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**Nuptiality Patterns, Sexual Activity and  
Fertility in Nigeria**

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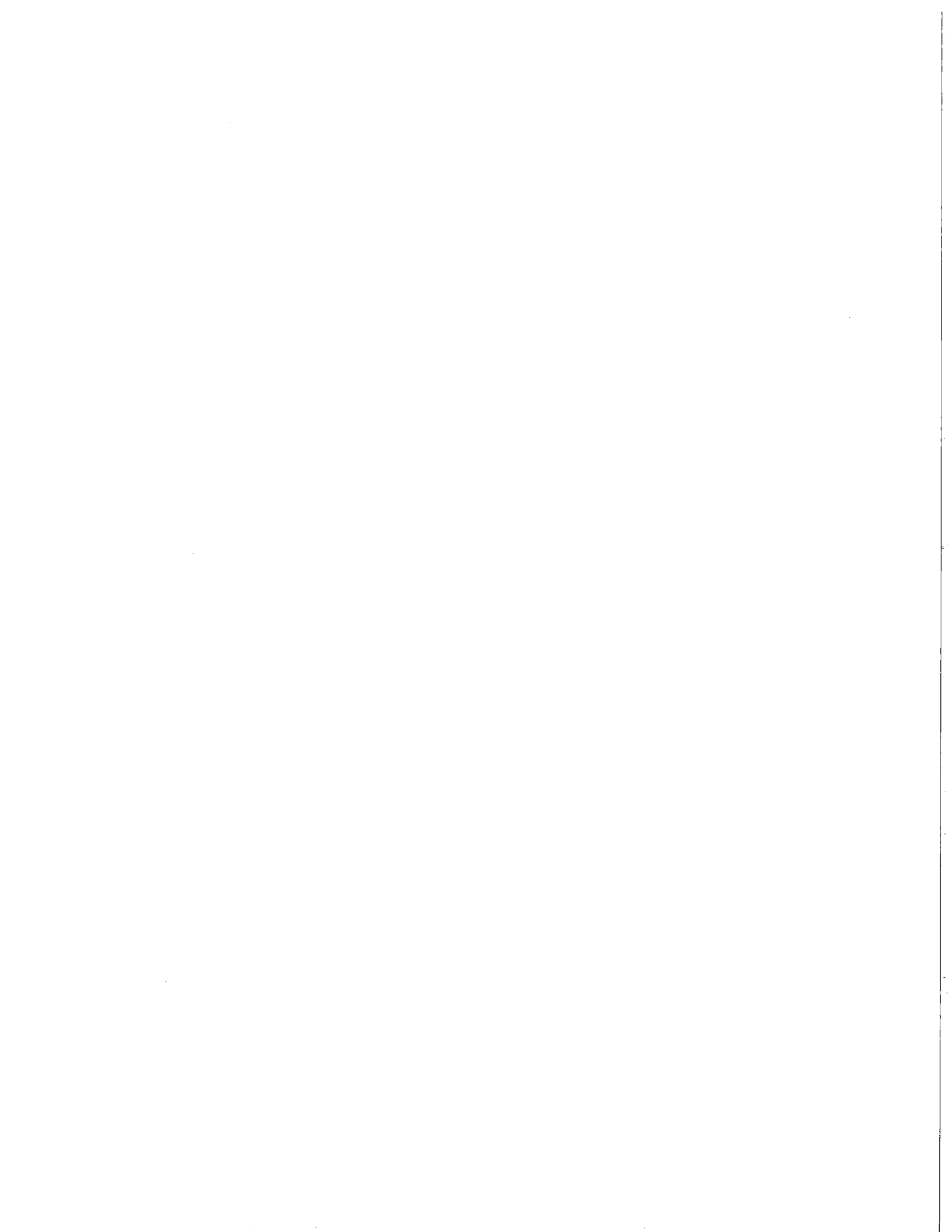
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## **Introduction**

Early age of initiation into both conjugal unions and parenthood, and the consequence to mothers and children, has been a source of concern in Nigeria. Reflecting this concern, the Nigerian population policy stresses that "Families shall be dissuaded from giving away their daughters in marriage before the age of 18 years" (FRN, 1988). This objective, together with accelerated female education, is envisioned to help reduce pregnancy among women younger than 18 years by 50 percent in 1995 and by 90 percent by 2000.

Nigerians marry to have children, and marriage has meaning only when a child is born or, in fact, survives. Children, especially sons, are cherished as the means of cementing a marriage and perpetuating the family. Indeed, it is viewed as unusual if a child fails to come within the first year of marriage, and childless women or men are pitied or looked down upon in the society. Because of strong parental authority and religious traditions cum prescriptions about purity and premarital chastity, traditional Nigerian marriages typically are early and arranged, with some being used to forge or maintain social, political and economic alliances. Early and universal marriage is also sustained by the characteristic agrarian economy, family organization and socialization structure, as well as the levels of female schooling.

Traditional Nigerian marriage patterns have been in a state of flux, the impact of which will become demographically obvious in time. The change in nuptiality patterns is related partly to the breakdown of culturally prescribed modes and patterns of choice of partners, including norms of early and universal marriage, and partly to structural changes resulting from increasing female education, migration and social emancipation. The study of emerging nuptiality patterns in Nigeria and their impact on fertility will engage the attention of demographers for a long time in view of the close relationship between marriage and fertility in the absence of substantial fertility control. According to Olusanya (1982), marriage in Nigeria is so closely linked with childbearing that a change in the pattern of marriage necessarily influences the birth rate and hence the rate of population growth.

In this study we provide a detailed examination of the nuptiality patterns and differentials in Nigeria, with a focus mainly on age of entry into marital union, and marital stability among cultural groups in Nigeria. These, together with variations in sexual activity within union, may shed important light on fertility differentials in the essentially natural fertility regime operating in Nigeria. This study is particularly relevant against the background of the recent National Policy on Population which aims to achieve a drastic reduction in marital fertility in Nigeria, partly through programs that discourage early marriage and early initiation of childbearing.

## **An Overview of Marriage in Nigeria**

Relatively little empirical work has been conducted nationwide on the patterns and correlates of age at first marriage. In the absence of census data on nuptiality, the Nigeria Fertility Survey (NFS) 1981/82 was the first major attempt to collect detailed and comparable information on nuptiality in Nigeria (NPB and ISI, 1984; Adegbola, 1987). A number of works

on nuptiality were published subsequently, based on small-scale studies of different ethnic groups in the country (George, 1992; Isiugo-Abanihe, 1994a), or of broad regional groupings (Olusanya, 1982; Isiugo-Abanihe et al., 1993). These studies reveal that although marriage is generally early and virtually universal in Nigeria, the age at which women enter into unions does vary widely among groups. Indeed, marriage varies considerably among socio-cultural groups with respect to its definition or meaning, the entry process, and relationships between partners within it. Because Nigeria encompasses numerous societies and cultures, which are undergoing social change at a varying pace, there is a great variety of marriage types and entry processes.

For instance, among the coastal-delta Itsekiri, who had early contact with the Portuguese, marriage is fairly simple and straightforward. A suitor provides a bottle of gin and a little money for the initial inquiry ceremony. In a subsequent ceremony he brings a case of gin and kola nuts, and at the traditional marriage, which is marked by feasting, fabrics, dresses, jewelry, etc. are presented to the bride and her mother. This is somewhat similar to the Yoruba pattern, which also involves many festivities and the presentation of gifts. In contrast, marriage among the Igbo involves not only the bridal gifts but also enormous financial requirements, i.e., bride wealth, without which a bride cannot move in with a groom (Isiugo-Abanihe, 1994a). In the case of their Ijaw neighbors, consensual union is a dominant form of marriage, and gifts or money are not usually presented in most arrangements (George, 1992). Further, whereas child marriage is still predominant in the Muslim north, marriage is relatively delayed in the more educated and Christian-dominated south (FOS and IRD, 1992). Also, on account of cultural diversity, the incidence of polygyny and marital stability vary greatly. For instance, the Nigeria Demographic and Health Survey (NDHS) indicates that about 41 percent of currently married women are in polygynous unions, yet about 20 percentage points separate the polygyny rate between the south-east and the north-west regions (FOS and IRD, 1992). Thus, any national-level figures derived from the NDHS, such as the 7.4 percent of all women who categorized themselves as "living together" with a man or the reported median age at marriage of 17 years mask considerable heterogeneity in marriage behavior, given the multiplicity and diversity of ethnic and cultural groups in the country.

Many authors have alluded to the general notion that marriage in Africa is a process rather than an event, along which is some ambiguity in determining exactly when a couple is married (van de Walle, 1968a; 1992). The United Nations report on age at marriage summarized the view thus:

In marriages in Africa, a marital union is not always the outcome of one single event, such as a blessing or a ceremony. Sometimes a number of requirements, with judicial significance, must be satisfied... Hence, the date of marriage can be arbitrarily placed at some point during the process and may or may not precede the establishment of a household or the birth of children (United Nations, 1990: 60).

Agreeably, there are a number of processes and procedures involved in the formation of marital unions among all the ethnic groups in Nigeria. A man does not just meet a woman and take her home as a wife. Indeed, this rarely happens in any culture. Rather, a man sees or gets introduced to a woman, then the process of inquiry into her background is started. It is only when the inquiry fails to uncover common ancestry or blood relation and any unfavorable trait in her family that subsequent processes, including formal introduction, engagement, bridal negotiations, payment of bridewealth, and

eventually the traditional or customary marriage, take place. The processes could take anywhere from one week to a few years depending, among other things, on the readiness of the bridegroom.

However, that marriage involves these processes does not imply fluidity in the term or ambiguity with respect to its dating or timing, as has been implied by many. Brides are under sanction and do not move in with their suitors recklessly; parents see to it that their daughters are properly married within the proscriptions of the particular culture. Generally, before marriage takes place in most Nigerian cultures, some form of payment or presentation of gifts must take place; whether it is in full or installments depends on the specific culture.

