error term is likely to be correlated across cases, biasing the reported standard errors for coefficients.

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