Marital Relationships and Women's Status: Intergenerational Effects on Age at First Sex

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Abstract

This study examines the intergenerational effects of martial relationships and women's status on children's age at first sex in Cebu, Philippines. Matched longitudinal data, on 1,661 mothers and their children are analyzed. The mothers were interviewed in 1994 when their children were ages 9-11, about sociodemographic characteristics, their marital relationships, and women's status issues. Cox proportional hazards models assess children's time to first sex as the children reported in 2005 at ages 20-22. The analysis found after multivariate adjustment, for each decision that parents made jointly, sons reported delayed first sex (HR=0.96, $p<0.006$). In households in which mothers have higher status, daughters reported delayed first sex (HR=0.78, $p=0.005$). These associations could not be explained by parenting style. The results demonstrate that households in which parental decision making is cooperative and that foster women's status and equity between parents can have long-term positive effects on children, particularly delaying first sex.

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Background

Age at first sex has been well studied in developed and developing countries (Upchurch et al., 1998, Gupta, 2000, Mensch et al., 2001). Age at first sex is of particular interest because it is an important indicator of exposure to the risk of pregnancy and sexually transmitted infections (Zaba et al., 2002). Those who have first sex at an earlier age are more likely to have more lifetime partners, to have multiple and concurrent partners, to not use contraceptive methods, to get infected with HIV or other STIs, and to have higher rates of unwanted pregnancies (Greenberg et al., 1992, Miller et al., 1997, Manlove et al., 2003, Blanc and Way, 1998). Early sexual activity has also been found to be associated with psychological distress and other health risk behaviors (Lam et al., 2001).

Parents have a strong influence on adolescent sexual behavior as well as other health outcomes (Meschke et al., 2002, Miller et al., 2001). Much of the US literature on parents' influence focuses on the parent-child relationship, including parent-adolescent communication and connectedness, parental monitoring, and parenting style (Newcomer and Udry, 1985, Jaccard et al., 1996, Rodgers, 1999, Huebner and Howell, 2003). Most studies have found that in general, adolescents are more likely to delay first sex when parents communicate with their children, provide support, are emotionally close, monitor social activities, and set firm rules (Meschke et al., 2002, Miller et al., 2001).

The current study seeks to examine additional, less explored pathways in which parents influence their adolescent children's sexual behavior. Specifically, two aspects of the home environment that parents create include martial relationships and women's status. Very little has been published on these influences on adolescent sexual behavior and even less of the research comes from developing countries.

Marital Relationships and Adolescent Health Outcomes

Very little is known about the influence of marital relationships on children and adolescents. A large body of literature, mainly from the US, examines the effects of family structure on adolescent sexual behavior. Adolescents in single parent and step parent households are more likely to have ever had sex or more likely to have had sex at an earlier age than those in two biological parent households (Flewelling and Bauman, 1990, Young et al., 1991, Blum et al., 2000, Santelli et al., 2000).

A less explored aspect of marital relationships is what happens when parents stay together. An indicator of the quality of marital relationships is participation in household decision making. Joint household decision making is a marker for marital harmony while individual decision making by the husband or the wife can be considered a sign of marital discord or conflict.

A couple of studies have examined the influence of husband and wife household decision making power on children's health and educational outcomes. In Ghana, women with less marital household decision making power faced difficulties in accessing treatment for their children with malaria (Tolhurst and Nyonator, 2006). Another study looking at educational

outcomes found that in the Philippines, adolescents whose parents did not make joint household decisions were less likely to finish secondary school and attained fewer grade levels (Hindin, 2005).

Women's Status and Adolescent Health Outcomes

Women's status usually encompasses several sociodemographic variables, such as level of education, whether she works for pay, and how much she contributes financially to the household (Hindin, 2000, Jejeebhoy, 1991, Schuler and Hashemi, 1994). A growing body of research indicates that many of these qualities have a beneficial influence on child health outcomes. For example, studies have demonstrated that women's status, as measured by high social power in the household, autonomy, education, greater income relative to the husband, or economic worth is associated with better child nutrition (Simon et al., 2002, Doan and Bisharat, 1990), higher levels of child immunization (Desai and Alva, 1998, Basu and Koolwal, 2005), increased height-for-age (Desai and Johnson, 2005), and reduced child mortality (Jejeebhoy, 1995, Basu and Koolwal, 2005).