Whereas the Igbo maintain an elaborate bridewealth culture, the Yoruba or the Itsekiri spend a lot of money on traditional cloth, dresses, jewelry, etc. for the bride and her mother in effect, using an amount possible equivalent to bridewealth to adorn the bride. Then comes the traditional marriage, accompanied by rituals and festivities, when the bride is formally given away to her husband and his family. To most people this is the event called marriage, although the union might subsequently be documented in a marriage registry or solemnized in a church or mosque. In fact, among Yoruba Christians, the traditional marriage commonly takes place on the eve of the church wedding. This practice is also gaining ground in Igboland where some people combine the two ceremonies, one in the morning and the other in the evening. The event called marriage is indeed a remarkable one, involving not only the two families but also their villages or towns. Such an event is, therefore, too distinctive for any woman to mistake or confuse it with any of the processes that brought it about.

The long period during which the different processes take place among Nigerian cultures could be likened to the long period of engagement in the West. In America during this period, the two people get acquainted with each other, meet members of their respective families, and possibly cohabit. Some live together for many years and may decide to part ways amicably or violently; some may even have children before they decide to marry. Thus, marriage in the West has its own processes. In fact, marriage in the West is ambiguous in many respects; the couple next door who appear to be happily married may turn out to be two friends who do not plan to get married at all. Also a couple can file for divorce just days after their marriage; they may even remarry, only to divorce again later; serial marriage is common in the West, not to mention "marriages" among homosexuals, some of whom may have been in a "straight" marriage previously. These ambiguities and abnormalities create considerable analytical and interpretive problems to the demographer, perhaps much more than the processes involved in African marriages do.

Africa is witnessing a move from a traditional to a modern setting. Typically this is accompanied by nuptiality change, which involves a change from early to late age at marriage, a decrease in marital stability, an increase in the number of times married, and a change in the nature of multiple marriage partners and residential arrangements between husband and wives (United Nations, 1990; Isiugo-Abanihe et al., 1993). Explanations of these changes are based on the proposition that the social change that accompanies economic development brings with it a re-formulation of family organization around personal rather than kinship or corporate goals. Thus, marriage becomes an individualized process, entered into for love and selffulfillment rather than for the traditionally relevant concerns of status or alliance benefits (Malhotra et al., 1992). By the

same token, marital stability is adversely affected as marriage partners become more individualistic and less tolerant of each other, as the stabilizing influence of the extended family is eroded.

However, much as modernization brings about major changes in marriage and family systems, traditional family forms tend to remain resilient, in part by adapting to the new economic and ideational forces. At the same time, socio-cultural groups usually form a continuum depending on the degree to which they have been subjected to the forces of modernization. Thus, an examination of the extent of nuptiality change among social groups and the differential strength of family organization in Nigeria are of interest both for policy and scholarship.

Formulations of a detailed analytical framework for fertility studies have taken age at marriage as an important intermediate variable, having direct effect on marital fertility (Davis and Blake, 1956; Bongaarts, 1978; 1982; Bongaarts et al., 1984). This is especially true in countries, such as Nigeria, where there is little voluntary control of fertility within marriage. Late age at marriage decreases fertility levels primarily because of reduced duration of exposure to pregnancy, especially in the highly fecund years of the late teens and early twenties; late marriage also lengthens the interval before the next generation is born and begins childbearing (Coale and Tye, 1961; Henry and Piotrow, 1979; Durch, 1980).

Although later age at marriage reduces exposure time and, hence, fertility, duration itself cannot explain all fertility differentials by age at marriage. What is equally important is that women who marry late tend to have lower family size ideals, which in turn influences their family planning and fertility behavior. In other words, socioeconomic factors that motivate a small family size tend to increase age at marriage. Thus, a better understanding of variations in age at marriage should help in understanding fertility as well.

An examination of the determinants and components of marital breakdowns and of the rate of remarriage among the various social groups has not been undertaken in Nigeria. Empirical work on the relationship between marital stability and fertility suggests that women in continuous marriages tend to have higher fertility than those who have experienced marital dissolution (Isiugo-Abanihe et al., 1993). The lower fertility of women in multiple marriages may, in part, be attributed to the shorter marital duration, depending on the length of the period between marriages. Presumably, women who are more likely to experience divorce and separation are also more likely to experience lower frequencies of sexual intercourse, even before the actual dissolution. Also, infertility may be the cause of marital discord, leading to marital dissolution or polygyny.

The foregoing provides an overview that will guide a detailed and systematic analysis of the nuptiality patterns, differentials and change in Nigeria, with their implications for marital fertility.

## **Data and Methods**

The Nigeria Demographic and Health Survey (NDHS) is the main data source for this work. Estimates of marriage age based on retrospective reporting and current status measure are computed. The singulate mean age at marriage (SMAM),

which is the most widely accepted current status estimate, is particularly important in this study since the reporting of age may not be very reliable, especially among older women. SMAM is computed from the proportion reported as currently never-married in each five-year age group and measures the mean number of years spent in the single state among women ultimately marrying. Thus, it provides a good summary measure of age at marriage (Hajnal, 1953). Although the index is better for countries where marriage patterns are relatively stable, it has proven a robust measure of the age at first marriage.

We also conducted life-table analysis of age at marriage, adopting the method developed by Smith (1980a; 1980b), from the distribution of single women by current age, and ever-married women by ages at marriage and at interview. The technique allows a year-by-year and age-by-age accounting, through which overall marriage patterns become clearer. However, the results are precise to the extent that current age and age at marriage are correctly reported. Of course, we know that age reporting is grossly in error in Nigeria. Therefore, distortion in the results, especially among older cohorts of women, is not to be unexpected. Still, a nuptiality life-table enables us to examine whether age at marriage is falling, stable or rising, generally and among specific sub-groups or cohorts of women. It also shows marriage rates at fixed duration of exposure, for example, the proportion of women marrying from the beginning age of marriage till the last age, or the age at which a certain percentage of a cohort of women marry,  $T_x$ , where  $x$  could be 10, 25, 50, 75, or 90. Other important summary statistics of the procedure include trimean, computed as  $T_{25} + (2T_{50}) + T_{75} / 4$ , and spread, which measures the difference between  $T_{75}$  and  $T_{25}$  and thus indicates the range of mean age at marriage. Relevant background variables examined in this work include maternal education, place of residence, religion, and cultural areas or ethnicity.

The multivariate analyses utilize both ordinary least squares (OLS) and logistic regression in evaluating differentials in age at first marriage, marital stability, sexual activity and marital fertility, as applicable. For instance, an OLS model is used to analyze the differentials in age at first marriage, as a linear function of the sociocultural and demographic predictors, with dummy variables representing categorical variables. Since age at first marriage from cross-sectional data is subject to some ambiguity due to censored marital histories, the analysis will be restricted to women 20 and over, by which age the majority have married.

As an alternative strategy, we also examined the probability of entering a union at a given age, say 20 years, using logistic regression. Since women who entered marriage within the teenage years can be said to have married early, identifying those with high odds of marrying at 20 years or above will help us understand the factors that enhance late marriage in Nigeria. Thus, marriage age and marital stability will be analyzed as dichotomous outcomes using the logistic regression model:

$$\ln(q_i)/(1-q_i) = b_o + b_i X_i$$

$$\text{logit } q_i = b_o + b_i X_i$$



where  $q_i$  is the probability of the outcome given the array of independent variables,  $X_i$ ,  $b_0$  is a constant and  $b_i$  represents a series of unknown coefficients to be estimated using the maximum-likelihood method (Hosmer and Lemeshow, 1989). The independent variables are parameterized using the theoretically low-risk categories as the reference categories. The maximum-likelihood estimates are interpreted as the difference in the predicted log odds of the outcome, say, that first marriage took place at age 20 or above, between those with the higher risk characteristics and those in the reference category. Thus, exponentiation of the coefficients provides an estimate of the relative odds associated with that characteristic, where the odds of an event occurring are defined as the ratio of the probability that it will occur to the probability that it will not.

Analytical tools or models only help us to highlight differences among groups in the social phenomena of interest. Even the most sophisticated of models cannot in itself provide explanations for the results it has yielded. Therefore, to say that nuptiality patterns vary by ethnic or cultural background is not sufficient; we must also know what factors are associated with a particular background to influence a certain behavior. In this respect, we will rely on the experience gathered from conducting ethnographic studies in various parts of the country.

### **Trends and Differentials in Age at First Marriage in Nigeria**

Marriage age in Nigeria continues to be early, as indicated by the median age of 17 years, which implies that one-half of Nigerian women have married by age 17. Table 1 shows the percentage of ever-married women by 5-year age group and SMAM for Nigeria and selected sociocultural groups. As is common to other African countries, the figures depict two general characteristics of Nigerian nuptiality, namely early and universal marriage. About 36 percent of Nigerian women age 15-19 have married. The ever-married figures increase to 73 percent and 92 percent in the 20-24 and 25-29 age groups, respectively. Virtually all women have married by age 40. The singulate mean age at marriage is about 20 years.

As is evident from Table 1, these national figures obscure variations and differences among sociocultural groups. For instance, urban women enter into marriage at a later age than rural women and also complete marriage later. Whereas only 19 percent of urban women had married at age 15-19, nearly one-half of rural women have done so. At age 20-24, 59 percent of urban women are married, compared with 84 percent of rural women, and whereas almost all rural women have married at 30-34, some urban women remain unmarried at 45-49. These rural-urban differences in the age at first marriage is summarized by an SMAM of 21.7 years for urban women and 18.7 years for rural women, a difference of 3 years. By the same token, the differences in SMAM between women with no schooling and those with primary, secondary and tertiary education are 3.5 years, 7.3 years and 10.8 years, respectively.

