Ghanaian Teenagers' Relationships with Parents and Other Adults: Reliability, Validity, and Associations with Sexual Behavior of Four New Scales

Jeffrey B. Bingenheimer
Department of Prevention and Community Health
School of Public Health and Health Services
The George Washington University

Clement Ahiadeke and Elizabeth A. Asante
Institute for Statistical, Social, and Economic Research
University of Ghana

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Abstract

Little research has been done on the social contexts of adolescent sexual behaviors in sub-Saharan Africa. As part of a longitudinal cohort study of teenage N=1275 girls and boys in two Ghanaian towns, we developed a 26 item interviewer-administered questionnaire module intended to assess four dimensions of youth-adult relationships: conflict, support, monitoring, and financial support. Confirmatory factor and traditional psychometric analyses showed the four scales to be reliable. Known-groups comparisons provided evidence of their validity. All four scales had strong bivariate associations with self-reported sexual behavior (odds ratios = 1.66, 0.74, 0.47, and 0.60 for conflict, support, monitoring, and financial support). In a multivariate model, the effects of conflict and monitoring on self-reported sex remained large and statistically significant (adjusted odds ratios = 1.49 and 0.64). The instrument is practical for use in sub-Saharan African settings and produces measures that are reliable, valid, and predictive of sexual behavior in youth.

Introduction

A large body of research supports the importance of various aspects of parent-youth relationships to sexual behaviors, contraceptive use, and pregnancy among adolescents in the United States. Perhaps the most consistent finding in this literature is an inverse association between parental monitoring and the likelihood of sexual initiation: youth are less likely to initiate sex when their parents know who their friends are, know where they are at various times of day and night, know how they spend their free time, require them to call home if they are going to be out late, and so on (see, e.g., DiClemente et al., 2001; Longmore, Manning, and Giordono, 2001; Miller, Forehand, & Kotchick, 1999; Rose, Koo, Bhaskar, Anderson, White, & Jenkins, 2005; Stanton et al., 2000; Yang, Stanton, Li, Cottrel, Galbraith, & Kaljee, 2007; and see Miller, Benson, & Galbraith, 2001 for a review). Nor is parental monitoring the only family process variable that has been linked to adolescent sexual initiation. Research suggests that other factors such as connectedness to parents or the quality of the parent-youth relationship (e.g., Davis & Friel, 2001; McBride, Paikoff, & Holmbeck, 2003; Ream & Savin-Williams, 2005; Resnick et al., 1997; Sieving, McNeely, & Blum, 2000) may play important roles in shaping the sexual behaviors and reproductive health of adolescents. Accordingly, working with parents to increase monitoring and improve the quality of the parent-youth relationship has become an important strategy for promoting the sexual and reproductive health of adolescents (Manlove, Terry-Humen, Papillo, Franzetta, Williams, & Ryan, 2002; Stanton et al., 2004; Wu et al., 2003).

Less is known about the influences of family relationships on adolescents sexual behaviors in sub-Saharan Africa. Yet the incidence of serious sexual and reproductive health problems among young people in that region highlights the importance of these issues (Bearinger, Sieving, Gerguson, & Sharma, 2007; Hindin & Fatusi, 2009). In many sub-Saharan African countries, for example, HIV prevalence increases sharply between the ages of 15 and 25 years, especially among females (Glynn, Caraël, Auvert, Kahindo, Chege, et al., 2001; Gouws, Stanecki, Lyerla, & Ghys, 2008). In Ghana, where the present research is based, HIV prevalence increases from 0.5% and 0.2% respectively among 15 to 19-year old girls and boys, to 2.6% and 0.5% among women and men aged 20 through 29 years (Ghana Statistical Service, Noguchi Memorial Institute for Medical Research, & ORC Macro, 2004). Moreover, HIV is only one of several reproductive health problems that may result from early sexual activity, multiple partners, high risk partnerships, and lack of condom use. Among sexually active 15- to 19-year-olds in Ghana, 29% of girls and 7% of boys reported having had a sexually transmitted infection (STI) or STI symptoms (Ghana Statistical Service, Ghana Health Service, & ICF Macro, 2009). And the World Health Organization estimates that, in sub-Saharan Africa, complications of unsafe induced abortions – many of which are performed on adolescent girls – lead to the deaths of over 34,000 women per year, accounting for 14% of all maternal deaths (WHO, 2007).