Only a couple of studies have examined the longer term effects of women's status on the health of their children. A qualitative study in Bangladesh found that empowered mothers were more likely to encourage their daughters and daughters-in-law to delay their first pregnancies and childbirths, supported their daughters' education (prior to marriage), and helped them obtain jobs (before and after marriage) (Schuler et al., 2005). Another study in Bolivia found that high maternal education is associated with improved child caretaking practices among their adult children (Bender and McCann, 2000).

It seems plausible that families in which the mother has high status would raise children, who delay sexual activity, particularly in a setting that has conservative views on premarital sex. Such households are likely to cultivate an environment of equity for young men and women. A US study found that fathers' encouragement of androgynous behavior in their daughters led to their delayed sexual activity (Bowling and Werner-Wilson, 2000). Another study in Kenya found that girls going to schools characterized by a gender-neutral atmosphere were more likely to delay sexual activity than those going to other schools (Mensch et al., 2001). The authors speculate that an environment that is more supportive of girls will equip them with the facility to ward off unwanted attention from boys or to delay sexual activity until their education is completed. Therefore, families that institutionalize a culture of gender-equity in the household are also likely to empower girls to refuse unwanted sex and delay their first experience until they are able to make informed, healthy decisions (Kalof, 1995).

Women's status and marital relationships in the Philippines

Individual status is strongly shaped by forces operating at the household, community, and national level (Mason, 1997). In the Philippines, social norms allocate a high degree of power in household decisions to women. Filipina women have greater autonomy than women in the rest of Asia and elsewhere in the developing world, a position held since the pre-Spanish era when

customary laws gave women the right to be equal to men, to own and inherit property, or to engage in trade (Medina, 2001, Mason, 1997).

Today, while men retain formal authority in the Philippines, it is generally accepted that for most domains in marriage, decisions are made jointly (Medina, 2001, David, 1994, Hindin and Adair, 2002). Men often hand over part or all of their income to their wives. Wives usually take care of the economics of the household, including handling the family budget, and have significant influence over their husbands in household decisions (Medina, 2001, Hindin and Adair, 2002, Upadhyay and Hindin, 2003). In a study on household decision making, David (1994) finds that Filipina women with more education have more influence in the financial and family planning realm, while men with more education are more involved in the household budget. Most decisions are made jointly, except for family planning matters. Here, the wishes of the husbands emerge as more dominant (David, 1994).

In addition to traditional roles of bearing and rearing children, making a home, and rendering domestic services, women's roles have expanded to the more public spheres as well. Women are becoming economically and psychologically independent as co-breadwinners and co-managers of the household (Medina, 2001, Hindin and Adair, 2002). Filipina women are known for their creativity, business acumen, and entrepreneurial skills. Many wives have become equal partners to their husbands in supporting the family economically by engaging in cottage industries and other small-scale business (Medina, 2001).

Adolescent Sexual Behavior in the Philippines

Premarital sex is generally not approved of in the Philippines, and this may be explained, in part, by the strong presence of the Catholic Church. The majority of Filipina women have first sexual intercourse after marriage. Nevertheless, premarital sex is becoming more common especially in urban areas, as are many other intimate behaviors such as dating and kissing (Medina, 2001).

Because of moral standards, females are made to feel guilty of their sexuality, while males are encouraged to engage in sexual activities (Cruz et al., 2001, Santa Maria, 2002, Medina, 2001). Males initiate in dating and sexual activities sooner than females. Men are allowed more freedom related to sexuality than women. Many Filipino youth consider it natural for males to have multiple partners (Santa Maria, 2002, Medina, 2001). In contrast, social norms about young women's behavior tend to be conservative. Females are expected to control and set limits on male sexuality (Santa Maria, 2002, Medina, 2001). Philippine society continues to uphold the value of "hiya" or shame which deeply influences the behavior of girls and women (Cruz et al., 2001).

A national 2002 survey of adolescents aged 15-24 found that 33% of first sexual experiences were not planned, and more than half (57%) were either not planned or something they did not want to happen at the time. Males tend to have had more than one sexual partner: 49% of sexually active males have had more than one partner compared with 11% among women. Condoms were used in only one-fifth of first sexual encounters (Raymundo, 2003). These data

indicate that many Filipino youth are engaging in sexual activity yet are ill-prepared to protect themselves from pregnancy and STIs (Balk et al., 1997, Raymundo, 2003).