There are profound differences in age at marriage when religious affiliation is considered. Generally, Christians enter into marital unions later than Muslims and other religious groups; they also complete marriage later. For instance, only 15 percent of Protestants and Catholics have married at age 15-19 compared with nearly 60 percent of Muslims and 42 percent of other religious groups. Virtually all Muslims are married at 25-29 years, compared with about 85 percent of Christians. Generally, Protestants and Catholics behave alike in marriage, but differ markedly from Muslims and the "other" religious

**Table 1 Percentage Distribution of Ever-Married Women by Age and Singulate Mean Age at Marriage (SMAM) by Selected Background Characteristics, Nigeria Demographic and Health Survey, 1990/91.**

Variable	AGE GROUP							SMAM
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
All women	35.7	72.6	91.9	91.1	91.1	99.6	99.8	20.06
<u>Current residence:</u>								
Urban	19.0	9.2	8.3	98.3	98.5	99.6	99.4	21.72
Rural	48.0	83.8	94.4	99.5	99.3	99.6	100.0	18.73
<u>Educational attainment:</u>								
No schooling	80.2	95.8	99.4	99.7	99.5	99.8	99.8	16.22
Some primary	31.0	83.5	95.2	98.1	98.1	98.7	100.0	19.76
Secondary	07.7	47.8	78.4	98.3	97.1	100.0	100.0	23.53
Tertiary	00.0	08.2	56.3	96.1	100.0	100.0	100.0	26.97
<u>Ethnicity:</u>								
Hausa	87.3	99.0	100.0	99.9	100.0	100.0	100.0	15.70
Yoruba	07.3	55.7	89.9	100.0	100.0	100.0	100.0	22.19
Igbo	12.7	55.2	80.8	96.1	96.7	99.2	100.0	22.97
Other	37.0	77.4	91.5	99.3	98.8	99.2	100.0	19.84
<u>Religion:</u>								
Protestant	15.1	57.1	84.1	98.3	98.1	98.8	100.0	22.43
Catholic	14.7	57.6	85.1	97.3	97.7	100.0	98.7	22.08
Muslim	59.9	87.9	98.5	99.9	100.0	100.0	100.0	17.69
Other	41.9	90.7	98.0	100.0	100.0	100.0	100.0	18.47
<u>Childhood residence:</u>								
City	14.8	51.7	83.4	89.9	98.5	100.0	100.0	22.63
Town	25.7	65.8	90.5	98.8	99.5	99.5	99.2	20.82
Village	48.2	83.5	94.7	99.2	99.0	99.6	100.0	18.78

group, which comprises members of indigenous religions and those who claim to have no religion. The SMAM for Protestants and Catholics is 22.4 and 22.1, respectively, and that for Muslims and "other" is 17.7 and 18.5, respectively.

Nigeria is ethnically complex, with as many as 374 ethnic groups (Otiye, 1990), of which three, the Hausa, Yoruba and Igbo, are disproportionately large. Ethnicity is such a sensitive issue in Nigeria that in their wisdom planners of the 1991 census decided not to include any ethnicity identification in the schedule. The NDHS did not ask any question on ethnicity per se. However, a question on the language of the respondent provides a fair picture of the ethnic make-up of Nigeria. According to the results, the Hausa and the Yoruba each account for about 25 percent of the respondents, and the Igbo for 17 percent; the next ethnic group is the Efik, which comprises only 4.8 percent of the country. The figures are somewhat consistent with the 1963 census which recorded 20.9 percent of Hausa, 20.3 percent of Yoruba, and 16.6 percent of Igbo (NPB and ISI, 1984).

Cultural differences in marriage behavior among the three major ethnic groups are shown by variations in age at first marriage. The data suggest that the Igbo delay marriage most, with an SMAM of about 23 years, followed by the Yoruba (SMAM of 22.2 years), whereas the Hausa enter into marital unions earliest, with an SMAM of 15.7 years. The SMAM for the combined numerous other small ethnic groups is 19.8 years. Perhaps more revealing is that about 87 percent of Hausa women are married at age 15-19, compared with 7.3 percent of the Yoruba and 12.7 percent of the Igbo. At age 20-24, nearly all Hausa women have married compared to only 56 percent of Yoruba women and 55 percent of Igbo women. Two major differences are noteworthy between Yoruba and Igbo marriages. First, the Igbo tend to initiate marriage at an earlier age, probably because of the continued prevalence of childhood marriage in a few sub-cultures in Igboland. The second difference is with respect to completion of marriage, which takes place relatively earlier among the Yoruba (age 30-34 years) than among the Igbo (age 40-44 years). The decrease in the tempo of marriage among the Igbo as age increases may be related to the prevalence of high bridewealth in most of Igboland, since it takes men longer to save the money required for marriage (Isiugo-Abanihe, 1994a). Many late-marrying women are educated, making the required bridewealth even higher, a situation that has given rise to a high level of spinsterhood among highly educated Igbo women.

Next, we look at results of the life table technique. Cohort trends in marriage is studied by comparing the cumulative proportion married among successive age groups as shown in Table 2. We can then determine whether changes have occurred in marriage age, assuming that there is no differential reporting of marriage age by cohorts, and also that there is no posteriori re-definition of when marriage actually took place. Table 2 (also see Fig. 1) shows the expected rising pattern in the proportion married across cohorts of women, especially among the first four age groups. This implies a rising trend in the age at first entry into marital union the more recent the date of marriage. For instance, only 19 percent of women 15-19 years of age have married by their 15th birthday, compared with about 27 percent of those age 20-24 and 31 percent of those age 25-29 and 30-34 years. This suggests that first marriage age has been increasing in Nigeria, as would be expected in a situation of rising female education, rising urbanization and erosion of traditional marriage norms and practices. The results for older women (age between 35 and 49 years) are not entirely consistent, which is perhaps indicative of age misstatement which increases with age and the further the marriage date is from the date of interview (Blanc and Rutenberg, 1990).

The information contained in Table 2 is summarized in Table 3, which shows the percentile ages at first marriage for cohorts of women. Computations for the four cultural and socioeconomic variables, rural-urban residence, educational attainment, ethnicity and religion, are also displayed as are the ages at which certain percentages of women enter into marriage,  $T_x$ , ( $x=10, 25, 50, 75$  or  $90$ ), the trimean and the spread. There is evidence of a rising trend in age at first marriage among younger cohorts of women, albeit slightly, e.g., the trimeans of 18, 17 and 16.3 years for women age 20-24, 25-29, and 30-34 years, respectively.

Place of residence clearly demonstrates higher age at marriage among urban residents relative to rural dwellers; rural women enter into and complete marriage at earlier age than their urban sisters (see Fig. 2). Whereas 10 percent of rural women married by 12.3 years, the same figure was reached by urban women at 14.4 years. The corresponding figures for 50 percent

Table 2 Cumulative Proportion of Women Ever Married at Single Year, Ages Between 7 and 40 Years, by Age Group; NDHS, 1990/91.

Age	CUMULATIVE PROPORTION EVER MARRIED BY AGE GROUP							
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	15-49
7	.0000	.0006	.0006	.0007	.0010	.0012	.0000	.0006
8	.0024	.0030	.0024	.0022	.0011	.0036	.0000	.0024
9	.0042	.0054	.0054	.0051	.0011	.0048	.0016	.0044
10	.0060	.0107	.0103	.0065	.0053	.0085	.0049	.0080
11	.0150	.0408	.0459	.0279	.0324	.0371	.0165	.0319
12	.0228	.0577	.0694	.0515	.0528	.0581	.0281	.0498
13	.0523	.1084	.1344	.1278	.1170	.1281	.0910	.1071
14	.1070	.1691	.2043	.2016	.1692	.1858	.1409	.1685
15	.1936	.2658	.3140	.3098	.2699	.3113	.2308	.2702
16	.3148	.3617	.4573	.5346	.4544	.4835	.4092	.4224
17	.3899	.4350	.5237	.6108	.5215	.5587	.4828	.4960
18	.4639	.5040	.5790	.6924	.6052	.6253	.5725	.5700
19	.5423	.5810	.6598	.7621	.6943	.7022	.6776	.6522
20		.6595	.7186	.8319	.7550	.7568	.7414	.7229
21		.7261	.7858	.8884	.8523	.8836	.8658	.8095
22		.7988	.8310	.9260	.8883	.9149	.8829	.8559
23		.8539	.8704	.9501	.9177	.9463	.9068	.8946
24		.8873	.9028	.9636	.9368	.9555	.9322	.9201
25			.9217	.9737	.9520	.9665	.9544	.9398
26			.9411	.9882	.9693	.9903	.9803	.9651
27			.9572	.9934	.9832	.9933	.9827	.9764
28			.9801	.9954	.9895	.9951	.9882	.9849
29			.9910	.9980	.9925	.9972	.9912	.9908
30				.9987	.9939	.9981	.9934	.9932
31				.9989	.9969	.9988	1.0000	.9964
32				.9989	.9972	1.0000	1.0000	.9976
33				1.0000	.9972	1.0000	1.0000	.9978
34				1.0000	.9974	1.0000	1.0000	.9981
35				1.0000	.9979	1.0000	1.0000	.9983
36					.9979	1.0000	1.0000	.9985
37					.9983	1.0000	1.0000	.9987
38					.9983	1.0000	1.0000	.9987
39					.9983	1.0000	1.0000	.9987
40						1.0000	1.0000	.9987

of the rural and urban women are 15.6 and 19.5 years, respectively, and for 90 percent, 21 and 25 years, respectively. This urban-rural difference in marriage age is perhaps attenuated by the fact that many urban families were formed in the rural area long before their migration, a bias that is easily eliminated by asking an additional question on place of residence at marriage.