Although a great deal of epidemiological research has been done on the sexual and reproductive health of adolescent girls and boys in sub-Saharan Africa, research on the social contexts of adolescent sexual risk behaviors in that region remains relatively sparse. Nevertheless, there are several reasons to suppose that family contextual factors may play important roles. For one, scholars working in the region have consistently pointed to the centrality of the family as an institutional context for a wide range of social behaviors, including sexuality and reproduction, both historically and in the context of recent social change (e.g., Oppong, 1997; Bradley & Weisner, 1997). More specifically, findings from two recent surveys of adolescents in sub-Saharan Africa point to the importance of household composition and

family processes as determinants of sexual behaviors. In a survey of unmarried 12-24-year-olds in Ghana, for instance, investigators found that girls who were not living with a parent or adult guardian were twice as likely as those who were living with both parents to report ever having sex (Karim, Magnani, Morgan, & Bond, 2003). And in a more recent survey of 12-19-year-olds in Burkina Faso, Ghana, Malawi, and Uganda, investigators found that parent/caregiver monitoring was among the strongest and most consistent predictors of self-reported sexual initiation among girls and boys in multivariate models (Biddlecom, Awusabo-Asare, & Bankole, 2009; Kumi-Kyereme, Awusabo-Asare, Biddlecom, & Tanle, 2007).

Still, several important limitations characterize this small but growing body of research. One limitation is that existing studies have considered only certain aspects of parent-child relationships, especially monitoring, to the exclusion of other aspects. An exclusive focus on parental monitoring may obscure other important aspects of parent-adolescent relations and lead to an incomplete understanding of the ways in which family processes influence adolescent sexual behaviors. Perhaps the most influential model of the family context of adolescent behavior and development locates parenting styles along two dimensions: demandingness (also referred to as control, the extent to which parents set and enforce rules); and responsiveness (also called support, the extent to which parents provide love, warmth, and understanding) (Maccoby & Martin, 1983). In a large body of research, the combination of high demandingness and high responsiveness, termed authoritative parenting, has been linked to positive adolescent development (e.g., Baumrind, 1991; Fletcher, Steinberg, & Sellers, 1999), whereas styles that are low in demandingness (called indulgent or permissive), responsiveness (called authoritarian), or both (called indifferent or rejecting-neglecting) have been linked to a range of adolescent problem behaviors and negative developmental outcomes (e.g., Durbin, Darling, Steinberg, & Brown, 1993; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; for reviews see Smetana, Campione-Barr, & Metzger, 2006; Steinberg, 2001). Parental monitoring is be closely related to the demandingness/control dimension, but only loosely related to the responsiveness/support dimension. A fuller appreciation of the ways in which families can influence sexual behaviors, including those with implications for sexual and reproductive health, may require a consideration of practices beyond monitoring that are related to the responsiveness/support as well as the demandingness/control dimension.

A second limitation of existing research is the lack of published data documenting the reliability and validity of questionnaire-based measures of parent-youth relationships in Africa. It should not be taken for granted that instruments that have been widely used in the United States will prove to be equally reliable and valid in Africa. One reason for this involves differences between the United States and Africa in the social organization of childcare. In the United States, the care of children, including adolescents, is largely the responsibility of parents, to be carried out within a nuclear household. Of course, not all young people in the United States actually live in nuclear households. But sub-Saharan Africa is characterized by a longstanding and enduring tradition of what Weisner (1997) calls socially distributed childcare. In this system, responsibility for an adolescent does not rest solely with the parents, but may be shared by older siblings, aunts and uncles, grandparents, and other relatives and non-relatives within and beyond the household (see also Adepoju & Mbugua, 1997; Harkness & Super, 1992; Schlegel & Barry, 1991; Whiting & Edwards, 1988). Questionnaire-based indicators of constructs like monitoring, connectedness, and conflict for adolescents that are predicated on a nuclear family household may therefore produce invalid measurements and misleading conclusions when they are used in an African setting. Minor changes to the wording of

questions – such as, for example, changing the word "parent" to the phrase "parent figure" in questionnaire items – may not be sufficient to capture the complexity of adult influences on adolescents in these settings. If a 13-year-old boy is looked after primarily by his 19-year-old brother, will he regard that brother as a "parent figure" and respond to questionnaire items accordingly?

A third concern is that research on this topic in the United States has not dealt extensively with one factor that may impinge heavily upon parent-youth relations in Africa, namely, economic hardship. Several scholars (e.g., Oppong, 1997; Weisner, 1997) have written about the consequences of severe economic hardship for African adolescents' relationships with adults in their lives. When a teenager's parents and immediate family cannot pay school fees or provide other necessities, the child (if a girl) may be married off, or (for either sex) may be fostered out to the household of better-off extended family relations. Even if the teenager remains in his or her parents' household, the parents' authority over the child and the child's respect for the parents may be undermined by their financial circumstances. These dynamics may be implicated in the widely-discussed "sugar daddy" phenomenon in which teenage girls form transactional sexual partnerships with older, financially secure men (Luke, 2003; Madise, Zulu, & Ciera, 2007). Yet questionnaire-based instruments measuring adolescent-adult relations in the United States do not typically include items dealing with the potential consequences of severe financial hardship.