The average age at first sex is still relatively high compared with many other developing countries. An analysis of age at first sex in 14 countries using DHS data found that both male and female 15 to 19 year olds and 20 to 24 year olds in the Philippines had the lowest rates of sexual experience (Singh et al., 2000). Age at first sex in the Philippines appears to be declining, dropping slightly from 18 in 1982 and 1994 to 17.5 in 2002 (Raymundo and Cruz, 2004). Similarly, the proportion of adolescents having premarital sex is increasing (Commission on Population and United Nations Population Fund, 2003, Raymundo, 2003).

With rising rates of adolescent sexual activity, it becomes important to understand the contextual factors around adolescents' initiation of sexual activity. In the Philippines, families have strong influence on children. Young people are socialized to place high value on family solidarity. Filipinos commonly believe that close warm ties among family members must be maintained and that sacrifices must be made for the good of the family (Santa Maria, 2002). Therefore, it is likely that the family environment that parents create will influence adolescent sexual activity as well as point to strategies to protect adolescents from unwanted and uninformed sexual activity.

Hypotheses

The present study uses data collected from mothers in 1994 and in 1998 about their marital relationship and women's status and examines outcomes among their now young adult children in 2005. The study tests the following hypotheses:

- Young men and women whose parents have a more harmonious relationship marked with more joint decision-making and more stability are more likely to have first sex at an older age than adolescents whose parents have a less harmonious relationship.
- Young men and women whose mothers have higher status are more likely to have sex at an older age than adolescents whose mothers have lower status.
- The associations between women's status, marital relationships and age at first sex are different for male and female children.

METHODS

Study Setting

Cebu is an island province of the Philippines located in the Central Visayas region. Cebu is one of the most developed provinces in the country. The study area, Metro Cebu, is the second largest metropolitan area in the country, second only to Metro Manila in population. Although it has some rural segments in its peripheries, it still is highly urbanized relative to the rest of the country. The country is predominantly Catholic and the Church plays a strong role in the lives of Filipinos.

Data Collection

The Cebu Longitudinal Health and Nutrition Survey (CLHNS) provides the data for the present study. The CLHNS began as a joint endeavor of the Carolina Population Center, University of North Carolina at Chapel Hill, the Nutrition Center of the Philippines, Manila, and the Office of Population Studies, University of San Carlos, Cebu City. It is part of an ongoing study of a cohort of Filipino women who gave birth between May 1, 1983 and April 30, 1984. The CLHNS followed all women pregnant in 1983-84 and their newborns (the index children) in Metro Cebu. The study initially included over 3,000 women and includes follow-up surveys conducted in 1991-92, 1994-95, 1998-2000, 2002, and 2005. The CLHNS follow-up surveys in 1998-2000, 2002, and 2005 also included expansive interviews with the now adolescent index children. The current study relies on data provided by the mothers in 1994-95 and 1998-2000 and data provided by their children in 2005.

All surveys were conducted as approved by the University of North Carolina School of Public Health Institutional Review Board for research involving human subjects and beginning in 2002, the surveys were also approved by The Johns Hopkins Bloomberg School of Public Health Committee on Human Research. For each survey round, the risks and benefits were explained to parents and adolescents and written parental informed consent and adolescent assent were obtained. Parents and adolescents were assured that responses would be kept confidential. All names were stripped from the data and identification numbers used instead to identify participants.

Most adolescents were interviewed in their homes. In some cases, it took the interviewers several visits to the household or to other households to complete the interview. On average each interview took a total of two sessions making up a total of 2.5 hours to complete.

Sample

The 1994–95 survey included 2,279 women (68% of the original participants) with much of the loss to follow-up occurring in the early years of the CLHNS due to outmigration, refusal, and non-singleton, non-live birth pregnancy outcomes (Cebu Study Team, 1989). The 1998 survey included 2,212 women and 2,117 adolescents. The 2002 survey included 2,113 women and 2,051 adolescents. The 2005 survey included 2,018 women and 1,912 adolescents (now young men and women).

The sample for the current analysis is limited to all women for whom data are available in 1994, 1998 and for whom 2005 data are available for their adolescent children. The total final sample is 1,661 women and adolescent pairs, including 866 young men and 795 young women.