This study strongly demonstrates the inverse relation between female education and age at marriage. The age by which 10 percent of women marry rises sharply, from 12 years for women with no schooling to 14.3 years for those with some primary education, to 17.3 and 20 years for women who received a secondary and tertiary education, respectively. Among these four

Figure 1a. Cumulative Proportion of Women Ever Married at Single Ages Between 7 and 45, by Current Age

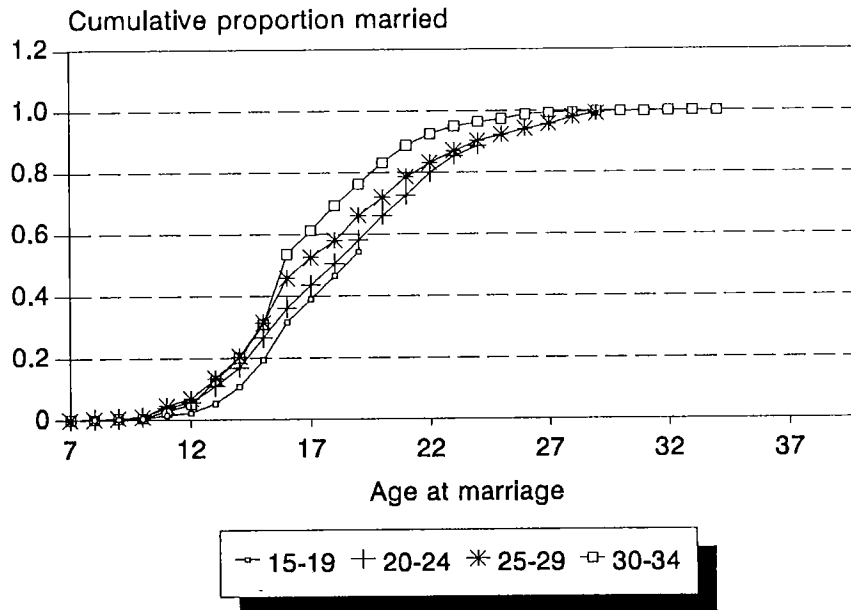
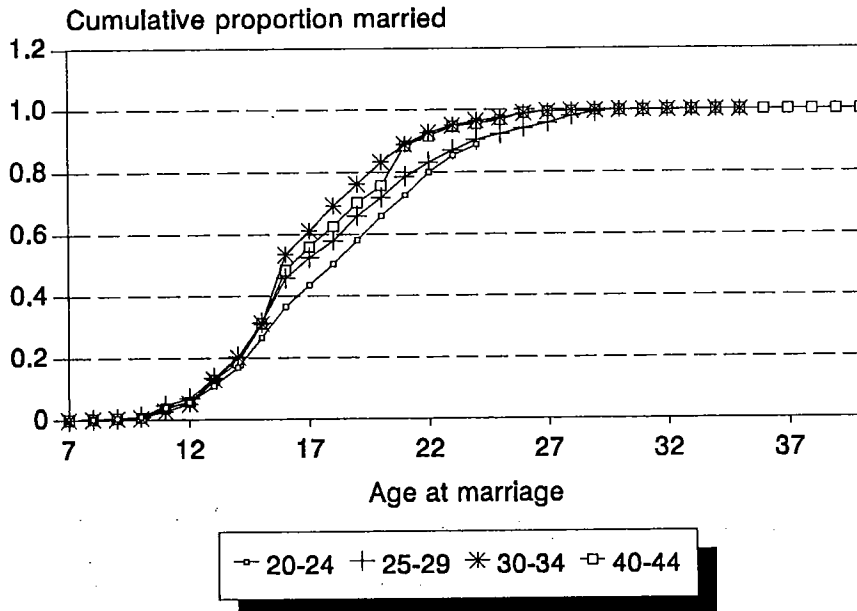


Figure 1b. Cumulative Proportion of Women Ever Married at Single Ages Between 7 and 45, by Current Age



educational groups, the ages at which 50 percent of the women had married are 15, 18, 21.6 and 25, respectively. The trimean shows that relative to women with no schooling, those with some primary schooling married more than 3 years later, those with secondary schooling married about 3.4 years later than those with primary education and those with tertiary

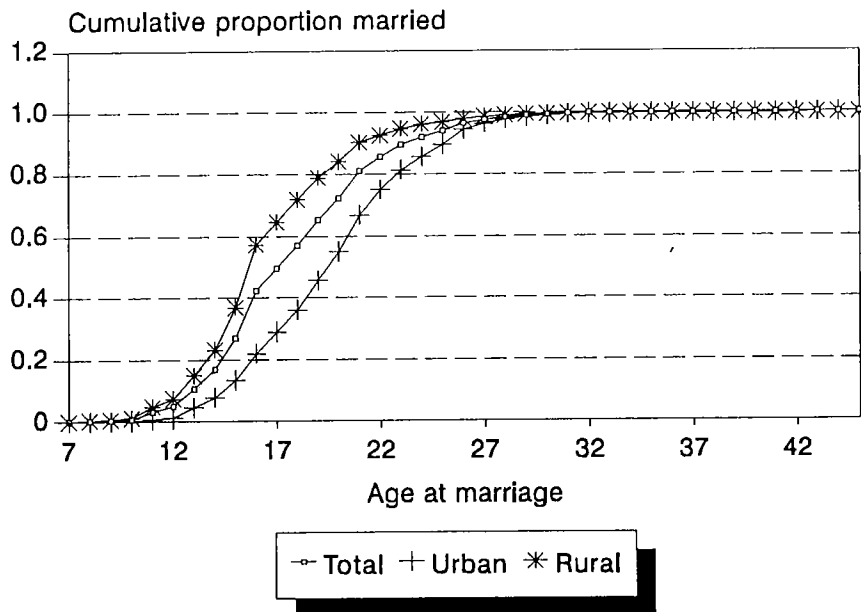
education married about 3 years later than those with secondary education. Further, the 90th percentile ages at marriage are about 20, 22, 27 and 28 years, indicating later age at the marriage as educational level rises.

Table 3 Percentile Ages at Marriage for Cohorts of Women Age 15-49.

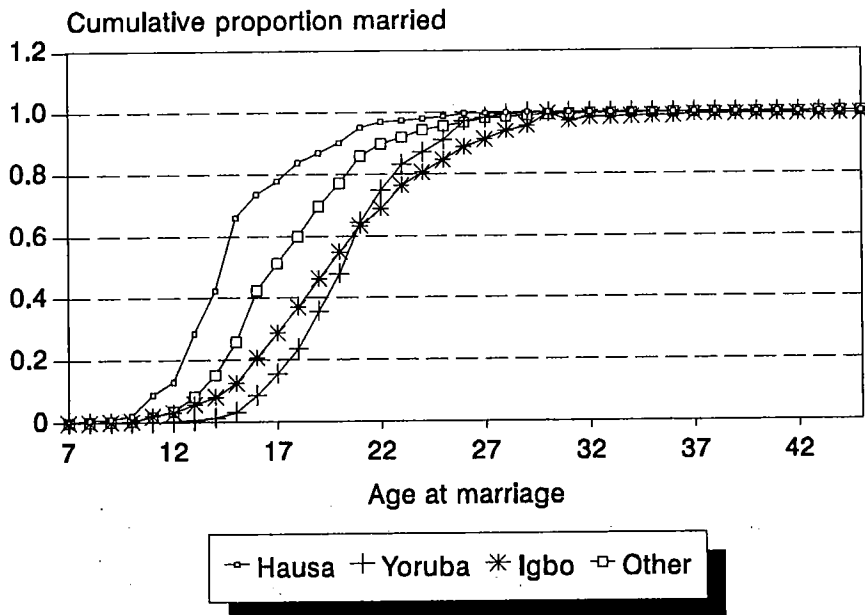
Variable	T10	T25	T50	T75	T90	Trimean	Spread
<u>Age group:</u>							
15-19	13.87	15.47	18.46	-	-	-	-
20-24	12.83	14.84	17.94	21.33	-	18.01	6.49
25-29	12.47	14.42	16.64	20.47	23.91	17.04	6.05
30-34	12.64	14.45	15.85	18.83	21.31	16.25	4.38
35-39	12.74	14.80	16.68	19.92	22.40	17.02	5.12
40-44	12.60	14.51	16.22	19.88	21.52	16.71	5.37
45-49	13.18	15.11	17.19	20.05	22.72	17.39	4.94
<u>Residence:</u>							
Urban	14.39	16.44	19.48	22.01	25.10	19.35	5.57
Rural	12.34	14.14	15.64	18.45	21.00	15.97	4.31
<u>Education:</u>							
No school	12.13	13.59	15.16	16.43	19.54	15.09	2.84
Primary	14.30	16.03	18.17	20.27	22.16	18.16	4.24
Secondary	17.27	19.22	21.35	24.36	26.60	21.57	5.14
Tertiary	20.05	22.12	24.71	26.44	27.90	24.50	4.32
<u>Ethnicity:</u>							
Hausa	11.30	12.78	14.30	15.21	17.43	14.15	2.43
Yoruba	16.20	18.12	20.13	22.02	24.16	20.10	3.90
Igbo	14.44	16.56	19.45	22.83	26.55	19.57	6.27
Other	13.26	14.93	16.86	19.72	22.17	17.09	4.79
<u>Religion:</u>							
Protestant	15.19	17.04	19.54	22.16	25.37	19.66	5.12
Catholic	14.25	16.23	19.08	22.13	26.03	19.13	5.90
Muslim	12.17	13.66	15.19	17.05	20.22	15.27	3.39
Other	13.02	15.18	17.64	20.13	22.56	17.65	4.95
<b>All women:</b>	12.88	14.80	17.05	20.31	23.21	17.30	5.51

Ethnicity reveals large differences in the age pattern of marriage, with extremely young age at marriage among the Hausa, a consequence of such customs as child betrothal and arranged marriage plus the low level of schooling among female children. The Yoruba and Igbo have somewhat similar age at marriage, each with a trimean of about 20 years, which is about 6 years of marriage delay relative to the Hausas. The only noticeable difference between them is that the Igbo, who initiate marriage earlier than the Yoruba, tend to complete it later (see Fig. 3). There appears to be a select group of Igbo women who quickly enter marriage between the ages of 14 and 17, while others delay their marriage substantially. As we have speculated earlier, this may not be unconnected to the custom of arranged marriage, which still takes place in certain fringe areas of Igboland, in contrast with the impact of high bridewealth, which delays marriage in the core areas.