Primary Outcome Variable

The primary outcome is the adolescents' age at first sex as reported in 2005, when they are ages 20 to 22. Respondents were asked if they had ever had sexual intercourse and those who said yes, were asked, "At what age did you first have sexual intercourse?"

Primary Independent Variables

The analysis examines the effects of four sets of variables. The first set of variables in the analysis include the sociodemographic characteristics, including a household wealth index, based on Filmer and Pritchett's index (Filmer and Pritchett, 2001), urban residence, mother's age, mother's schooling in number of years, and mother's church attendance, as measured in 1994, when the adolescents were ages 9 to 11.

The second set of variables relates to women's status as measured in 1994, and includes whether the wife works at home and whether the husband turns over all of his income to his wife (which is characterized as normative behavior locally). It also includes an interviewer-defined variable for status (whether the household, the woman's child, or the woman herself was well-kept). This measure was developed in response to findings from qualitative interviews, in which Filipina women explained that they define status in terms of how well-kept women kept their children, themselves, and their households. The woman was considered to have high status if the interviewer rated at least one these were well-kept at the time of interview.

Third, marital relationships are examined. This set of variables included changes in marital status—whether the wife is still married to the same man in 1998 as in 1994, whether she is still unmarried, separated, or widowed since 1994, or whether the wife is newly separated, widowed, or married. It also includes a variable for whether the husband beats the wife.

Marital relationships also include an index that assesses wives' and husbands' joint decision making as measured in 1994. This index was developed by adding up the total number of decisions in which final decisions are made jointly. The decision module of the survey asks who in the household decides about ten household decisions: 1) major purchases, 2) whether the wife works outside the home, 3) wife traveling outside Cebu, 4) family planning use 5) which family planning method to use, 6) buying wife's shoes, 7) buying children's clothes, 8) children's schooling, 9) taking children to the doctor, and 10) giving gifts to relatives. The module also asked about who has the final say in decisions about buying or selling land and hiring household help, but these two variables were dropped from the analysis since few households had hired help or owned land. For each decision, women were asked 1) Do you consult with someone when you have to decide on this matter? If yes, who do you consult? 2) Whose will prevails on this matter? Most decisions involved husbands and/or wives having the final say, with only a small minority involving other household members. This index was used in other analyses and successfully predicted the length of birth intervals (Upadhyay and Hindin, 2003) and intimate partner violence (Hindin and Adair, 2002).

Finally, the analysis examines the influence of parenting style, because so much of the literature attributes parental influences to their parental style. There are two questions from the 1998-2000 survey that are used as measures of mother–child relationship. Each adolescent was asked ‘‘Do you think your mother is strict?’’ Those questions were coded simply as yes or no. In addition, the adolescents were asked ‘‘How close do you think you are to your mother?’’ The respondents’ options were close or not close. These two questions are analyzed as approximations to Baumrind’s (1991) parenting styles of authoritative (strict and close), authoritarian (strict, not close), permissive (not strict, close), and neglectful (not strict, not close) (Baumrind, 1991). To create these variables, the original dichotomous variables of strict and close are used. For example, respondents are considered to have authoritative mothers if they report that their mothers are both strict and close. This method of recreating Baumrind’s parenting styles was used successfully to predict adolescent education attainment in the Philippines (Hindin, 2005).

Analysis Plan

The analysis was done in 4 parts. First the characteristics of the sample are described. Second, the proportionality assumption of age at first sex is tested using Kaplan-Meier curves. Third, the unadjusted associations between sociodemographic characteristics, women’s status and marital relationships and the outcome, age at first sex, are explored. Finally, a block modeling approach is used to introduce sets of variables into the model to better understand the effects of each group of influences on adolescents’ age at first sex. Because we found that most of the results were not attenuated in the presence of other blocks of variables, we only present the final models.

Because first sex is a discrete-time, nonrepeatable event (Whitbeck et al., 1999), the most appropriate method for estimating time to first sex is survival analysis (Zaba et al., 2002). Survival analysis is preferable in modeling time to first sex because it censors cases that have not had sex by the end of the analysis period. It f independent variables up to the time they are censored our or have first sex. If the data are proportional, Cox proportional hazards methods, which estimate the instantaneous risk of having first sex taking into account the effect of covariates, are useful particularly in longitudinal studies (Cox, 1972). The hazards models control for such demographic variables as, mother’s place of residence, age, and church attendance. All standard errors in the analysis are adjusted for clustering based on barangays (communities). All analyses were conducted using STATA version 9 (Stata Corporation, 2005).

The primary analyses were done separately for males and females using stratified models because the context within which adolescents form sexual partnerships is strongly gender specific (Brown et al., 2001) and the determinants of the timing of first sex are quite different between them (Mensch et al., 2001, Murray et al., 1998, Rani et al., 2003, Singh et al., 2000, Upchurch et al., 1998). All tables are presented with young men and women separately; however, in order to see if there is a significant difference in the predictors of timing of first intercourse by sex, a combined model is used with a gender interaction terms.

Results

The final sample includes mothers of 866 young men and 795 young women. The mothers' characteristics in 1994 are presented in Table 1. Most women lived in urban settings. Their mean age was about 38 years. More than half of mothers attended church once a week or more. They had a mean of just over 7 years of education and about three-fourths of women worked outside the home. Just over one-fourth of women reported their husbands handed over all of their income to their wives. Interviewers rated less than half of mothers as being high status, based on how well kept their household and children were, as well as how well kept the women were themselves. Most women (over 90%) were married to the same men in 1998 as they were in 1994. Between 5% and 7% of women separated, widowed, or became newly married between 1994 and 1998. For most household decisions, decisions were made either jointly or women had the final say. On average, husbands had the final say in very few household decisions.

Table 1. Characteristics of the Parents of the Young Men and Women

Parental Characteristics	% or Mean	
	Males	Females
Sociodemographic characteristics (1994)		
Household wealth index, mean (range=-1.26-2.26)	-0.1	-0.2
Urban residence	72.8	73.2
Mother's age, mean (range=25-59)	37.9	37.9
Mother's attends church once a week or more	61.8	59.3
Women's status (1994)		
Mother's education (years), mean (range=0-19)	7.6	7.4
Wife works outside the home	76.2	77.4
Husband turns over all income to wife	25.4	25.3
Women rated as "high status"	44.3	43.0
Marital Relationship (1994)		
Husband beats wife (%)	12.7	11.6
Still married to same man as in 1994	90.0	91.7
Still unmarried, separated, or widowed since 1994	2.7	3.0
Separated, widowed, or newly married since 1994	7.4	5.3
Final decisions made by wife, mean (range=0-10)	4.5	4.5
Final decisions made by husband, mean (range=0-10)	1.09	0.97
Final decisions made jointly (range=0-10)	4.3	4.5
Parenting style as Reported by Adolescents (1998-2000)		
Mother is permissive[1]	77.9	59.7
Mother is neglectful[1]	8.3	9.9
Mother is authoritative[1]	11.0	21.3
Mother is authoritarian[1]	2.9	9.2

Sample size=1,661 mothers and their children (866 males and 795 females) except where noted
[1] Sample size=1,607 young men and women (836 males and 771 females)

Adolescents reported their perceptions of their mother's parenting style in the 1998 interview. Among the respondents, the greatest majority of both males and females rated their mothers as

permissive with 78% of young men and 60% of young women reporting that their mothers were close but not strict. Overall, there were significant differences in adolescents' reports of their mothers' parenting style with males reporting more permissive parenting (78% vs. 60%, p<0.001) than females and females reporting significantly more authoritative parenting (21% vs. 11%, p p<0.001) and authoritarian parenting (9% vs. 3%, p<0.001) than males.
The adolescents were ages 20 to 22 by 2005. Among young men, 67% have ever had sex and because over half of them have had sex, the median age at first sex can be calculated, based on their reports in 2005. By the time all males have sex, median age at first sex will be 19. Among young women, 47% have had sex and the median age among those who have had sex so far is 18. By the time all of the females have sex, their median age at first sex will be at least a couple of years older. Kaplan Meier plots highlight the age differences as well as the over difference in cumulative incidence of first sex by sex (see Figure 1).