**Figure 2. Cumulative Proportion of Women Ever Married at Single Ages Between 7 and 45, by Place of Residence**



**Figure 3. Cumulative Proportion Ever Married at Single Ages Between 7 and 45, by Ethnicity**



Religion also influences marriage age, with Muslims, whose culture encourages early marriage, marrying earlier than Christians. Among Christians, Roman Catholics marry at a slightly earlier age than Protestants, with trimeans of 19 and 19.7

years, respectively. Christian families are more likely to send their daughters to school, and education inculcates values that may compete with the traditional early marriage customs.

### **Multivariate Analysis of Age at First Marriage**

Both ordinary least squares (OLS) and logistic regression models were employed in the multivariate analyses of marriage age. The former relates the predicted age at first marriage or cohabitation to the set of socioeconomic and cultural variables that yield parsimony, after considering a longer list of covariates. The partial regression coefficient indicates the effect of a particular variable adjusted for other dependent variables in the equation. The dependent variable for the logistic regression is a measure of whether marriage took place early or late, coded 1 if a woman was married at age 20 or over, and 0 if otherwise. The covariates used here are the same as in the OLS regression. A positive coefficient indicates that the higher the value of the covariate, the greater the likelihood of marrying after the teen age. Exponentiation of the coefficients gives the odds of entering into conjugal union at 20 years or over. The results of the OLS and logistic regressions conducted for ever-married women are displayed in Table 4.

According to the Table, duration of marriage, which is highly correlated with age, is inversely related with age at marriage; in other words, the older a woman, the younger her age at marriage. Or, the further away one's date of marriage is from the date of interview, the earlier her age at marriage. The logistic regression gives a similar result, namely, the odds of marrying by age 20 or over decrease by a factor of 0.93 as duration of marriage increases by one unit. The results confirm our earlier finding from the nuptiality life-table (Table 2) that age at marriage has been rising over time in Nigeria.

Current work status of women is an important predictor of age at marriage, probably because it is related to work status before marriage, which tends to delay entry into marital unions. The logit model shows that working women are 1.4 times more likely to have married at age 20 years or above. Female work outside the domestic sphere discourages early marriage, in part by putting a woman outside the control of her parents, thus giving her a sense of independence, and an opportunity to earn income and be self-maintaining.

Until recently, many Nigerian cultures cherished and encouraged female premarital chastity (Caldwell et al., 1993; Isiugo-Abanihe, 1993a; Feyisetan and Pebley, 1989). A bride who proved to be a virgin at marriage was greatly honored, and her parents were rewarded for raising their daughter properly. It is likely that apprehension that one's daughter might prove not to be a virgin might have compelled some parents to marry off their daughters at an early age. The analyses show that women who were virgins at marriage entered into conjugal unions earlier than those who were not, and the relationship is very strong in both the OLS and logistic regressions. The logistic coefficient indicates that virgins are 0.62 as likely to marry after the is teens relative to non-virgins, implying that women who married as virgins are more likely to have married at an earlier age, an evidence of arranged marriages. It may be that parents who keep the societal norm regarding premarital virginity tend to give away their daughters early for marriage; it may also be the result of the fact that late-marrying women have a lengthy exposure to the risk of premarital sex.



Table 4 Ordinary Least Squares (OLS) and Logistic Regressions of Age at First Marriage by Selected Socio-Economic Variables, Ever-Married Women 20 Years and Over, NDHS.

VARIABLE	OLS REGRESSION	LOGISTIC REGRESSION	
	COEFFICIENT	COEFFICIENT	ODDS RATIO
<u>Duration of marriage:</u>	-0.128***	-0.071	0.93***
<u>Work status:</u>			
Working	0.570***	0.336	1.40***
Not working (RC)			
<u>Chastity at marriage:</u>			
Virgin at marriage	-0.773***	-0.499	0.61***
Not a virgin (RC)			
<u>Residence:</u>			
Urban	0.321**	0.140	1.15*
Rural (RC)			
<u>Education:</u>			
Primary	-0.215*	-0.239	0.79*
Secondary	0.449**	0.117	1.12
Tertiary	3.165***	1.907	6.73***
No schooling (RC)			
<u>Ethnicity:</u>			
Yoruba	3.605***	2.068	7.91***
Igbo	2.650***	1.653	5.32***
Other	1.662***	1.097	2.99***
Hausa (RC)			
<u>Religion:</u>			
Protestant	1.105***	0.523	1.69***
Catholic	0.802***	0.383	1.47***
Other religion	1.310***	0.689	2.00***
Muslim (RC)			
<b>Constant</b>	<b>16.423</b>	<b>-1.677</b>	
<b>Adj. R<sup>2</sup>/2LL</b>	<b>0.359</b>	<b>5809</b>	
<b>N of cases</b>	<b>6481</b>		

**Note:** The dependent variable for the logistic regression is coded 1 if first marriage took place at age 20 years or over and 0 if otherwise. For this and subsequent tables, \*Statistically significant at p<0.05; \*\*p<0.01; \*\*\*p<0.001; RC stands for reference category.

The inverse association between urban residence and age at marriage is well documented. The OLS regression shows that, net of the effect of the other variables, urban residence significantly increases age at first marriage relative to living in the countryside. Also, the logistic regression indicates that, relative to rural women, urban residents are more likely to marry at age 20 or above. Urban areas are the melting pot of cultures, and offer different lifestyles and opportunities which may not be conducive to early marriage.

As expected, age at first marriage rises with education. Secondary and tertiary education exert strong positive and highly significant effects on age at marriage. It is, however, noteworthy that women with primary education tended to marry earlier than those with no schooling at all, implying that a little education raises the chances of marriage relative to no schooling at all. The logit model confirms these results: the odds ratio for primary education is indicative of earlier age at marriage relative to no schooling; women with tertiary education are 6.7 times more likely to marry at age 20 or above than their sisters with no education.

Why would women with some primary schooling marry earlier than those without any schooling? The answer probably lies in the government's universal primary education program, particularly the emphasis on female education, a policy which has been accompanied by high drop-out rates. It seems likely that with modernization, most men probably prefer wives with some education rather than no education; also, girls who attend school appear to mature earlier, socially and biologically, than those who did not attend school. Indeed, the high demand for such girls for marriage is a major reason for dropping out of school, since many parents withdraw their daughters from school so as to get married. Others girls drop out either because their parents cannot afford to maintain them in school even though primary school is subsidized or because they are considered more useful on the farm or in the marketplace. Such situations encourage early marriage. On the other hand, girls who remain in school longer, especially up to the tertiary level, have lost many potential marriage years, during which they are likely to have been exposed to values and skills that are incompatible with early marriage norms.

Muslim women enter marital unions earlier than all other religious groups in Nigeria. The prevalence of the traditional early and arranged marriage norms among Muslims and the characteristically low formal school attendance of Muslim women are some of the reasons for early Muslim marriage. However, formal education is gaining in popularity among Muslims, especially those in the southwestern part of the country, where the marriage pattern tends to more closely resemble that of their Christian counterparts than their northern sisters of the same faith.

The other cultural variable, ethnicity, shows the expected pattern of delayed age at marriage among the Yoruba and the Igbo relative to the Hausa. For instance, the logistic regression indicates that Yoruba women are about 7.9 times more likely to marry after their teens than the Hausa, Igbo women are 5.3 times more likely, and women of other ethnic groups are about 3 times more likely than the Hausa to marry after 19 years of age. Much has been reported in the popular media about the problem of child marriage in the North, home of the Hausa, Fulani, Kanuri and others. These problems include desertion by young girls whose marriage to older men had been arranged, and often enforced, by parents and a high incidence of vesico-vaginal fistula (VVF), resulting from early childbearing by young brides whose physiology and skeletal maturity have not sufficiently developed for the motherhood function. The relatively late marriage among Yoruba women may be due to the high level of female education and of urbanization in Yorubaland. Further, the Yoruba were foremost in embracing modern civilization and Christianity, all of which enhanced the female position in the society. The same factors probably operate to delay Igbo marriage, in addition to their exceptionally high bridewealth.

## Marital Stability in Nigeria

The NDHS defined marriage to include both formal and informal unions. About 81 percent of all women age 15-49 have ever been married. Of these, 86 percent are currently married, 8.5 percent categorize themselves as "living together" 2.8 percent are widowed, and 1.2 percent and 1.4 percent are divorced and separated, respectively. In other words, whereas 94.5 can be treated as married, roughly equal numbers of the remaining women are currently without a husband due to widowhood and divorce or separation. These figures corroborate somewhat the NFS results of 95.3 percent of ever-married as currently in union, 2.8 percent as widowed, and 1.9 percent as divorced or separated (NPB and ISI, 1984: 66-71).

From a question on the number of times married, we found that about 85 percent of ever-married women have remained in their first union, with the remaining 15 percent having experienced marital disruption at least once, but having remarried. The NDHS did not ask specific questions on the status of first marriage, but the NFS did. According to the survey, about 85 percent of all first marriages remained intact (85 percent); dissolution of marriage was mostly due to divorce and separation (9.8 percent) rather than widowhood (5.2 percent). A comparison of the NDHS figure of 94.5 percent who are currently married with the 85 percent who have experienced marital dissolution yields an excess of 9.5 percent, representing the net effect of remarriage on current marital status, which is a substantial contribution. The corresponding figure from the NFS is 10.3 percent, confirming that the incidence of remarriage is high in Nigeria. In fact, as many as seven out of every ten women whose first marriage was dissolved had already remarried (NPB and ISI, 1984: 68).

Despite the moderate level of marital instability, the high incidence of remarriage for those whose earlier marriages had been disrupted means that once married, a woman is almost continuously exposed to the risk of childbearing. For instance, the NFS shows that the average percentage of time spent by all ever-married women in the married state since first marriage is 95.7; only 4.3 percent of the total time duration since first marriage was spent outside marriage. Thus, the net effect of marital instability on fertility should be low, particularly if there are no sanctions against sexual activity among women who were once married.

A major reason why remarriage is so high in Nigeria is the prevalence of widow inheritance, or levirate, which is supported by customary law. A widow is quickly inherited by her husband's successor, such as his brother or heir or other relatives, with whom she continues to have children. In some societies, a son could even inherit his father's younger wives. Among the Igbo, widow inheritance is no longer widespread, especially among the younger generation; however, if a widow remarries, her new husband must refund the bridewealth paid on her. If she has male children, she may choose to neither remarry nor be inherited, but to remain in her husband's homestead and possibly have children by her lovers; the children, however, bear the name of her dead husband.

The remainder of this section deals with differentials in marital stability with respect to some sociocultural factors. The dependent variable, which is a measure of the odds of marital instability among women 20 years and over, is coded 1 if a woman has ever been separated, divorced or widowed, and 0 otherwise. Nearly 21 percent of ever-married women 20 years

and over have experienced marital disruption, about 26 percent of whom are currently not in a union. The results of the logistic regression for ever-married women are displayed in Table 5.

Table 5 Logistic Regression of Marital Disruption, by Selected Socioeconomic Variables, Ever-Married Women 20-49 Years Old, NDHS 1990/91.

Variable	Logistic Coefficient	Odds Ratio
<u>Duration of marriage:</u>	0.052	1.054***
<u>Place of residence:</u>		
Urban	-0.135	0.874
Rural (RC)		
<u>Educational attainment:</u>		
Primary	-0.174	0.841**
Secondary	-0.471	0.624***
Tertiary	-1.105	0.331***
No schooling (RC)		
<u>Work status:</u>		
Working	0.222	1.248***
Not working (RC)		
<u>Religion:</u>		
Protestant	0.146	1.157*
Catholic	0.390	1.477***
Other	0.047	1.048
Muslim (RC)		
<u>Ethnicity:</u>		
Yoruba	-0.105	0.900
Igbo	-0.761	0.467***
Other	-0.219	0.803**
Hausa (RC)		
<b>Constant</b>	<b>-2.081</b>	
<b>-2 Log Likelihood</b>	<b>6268</b>	
<b>N of cases</b>	<b>6481</b>	

**Note:** The dependent variable is coded 1 if a woman has ever been separated, divorced or widowed, and 0 if otherwise.

According to the Table, marital dissolution is positively related with duration of marriage; as duration of marriage increases, the odds that first marriage has been disrupted also increases. This is intuitive on the basis of accumulated risk. Educational attainment has an inverse effect on marital dissolution. In general, marriage becomes stable as female education increases. However, educated woman are more likely to terminate their marriage through divorce or separation, whereas women with no education are more likely to end their marriage due to husband's death. For instance, among women 20 years old and older who are not currently in a union, only 30 percent of those with no schooling are divorced or separated compared with

88 percent of their counterparts with secondary or higher education. The rest, 70 percent of the former and 22 percent of the latter, were widowed. Clearly, if there were no differential mortality by social class among men, educated women would be much more likely to experience marital dissolution.

Controlling for other variables in the equation, working women are 1.25 times more likely to have experienced marital dissolution relative to non-working women. It could be that working outside the home is associated with peculiar problems for some women who at the same time must fulfil maternal and spousal responsibilities. On the other hand, it may well be that women whose marriage had ended find it necessary to work outside the home given their new self-reliant status.

Religious affiliation indicates that Muslims are less likely to experience marital dissolution relative to Christians, though only the difference between Muslims and Catholics is significant. It is not clear why Catholics have the highest level of marital instability; one would have expected the opposite given their doctrine on marriage. We observed from the data on current marital status that Catholics (indeed, Christians generally) are more likely to be widowed, but again, we don't have any a priori explanation for that difference.

The analysis indicates large ethnic differences in the incidence of marital instability. Igbo women experience the least amount of marital disruption; the level for Hausa and Yoruba women is virtually the same. It is noteworthy that the cause of marital dissolution varies quite considerably. Among women who are currently not in a union, 68.9 percent of Igbo women are widowed, relative to 58.5 percent of Hausa and 33.7 percent of Yoruba women. In other words, while most Yoruba marriage dissolutions are due to divorce or separation, the majority of marital disruptions among the Hausa and Igbo are due to death of husband. Among the Hausa, the large age differences between spouses may be partly responsible for the higher mortality of husbands, whereas for the Igbo, elevated levels of widowhood may be related to the civil war of 1967-70 in which many Igbo men lost their lives. In part, the low incidence of divorce or separation among the Igbo is related to their high bridewealth culture; high bridewealth is perceived as advantageous in enhancing marital stability, since families find it difficult to refund such large amounts of money (Isiugo-Abanihe, 1994a).

Place of residence and age at marriage are not significant predictors of marital stability; hence they were excluded from the equation. However, urban women appear more likely to be in stable unions than rural women. Between widowhood and divorce or separation, urban women are more likely to have experienced the latter (62 percent), while rural women are more likely to be widowed (67 percent). Thus, the lack of differential in marital stability between urban and rural areas may be due to this apparent balancing out of the major reasons for marital disruption in the two areas.

It is rather surprising that women who married young (less than 15 years) did not seem to have experienced a higher incidence of marital disruption than other women. Given that many early marriages are arranged, one would have expected a higher rate of dissolution due to incompatibility between spouses. That this is not the case is perhaps a function of the influence of parents and the extended family, who usually mediated in marital disputes, with the aim of preventing the break-up of marriages which they had arranged. Such parental influence may be lacking in marriages that are contracted by

individual choice, more likely among late-marrying, educated and urban-based women, who typically live in a nuclear family setting with little extended family influence in the resolution of problems between husband and wife.

### **Determinants of Sexual Activity**

Marital patterns probably affect the level of sexual activity within marriage, which may in turn affect fertility. In addition to a question on the age at first sexual relations, the NDHS asked two other questions on sexual activity within marriage — the number of times respondents had sex during the past four weeks, and the usual number of times they have sex in a month (see Table 6). The two measures should not give the same estimate; the former is expected to yield lower estimates since at any given time some women may not be sexually active if, for instance, they are pregnant, nursing a baby or, for other reasons, abstaining from sexual relations.

On average, Nigerian women have sexual relations only 5.2 times in a month, which seems low and perhaps suggests that sexual relation is underreported in this study. Comparable national data with which to assess the level of sexual activity reported here are scarce. However, data collected from couples in five urban centers in Nigeria are indicative of higher levels of sexual activity: 6.7 sexual relations in the previous month among women and 6.8 times among men (Isiugo-Abanihe, 1993b). The variables displayed in Table 6 appear to have substantial influence on the level of sexual activity. However, when they were subjected to the OLS regression model, the number of significant variables was greatly reduced (Table 7). The multivariate analysis is restricted to currently married women because of the inclusion of variables pertaining to current union and husband's characteristics.

The dependent variable is the log transformation of the usual number of sexual relations in a month among currently married women. This technique is informed by an examination of the data on sexual activity which revealed that the underlying bivariate relationships are nonlinear. Log transformation of the number of sexual relations produces an improved linear fit of the relationships. Since the dependent variable is in log units, the coefficients can be approximately interpreted in percentage terms. For example, monthly sexual activity among women in monogamous relationships is estimated to be approximately 3.4 percent higher than their polygynous sisters. This corroborates Isiugo-Abanihe's (1993b) finding for urban Nigerian women. Since men in polygynous unions have other sexual partners, coital frequency should be lower per wife relative to a woman who is the only wife and sexual partner.

Table 7 shows that coital frequency and age are inversely related; exactly the same magnitude of relationship was derived when we replaced age with duration of marriage. That sexual activity declines with age is hardly surprising; the inverse relationship is related to the decline in libido as age increases beyond a certain threshold age; younger people are also more fun-loving, especially at shorter marital durations. On the other hand, older people tend to be more preoccupied with their work, trade or profession, and with rearing and training of children or grandchildren, and tend to have other priorities that may render frequent sexual activity dispensable.

Table 6 Mean Number of Sexual Relations in a Month among Ever-Married Women Age 20-49 Years, by Selected Socioeconomic Variables, by Age Group, NDHS 1990/91.

	20-29	30-39	40-49	Total
All women:	5.663	4.813	4.809	5.172
<u>Place of residence:</u>				
Rural	4.716	4.315	3.826	4.400
Urban	6.265	5.107	5.278	5.622
<u>Education:</u>				
No schooling	6.494	5.206	5.176	5.641
Primary	4.860	4.034	3.321	4.323
Secondary +	4.779	4.047	4.275	4.543
<u>Socioeconomic status:</u>				
Low	6.470	5.559	5.758	5.967
Medium	5.214	4.365	3.905	4.660
High	5.482	4.506	5.048	4.988
<u>Type of marriage:</u>				
Polygyny	5.686	4.617	4.759	5.031
Monogamy	5.738	4.905	5.223	5.366
<u>Ever used family planning:</u>				
No	5.793	4.978	4.897	5.305
Yes	5.121	4.188	4.364	4.617
<u>Ethnicity:</u>				
Hausa	6.158	5.188	5.245	5.640
Yoruba	3.719	3.453	2.794	3.406
Igbo	4.432	3.809	2.782	3.815
Other	7.032	6.198	6.968	6.740
<u>Religion:</u>				
Protestant	5.031	4.220	4.070	4.522
Catholic	4.839	4.774	3.329	4.500
Muslim	6.133	5.267	5.600	5.721
Other	6.568	3.946	4.895	4.974
<u>Current marital status:</u>				
Married	5.656	4.795	4.987	5.213
Living together	6.490	4.609	5.000	5.375
Union dissolved	4.011	5.688	3.497	4.215
<u>Partner's education:</u>				
No school	6.553	5.368	5.397	5.803
Primary	4.660	4.115	3.476	4.246
Secondary	5.230	4.076	4.148	4.753
Tertiary	5.376	4.037	3.172	4.568
<b>All women</b>	<b>2742</b>	<b>2310</b>	<b>1425</b>	<b>6477</b>

**Table 7 Ordinary Least Squares (OLS) Regression of Frequency of Sexual Relations in a Month, Currently Married Women 20-49 Years Old, NDHS 1990/91.**