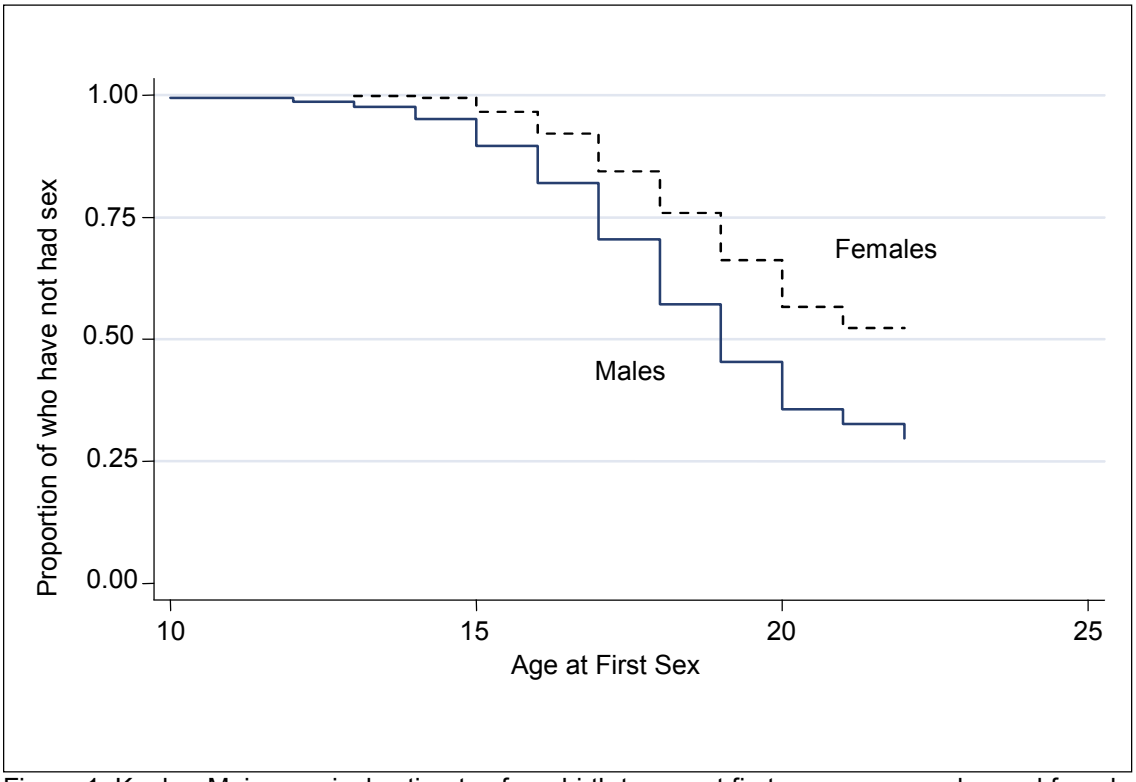

Figure 1. Kaplan-Meier survival estimates from birth to age at first sex among males and females

Unadjusted Associations

The hazard ratio for each variable is presented in Table 2. Young men who came from households with more wealth and in urban areas had sex at a younger age, while older mothers had sons who delayed first sex. Mother's marital status was not associated with males' age at first sex. There is a linear relationship between age at first sex and joint household decision-making—the more joint decisions, the lower the likelihood that sons had sexual intercourse at by age 22.

Young women who came from households with more wealth had sex at a younger age and mothers attending church more frequently had daughters who delayed first sex. Among the women's status variables, mothers with more education were also more likely to have daughters who delayed first sex. The interviewer rated measure of women's status was significantly associated with delayed first sex among young women. Fathers turning over all of their incomes to their wives was associated with delayed first sex among daughters, while fathers beating their wives was associated with daughters having first sex at a younger age, but neither of these associations were significant at the $p<0.05$ level. Neither the joint decision making index nor the marital status variables were associated with females' age at first sex, unlike the males (see Table 2).

Mother's parenting style, as measured by the adolescents when they were ages 13 to 15, had no effect on age at first sex by ages 20 to 22 in either males or females. Among those for whom data were available, whether the mother was permissive, neglectful, authoritative, or authoritarian did not affect age at first sex among males or females (data not shown). For this reason, they were not entered into the multivariate models.