<b>Variable</b>	<b>Unstandardized Coefficient</b>	<b>Standardized Coefficient</b>
<u>Current age:</u>	-0.004***	-0.099
<u>Type of marriage:</u>		
Monogamy	0.034***	0.053
Polygyny (RC)		
<u>Education:</u>		
Primary	-0.033**	-0.044
Secondary + No schooling (RC)	-0.028*	-0.031
<u>Religion:</u>		
Protestant	-0.064***	-0.094
Catholic	-0.075***	-0.076
Other Muslim (RC)	-0.088***	-0.060
<u>Ethnicity:</u>		
Yoruba	-0.140***	-0.190
Igbo	-0.058***	-0.065
Other Hausa (RC)	0.093***	0.138
<u>Husband's education:</u>		
Primary	-0.034**	-0.046
Secondary No schooling (RC)	-0.016	-0.019
<b>Constant</b>	<b>0.768</b>	
<b>Adjusted R<sup>2</sup></b>	<b>0.125</b>	
<b>N of cases</b>	<b>6119</b>	

**Note:** The dependent variable is the log transformation of the usual number of sexual relations in a month.

Controlling for other variables in the model, women with no schooling are more sexually active than those with some primary education, but there is hardly any difference between them and their sisters having secondary or some tertiary education. Relative to illiterate women, those with primary and secondary education are 2.9 and 1.6 percent less sexually active. Husband's education follows the same pattern as woman's education. The high level of sexual activity among illiterates may be related to the fact that few recreational activities are available to people of low social class.



Christians are less sexually active than Muslims, which is probably culturally related. By the same token, Yoruba and Igbo women are significantly less sexually active than Hausa women, which also corroborates Isiugo-Abanihe's (1993b) earlier observation. However, other ethnic groups are about 9 percent more sexually active than the Hausa.

The variables in the equation do not appear to be very good predictors of sexual activity since together they explain barely 13 percent of the observed variability in coital frequency. In earlier models, place of residence, marital status, ever use of contraceptives and socioeconomic status proved not to be significant predictors of sexual activity and therefore were excluded. Nevertheless, urban residence was associated with a slightly higher level of sexual activity, as were women who have ever used contraceptives and those who were living together or cohabitating.

With the mean usual monthly coital frequency of 5.2, and the even lower mean of 2.8 sexual relations in the past four weeks, one suspects that sexual activity may not be accurately reported in this survey. The great disparity between the reported usual number of sexual relations in a month (4.4 among urban women and 5.6 for rural women) and the number of sexual relations in the previous four weeks (2.3 for urban women and 3.3 for rural women), suggests some misreporting of sexual relations. Further, our finding elsewhere of 6.7 sexual acts in the previous month among urban women (Isiugo-Abanihe, 1993b), compared with the 4.4 here suggests that sexual activity was probably underreported in the NDHS. Since it is a very sensitive topic which most women would be rather ill at ease to discuss, it seems likely that the interviewer was probably supplied with some normative number or any number that the respondent may not have thought through. Imagine a woman sitting before an interrogator and trying to remember or count the number of times she has had sex in the month. Clearly, individuals are prone to lie or rationalize when reporting on private issues such as sexual activity; whereas some may overstate their sexual activity to prove a point, others may understate it so as not to appear promiscuous to the interviewer (Isiugo-Abanihe, 1993b).

### **Determinants of Marital Fertility**

The final set of analysis uses children ever born as the dependent variable among currently married women 20 years and over. The mean number of children ever born is 4.2; as expected, the number rises with age. Table 8 displays the mean number of children ever born for the variables we used in the multiple regression analysis.

Three OLS regression equations are estimated. The first comprises three main marriage pattern variables — age at first marriage, type of marriage and marital stability. In the second model, we controlled for three variables that measure behavior within marriage or relation between husband and wife — whether or not couples have discussed the number of children to have, the usual number of sexual acts in a month, and whether or not the respondent is currently contracepting. In addition to the variables in Models 1 and 2, the last model includes five background variables — educational attainment, place of current residence, socioeconomic status (derived from the number of modern household items), ethnicity and current age in broad groups. Employing the three-stage analysis approach enables us to examine independently the contribution of each

Table 8 Mean Number of Children Ever Born by Selected Socioeconomic Variables by Age Group, Currently Married Women 20-49 Years, NDHS 1990/91.

Variable	20-29	30-39	40-49	All Women
<u>Place of residence:</u>				
Urban	2.36	4.76	6.09	3.91 (2236)
Rural	2.67	5.12	6.51	4.39 (3887)
<u>Level of education:</u>				
No schooling	2.83	5.00	6.27	4.56 (3817)
Primary	2.60	5.48	7.10	4.27 (1392)
Secondary +	1.86	3.89	5.83	2.71 (914)
<u>Socioeconomic status:</u>				
Low	2.51	4.77	5.88	4.11 (2196)
Medium	5.56	5.20	6.87	4.30 (2532)
High	2.60	4.94	6.45	4.22 (1395)
<u>Type of marriage:</u>				
Monogamy	2.48	4.98	6.54	4.03 (3606)
Polygyny	2.69	4.99	6.21	4.48 (2520)
<u>Married more than once:</u>				
Once	2.53	5.01	6.59	4.17 (5136)
More than once	2.76	4.86	5.64	4.46 (987)
<u>Age at marriage:</u>				
<15	3.18	5.21	6.01	4.37 (1822)
15-19	2.58	5.51	6.97	4.53 (2729)
20-24	1.65	4.13	6.13	3.55 (1244)
25+	0.82	2.98	5.27	3.34 (328)
<u>Ethnicity:</u>				
Hausa	2.78	4.81	5.74	4.07 (1873)
Yoruba	2.14	4.71	6.24	4.04 (1447)
Igbo	2.57	5.33	7.26	4.60 (896)
Other	2.59	5.21	6.67	4.33 (1907)
<u>Partner's education:</u>				
No schooling	2.73	4.93	6.13	4.42 (3275)
Primary	2.74	5.41	7.29	4.48 (1535)
Secondary	2.09	4.56	6.22	3.34 (1309)
<u>Currently using contraceptives:</u>				
Not using	2.56	4.95	6.33	4.18 (5597)
Using	2.45	5.28	6.87	4.62 (526)
<u>Discussed CEB with husband:</u>				
Discussed	2.40	5.12	6.84	4.23 (1647)
Not discussed	2.61	4.93	6.22	4.20 (4451)
<b>All women</b>	<b>2.55 (2653)</b>	<b>4.99 (2216)</b>	<b>6.37 (1254)</b>	<b>4.22 (6123)</b>

set of variables and also the pattern of variations as the model is subsequently built up, i.e., as more variables are controlled. The OLS regression coefficients are displayed in Table 9.

The first model shows that age at first marriage is inversely related with children ever born among currently married Nigerian women. This relationship is expected since it is well established in many populations. Women who marry late lose many years of childbearing, which probably are the most fecund years if the delay extends to their mid-twenties. The indices of marriage computed by Adegbola (1987) and by Makinwa-Adebusoye and Feyisetan (1994), using NFS and NDHS data respectively, are indicative of the substantial fertility-reducing effect of marriage delays in Nigeria, which after postpartum infecundability, has the greatest inhibiting effect on total fertility. Comparing estimates of proximate determinants derived from the two studies shows that more fertility-inhibiting effects were found in the NDHS than in the NFS conducted in 1981, indicating that increasingly more women are delaying marriage, and perhaps doing so for a longer duration. Indeed, reducing fertility through late marriage is one of the strategies outlined in the Nigerian population policy. However, the envisioned 18-year minimum female age at first marriage is difficult to achieve or implement where many people do not know their age, and given the arbitrariness of sworn affidavits of age in Nigeria. In short, a 12-year-old girl can take an oath declaring herself to be 18, with the administrating officer raising no eyebrows!

Nigerian women in polygynous relationships tend to have a higher number of children than those in monogamous relationships. This finding supports an analysis of NFS data conducted by Feyisetan and Togunde (1988). In their explanation, higher fertility of women in polygyny is a function of rivalry and competition for offspring among co-wives. However, have found contrasting evidence in a study of urban Nigerian women (Isiugo-Abanihe et al., 1993), and as we shall see later in our final model in which the background variables are controlled, being in polygyny or monogamy may not be an important determinant of fertility in Nigeria.

We expected women whose marriages have remained intact to have more children relative to their counterparts who have married more than once. Women whose first marriage has been disrupted face lower risk of childbearing because of reduced exposure-risk between marriages or the waiting time before re-marriage. The regression coefficient for women in stable unions is inverse, though not statistically significant, indicating that there is hardly any difference in the cumulative fertility of women in stable unions relative to their sisters who have married more than once.

Model 2 confirms the inverse relation between age at first marriage and children ever born; indeed controlling for the three additional variables increases the magnitude of the coefficient. The coefficient for age at marriage is -0.105, which indicates that 10 years of marriage delay reduces the number of children ever born by 1.1. Controlling for the added variables in Model 2, being in polygyny continues to be associated with higher number of children, as discussed previously. Also, women in stable unions have fewer children than their sisters who had ever-married, which is moderately significant relative to the first model where the relation is not statistically significant.

Table 9 Ordinary Least Squares (OLS) Regression of Children Ever Born among Currently Married Women 20-49 Years Old, NDHS 1990/91.

Variable	UNSTANDARDIZED COEFFICIENT		
	Model 1	Model 2	Model 3
<u>Age at marriage:</u>	-0.083***	-0.105***	-0.149***
<u>Type of marriage:</u>			
Polygyny	0.379***	0.372***	-0.096
Monogamy (RC)			
<u>Marital stability:</u>			
Never dissolved	-0.106	-0.162*	0.261***
Ever dissolved (RC)			
<u>Spousal communication:</u>			
Discussed CEB		0.146*	0.313***
Never discussed (RC)			
<u>Current use of contraceptives:</u>			
Yes		0.643***	0.419***
No (RC)			
<u>Monthly coital frequency:</u>		0.089***	0.058***
<u>Educational attainment:</u>			
Primary			-0.055
Secondary			-0.820***
Tertiary			-1.748***
No school (RC)			
<u>Place of residence:</u>			
Urban			-0.293***
Rural (RC)			
<u>Socioeconomic status:</u>			
Medium			0.459***
High			0.523***
Low (RC)			
<u>Ethnicity:</u>			
Yoruba			0.596***
Igbo			0.893***
Other			0.712***
Hausa (RC)			
<u>Age group:</u>			
20-29			-3.692***
30-39			-2.296***
40-49 (RC)			
<b>Constant</b>	<b>5.550</b>	<b>6.313</b>	<b>7.450</b>
<b>Adjusted R<sup>2</sup></b>	<b>0.021</b>	<b>0.043</b>	<b>0.368</b>
<b>N of cases</b>	<b>6123</b>		

Women who have discussed family size with their husbands tend to have more children than those who have not held such discussions. This suggests that couples discuss the number of children to have as their family size increases. Related to this, contraceptive practice is associated with increasing number of children; women who are currently using a method of contraception have 0.64 more children than those who are not using any method. Close to half of current users do so for spacing births, and another 30 percent for terminating childbearing. For either reason, women of higher parity are more likely to contracept relative to those of smaller family size. The usual number of sexual relations in a month is inversely related with children ever born, a rather unexpected result which may partly be a function of age which has not been controlled in this model.

Model 3 shows that controlling for the background variables, the relation between age at marriage and children ever born remains inverse, with 10 years of marriage delay resulting in 1.5 fewer children. The final relation between polygyny and children ever born is inverse, although the relation is not significant. In other words, when the given variables are controlled, for there is virtually no difference in the cumulative fertility of women in monogamous unions and those in polygamous unions. However, marital stability is associated with more children ever born. Apart from reproductive time lost between unions, women exposed to marital instability might be more likely to have a reproductive impairment, which in Nigeria is an important reason for divorce and polygyny.

Controlling for the background variables, women who have discussed the number of children with their spouses and those who are currently using contraceptive methods exhibit higher cumulative fertility. Both relationships suggest that high parity may constitute the stimulus for such discussion and, consequently, the practice of family planning. The expected positive relation between monthly coital frequency and fertility is evident in Model 3, where the background variables, including age, are controlled. Since, for healthy women, high coital frequency increases the chance of conception in a month, women who are more sexually active are expected to have more children, net of the effects held constant.

The background variables together explain a large proportion of the observed differences in the number of children ever born. Educational level is inversely related to children ever born, though there is little difference between women with no schooling and those with some primary education. Women with some secondary school education on average have about 0.82 fewer children than those with no schooling, whereas those with tertiary education have 1.75 fewer children. Also, urban residence is associated with lower family size, as has been found in many studies. These two variables are important indicators of female status. Therefore, their significant inverse relation with children ever born suggests that improving the status of Nigerian women is conducive to lowering fertility in the country as has been observed in many countries. In fact, earlier studies in Nigeria found that education and urban residence were positively associated with fertility (Olusanya, 1967; 1969; Ekanem, 1974; Morgan, 1976). Apart from some analytical deficiencies of these pioneer studies, these findings may be related to early stages of modernization prevailing in the sixties or to the transitional position of women who have had only a little exposure to modern forces. Thus, the strong inverse relation found in this study for education and urban residence suggests that these variables have improved both qualitatively and quantitatively in Nigeria to the extent that they have begun to manifest the expected effect on fertility.

Socioeconomic status (SES), derived from ownership of certain modern household items, is positively associated with family size. Since this variable is more likely to capture husband's influence than wife's, the positive coefficient is perhaps related to the husband's income effect on fertility. Indeed, many men in Nigerian cities are fairly well-to-do through success in business, even though they may have little education. Their homes may be classified as high SES because they may contain all the household consumer durable items, yet the outlook of their owners may remain essentially traditional. Many women from such wealthy homes have a large number of children because, as is commonly said, they need "enough mouths to consume the wealth of the family." Another reason they have a large family is to prevent their husbands from taking other wives, which is likely if a woman refuses to have more children for a husband who wants more.

The ethnicity variable reveals that the Yoruba, Igbo and other ethnic groups have larger family size than do Hausa women. The lower number of children observed among Hausa women is not totally expected, since they are less likely to have either gone to school or work outside the home, both of which would have led them to have higher fertility. Furthermore, as we saw earlier, they are more likely to marry early (50 percent of them have married by age 14 years), thus starting childbearing very close to menarche. Nevertheless, their lower cumulative fertility may be related to a high incidence of pathological sterility in parts of the north, which in turn may be partly related to a high level of polygyny and of sexual networking in the general population. The work of van de Walle (1968b), Frank (1983), and Larsen (1989) among others has revealed a broad area of low fertility in the central regions of Africa, which is attributed to an unusually high prevalence of pathological sterility. This vast geographic area embraces the northeastern parts of the country. Further explanation of the low Hausa fertility could be located in the culture of early or childhood marriage, which is suggested to be associated with high rates of secondary infertility, often arising from complications during first pregnancies among underage wives (Makinwa-Adebusoye, 1992).

The analysis shows the Igbo as having the highest family size among all ethnic groups, which is certainly culturally related. The dominance of strong patriarchal and patrilineal systems, preference for male children, and observation of ceremonies in honor of women who maintain high fertility norms (usually women who have give birth to 10 children), are some of the cultural mores which give rise to high fertility in Igboland (Isiugo-Abanihe, 1994b). Current age is indicative of the expected pattern of higher fertility as age rises.

The variables in the complete model explain about 37 percent of the variation in children ever born, a large improvement from about 2 percent in the first model and 4 percent in the second. Thus, they adequately predict children ever born. However, it is important to point out that ultimately only three variables — age at first marriage, educational attainment, and urban residence — exhibit a strong inverse relationship with children ever born. This finding has obvious policy implications.

## Concluding Remarks

This study has shown that Nigerian nuptiality is undergoing a great deal of change, even though marriage remains virtually universal throughout the country. This change is apparent from the general rising age at first marriage, especially for more recent unions or among younger cohorts of women, and for certain sociocultural groups. That younger women are delaying marriage is evident from the nuptiality table (Table 2) which shows, for instance, that 44 percent of women age 20-24 are married by their 17th birthday, compared with 52 percent of those age 25-29 and 61 percent of those age 30-34 years. Such changes are expected to continue and, as a consequence, the fertility-inhibiting effect of the changing nuptiality patterns will be enhanced over time.

The multivariate analyses suggest that rising marriage age in Nigeria is partly structural, as indicated by significant positive relation with education, urban residence and work status. But it is also deeply rooted in the general and more fundamental transformation in cultures, the family and patterns of marriage, including changes in the modes of marriage formation, the entry process and requirements and power sharing within the conjugal home. The general nature of this change is perhaps related to recent government publicity of the virtues of marriage delays and other aspects of family life, including female empowerment. The changes are expected to continue as modern social change takes root, as family organization continues to be re-formulated on the basis of personal rather than kinship or corporate goals, and as marriage becomes more of an individual's decision, entered into for love and self-fulfillment rather than for traditionally related concerns.

Such changes will certainly include a higher incidence of marital instability due to divorce or separation. For instance, we show in this work that the three indicators of modernism— urban residence, working outside the home and high educational attainment — are associated with a higher incidence of marital disruption through divorce and separation. Also, the pattern of sexual activity within marriage is likely to be affected, especially if the HIV/AIDS epidemic is not checked. For now, we do not have adequate tools to investigate correctly the sexual behavior of married people and its possible effect on marital fertility. But this is an area that is currently receiving much research focus.

The situation is further complicated by the increasing prevalence of contraception both before and within marriage, especially in the wake of the novel government promotion of family planning. That more and more women will marry later suggests greater premarital contraception, as they attempt to avoid a pregnancy that would jeopardize their prospects of education, career and other opportunities (van de Walle and Foster, 1990), and as family planning services become cheaper (not necessarily in monetary terms only) and more readily available. In addition, we have found elsewhere among urban Nigerian women that premarital contraceptors tend to use contraceptives to a greater extent within marriage relative to their sisters who did not use contraceptives before marriage (Isiugo-Abanihe et al., 1993), an indication that family planning will certainly become more widespread and efficient with time.

With regard to fertility, evidence from this study points to the expected pattern of lower cumulative fertility as age at marriage rises, an indication that later age at marriage reduces the period of exposure to the risk of pregnancy. Also, marital instability

is associated with lower fertility, although the likelihood of reverse causation casts doubts on the utility of this finding. Contraceptive practice and interspousal communication are inversely related to children ever born, suggesting that as family size increases these modes of behavior are adopted. We also found a strong positive relation between monthly coital frequency and children ever born, which is an indication that in the absence of widespread contraceptive use in Nigeria, passion between husbands and wives will continue to determine their achieved family size. This is perhaps more profound as the traditional long periods of breastfeeding and sexual abstinence are eroded by the forces of modern social change, without a corresponding rise in family planning practice (Isiugo-Abanihe, 1989).

Nevertheless, the role of socioeconomic variables on children ever born remains important. It is noteworthy that net of the effect of age, marriage pattern, sexual relations, contraceptive use, ethnicity and other variables considered in the multivariate analysis, educational attainment and urban residence strongly and inversely influence cumulative fertility. Although this finding is intuitive and also well established in many populations it has not always been found in Nigerian data. Although this perhaps suggests advancing levels of modernization and probably that increasingly more people are coming under the influence of qualitative social change, it may also be a product of a decade or so of hardship which expectedly leads urban and better educated people to curtail their family size.

This study indicates that the mechanisms involved in the Nigerian fertility transition are varied and highly intertwined. With increasing levels of social transformation, clearer patterns will emerge regarding both the proximate determinants and the more indirect determinants of fertility. With respect to the former, the effect of changing age at marriage, and the consequences of changes in nuptiality patterns generally, will certainly receive increasing attention in the years ahead.



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