Table 2. Unadjusted Risk of Having Sex, by Mothers' Characteristics

Parental Characteristics	Males			Females		
	Hazard Ratio	95% Confidence Interval		Hazard Ratio	95% Confidence Interval	
Sociodemographic characteristics (1994)						
Household wealth index (range=-1.26-2.26)	1.18**	1.05	1.34	0.78**	0.65	.93
Urban residence	1.66***	1.39	1.99	0.99	0.80	1.24
Mother's age (range=25-59)	0.99**	0.98	1.00	0.99	0.97	1.01
Mother's education (years) (range=0-19)	1.01	0.99	1.03	0.94***	0.92	0.97
Mother attends church once a week or more	1.03	0.90	1.17	0.79*	0.64	0.99
Women's status (1994)						
Wife works outside the home	1.09	.89	1.35	1.12	.89	1.41
Husband turns over all income to wife	1.07	.92	1.25	0.81†	.64	1.02
Women rated as "high status"	1.09	.94	1.26	0.69***	.60	.78
Marital Relationship (1994)						
Husband beats wife	1.08	0.84	1.38	1.34†	0.95	1.88
Still married to same man as in 1994	0.87	0.71	1.06	0.78	0.55	1.09
Still unmarried, separated, or widowed since 1994	1.26	0.84	1.89	1.16	0.63	2.14
Separated, widowed, or newly married since 1994	1.10	0.88	1.38	1.35	0.89	2.05
Final decisions made jointly (range=0-10)	0.95***	0.92	0.97	0.98	0.94	1.02

Sample size=1,661 mothers and their children (866 males and 795 females) except where noted
All hazards ratios are adjusted for clustering by barangay
***P ≤0.001; **P ≤0.01; *P ≤0.05; † P ≤0.10

Multivariate Associations

In the multivariate analysis, among the sociodemographic variables, higher household wealth (HR=1.19, p<0.02) and living in an urban area (HR=1.63, p<0.001) remained significant predictors of earlier age at first sex among males, while, and mother's age (HR=0.98, p<0.001) remained associated with delayed first sex (Table 3).

None of the women's status variables were significant for males. Marital status was also not significant. The joint household decision making variable remained significantly associated delayed first sex among males after multivariate adjustment for marital relationship, women's status, and sociodemographic variables (HR=0.96, p< 0.006). For each decision in which mothers reported joint decision-making, males reported having sex at an older age.

Among the females, none of the sociodemographic variables remained significant after multivariate adjustment. Among the women's status variables, having more years of education was associated with daughters' delayed first sex (HR= 0.96, p=0.001) (see Table 3). Both husband turning over his income to his wife (HR= 0.79, p=0.04) and the locally defined measure of women's status (HR= 0.78, p=0.005) remained significantly associated with delayed first sex among females. After multivariate adjustment the marital status variables and the joint decision making index remained not associated with females' age at first sex.

A gender interaction analysis (based on combined models with both males and females) revealed that the difference in the coefficients for urban residence between males and females is significantly different (data not shown). The model also revealed that the coefficients for the locally defined measure of women's status and for husband turning over all of his income to his wife were significantly different between males and females.

Table 3. Multivariate hazard models predicting risk of having sex by marital relationship, parenting, parental characteristics, and household characteristics, Males and Females

	Males (N=866)			Females (n=795)		
	Hazards Ratio	95% Confidence Interval		Hazards Ratio	95% Confidence Interval	
Women's Sociodemographic Characteristics						
Household wealth index	1.19*	1.03	1.38	0.95	0.77	1.17
Urban residence	1.63***	1.35	1.96	1.08	0.85	1.38
Mother's age	0.98***	0.97	0.99	0.99	0.97	1.01
Mothers' church attendance	0.91	0.80	1.03	0.90	0.71	1.13
Women's Status						
Mother's education	0.98	0.95	1.01	0.96***	0.93	0.98
Wife works outside the home	1.05	0.85	1.30	1.12	0.88	1.43
Husband turns over all income to wife	1.01	0.86	1.18	0.79*	0.63	0.99
Women's status (Household, mom, or child well-kept)	1.05	0.88	1.26	0.78**	0.66	0.93
Marital Relationship						
Husband beats wife	0.95	0.75	1.21	1.27	0.94	1.71
Mom still unmarried, separated, or widowed since 1994	1.34	0.87	2.04	1.12	0.62	2.03
Mom separated, widowed, or newly married since 1994	1.04	0.81	1.33	1.29	0.86	1.93
Number of Final decisions made jointly (0-10)	0.96**	0.93	0.99	0.98	0.94	1.02

All hazards ratios are adjusted for clustering by barangay

***P ≤0.001; **P ≤0.01; *P ≤0.05; † P ≤0.10

Discussion

The current analysis finds that aspects of parents' marital relationships and women's status have significant long-term effects on adolescent sexual behavior in the Philippines. The hypothesis that young men and women whose parents make more household decisions together would delay first sex was true only among males. This association remained even after controlling for sociodemographics and other variables. Marital status, however, had no effect among males or females. The hypothesis that mother's higher status would be associated with their delayed first sex was true only among daughters. As hypothesized, the factors associated with delayed first sex are different for males and females and there are significant gender differences in the determinants of age at first sex.

Mother's high status, (as measured by increased education, her husband turning over all of his income to her, and the interviewer rated measure of women's status), is protective against earlier age at first sex. This finding may be explained by an increased ability for such young women to refuse unwanted sex, due to increased self esteem or sense of value. Other research has found that adolescents and young women who have power (defined as confidence with members of the opposite sex, popularity, opposite-sex friends, and egalitarian gender role attitudes) are better able to avoid sexual behaviors (including participation in unwanted sex and the extent of intimate sexual behaviors) because they are less dependent and feel less discomfort with physical appearance, need for self-disclosure and closeness, need for physical gratification in sex, or need for emotional gratification in sex (Kalof, 1995).

The longitudinal nature of this research provides a rare opportunity to look at the long-term effects of parental influence on their children's sexual activity. It is surprising that exposures as early as age 9 to11 (the 1994 mother's survey) could remain significant in explaining health outcomes at ages 20 to 22. The longitudinal effect of parental influences in childhood may operate in two ways. Either the exposures of parental harmony and women's status persist over time or the effect of exposures and experiences in childhood have a long lasting impact.

Another strength of the study is that it is a community-based sample, and there were no selection criteria when their pregnant mothers were first enrolled in 1983-84. Many other studies of sexual behavior among adolescents have been done in schools, which exclude young people who are out-of-school, who stay at home or go to work, and may be more likely to engage in high-risk behaviors. Other than losses to follow up, this study includes all children born in one area at one point in town. Therefore, these cohort data should be generalizable to other major urban areas in the Philippines.

This study has a couple of methodological limitations. First, the primary outcome of interest, age at first sex, comes from self-reports, and may be subject to recall bias or social desirability bias. Due to the strong conservative culture in the Philippines, the self-reported data may not reflect true behavior. Many young people, particularly females, may be especially uncomfortable discussing their sexual behavior and, thus, their reports may be inaccurate. Young men, on the other hand, may over report their sexual experiences, to give the impression that they are conforming to societal expectations.(Singh et al., 2000, Gregson et al., 2002)

Because the adolescents have been involved in this longitudinal survey for almost two decades, the interviewers have established strong rapport with the participants. While the respondents may be embarrassed to report their sexual behaviors to someone they know well, the interviewers have been trained to reassure the adolescents repeatedly over the years that their responses will be kept confidential. Further, the data in the present study can be externally validated with the results from other Filipino adolescents. When compared with the results from nationally representative data on adolescents in the Philippines, the results from the current study appear valid. Demographic and Health Surveys data from 2003 show that 58% of young men and 55% of young women ages 20-24 report ever having had sex (National Statistics Office (Philippines) and ORC Macro, 2004). The data in this study falls well within these ranges with 67% of young men and 47% of young women ages 20-22 reporting having had sex.

The findings of this research have implications for parents and adolescent health programs. Parents should be aware that they play an important role establishing a stable home environment. They may not be aware of how influential their behaviors are at early adolescence and that these effects remain long into adolescence. Not only are connectedness, closeness and other aspects of the parent-adolescent relationship an important influence, but parental relationships with each other, can also affect children's health outcomes. A family atmosphere that values women's status and fosters gender equity and cooperative decision-making may lead to delayed first intercourse among their children. Creating a cooperative home environment in childhood, with joint decision making between parents and high status of women, may lead to delayed first sex many years later.

Programs that aim to prepare adolescents for sexual activity must acknowledge the strong influence of parents and family life environments. Programs will encounter children from a variety of home situations and they can be sensitive to the unique needs of each adolescent, given their individual situations at home.

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