In the current study, therefore, we accomplish five things. First, we present an easy to implement questionnaire-based instrument consisting of 26 items that use common stem and response option formats to measure four dimensions of youth-adult relations: conflict, support, monitoring, and financial support. Second, we establish the internal consistency of these four multi-item scales in a sub-Saharan African setting (southeastern Ghana). The content and format of the items in these scales are derived from existing instruments, but we have substantially altered them to make them more appropriate to an African setting and have added items dealing with financial support. Third, we document the relative frequency with which young people in this part of Ghana identify different adults (mothers, fathers, aunts, older siblings, and so on) as performing these functions. Fourth, we provide evidence for the validity of these scales in the form of known-groups comparisons: girls versus boys, older versus younger teenagers, and so on. And finally, we show that these scales are strongly associated with self-reported sexual intercourse, even after controlling for several sociodemographic confounders.

Methods

Participants and Procedures

The data for this study come from the first wave of a longitudinal cohorts study dealing with the social contexts of adolescent sexual and reproductive health in two towns in southeastern Ghana. Both communities are market towns along a major road connecting Ghana's capital, Accra, with the capital of Volta region. Each has a population of just under 15,000 according to the 2000 census. The towns differ, however, in the prevalence of HIV. One is located within a district that has suffered a severe localized HIV epidemic, believed to be driven at least in part by circular migration of young women from this community to Abidjan, the capital of neighboring Cote D'Ivoire, during the 1990s. The other town, just 40km away, is in a district that has seen virtually no cases of HIV in sentinel surveillance at prenatal clinics.

In the summer of 2010 a team of field workers from the Institute for Statistical, Social, and Economic Research at the University of Ghana visited all dwelling structures in both communities and compiled a list of eligible youth. Unmarried girls and boys age 13-14 years (the younger cohort) or 18-19 years (the older cohort) were eligible. A simple random sample of youth was drawn from this list, and interviewers then attempted to recruit the youth according to a protocol that was approved by Institutional Review Boards at the George Washington University and the Noguchi Memorial Institute for Medical Research at the University of Ghana. In total, 1,275 youth agreed to participate and were interviewed, for a response rate of 75%. Interviews were conducted in a mixture of English and Ghanaian languages at interviewing centers established by the field teams in the two study sites.

Table 1 presents a description of the sample. More girls than boys participated. The two towns were approximately equally represented. There were somewhat more participants in the younger than in the older cohort, especially for girls, perhaps reflecting a combination of out-migration by older girls and ineligibility of older girls due to marriage. Most participants were currently attending school, but a substantial minority of participants, especially girls, was not in school. Many were living with neither biological parent; households including both biological parents were not the norm for either girls or boys.

Measures

The primary measures of interest here include 26 items intended to measure four dimensions of youth-adult relations: conflict, support, monitoring, and financial support. In order to accommodate heterogeneity in the composition of households in sub-Saharan Africa and the possibility that adults beyond the household may play important roles in the lives of teenagers there, each item consists of a statement beginning with the phrase, "There is an adult in my life who…." For each item, the participant was asked to indicate whether the statement was very true, somewhat true, or not at all true for him or her. For analytic purposes, we coded these responses as 3, 2, and 1, respectively. The content of the 26 items, our a priori plan for sorting them into scales, and the distribution of responses according to gender are presented in Table 2. The content of the items in the monitoring scale was drawn primarily from a similar instrument described by Brown, Mounts, Lamborn, and Steinberg (1993). The content of most items in the support scale was drawn from items in the Inventory of Parent Attachment (Armsden and Greenberg, 1987), while that of most items in the conflict scale was drawn from the Network of Relationships Inventory: Behavioral Systems Version (Furman & Buhrmester, 2009). After six of the items (S4, S10, M1, M4, M6, and F1), respondents who indicated that the statement was very true or somewhat true for them were then asked "Which adults usually…." Response options included mother, father, aunt, uncle, grandmother, grandfather, older sibling, cousin, teacher, minister, healthcare provider, neighbor, friend's parent, and other. Interviewers accepted multiple responses. Those who indicated "other" were asked to specify and those responses were then categorized as caregiver/guardian, other relative, or other non-relative.

The interviews with youth participants covered a range of other topics beyond the 26 items discussed above. In this paper, we restrict our attention to the following. Each respondent's sex was recorded by the interviewer based upon the physical appearance of the participant. Community of residence (high versus low HIV prevalence) is an administrative variable based upon the sampling frame from which each participant was drawn. Age was assessed by asking each participant her or his age in completed years. Household composition

(living with both biological parents, biological mother only, biological father only, or neither biological parent) was assessed by asking the youth whether each parent was alive and, if so, whether she or he lived in the same household as that parent. School status (in school versus not in school) was assessed by asking the participant how much time she or he normally spent attending school. Those who indicated that they spent a lot of time or some time in school were coded as in school; those who reported spending no time in school were coded as out of school. Highest schooling was assessed by asking each participant the highest level and year of schooling that she or he had attained. For analytic purposes we divide youth into three groups: those who never attended school or who attended only primary school; those who attended at least some junior secondary school; and those who attended any senior secondary school or beyond. Household wealth was assessed by asking each participant whether her or his household, compared to others in the area, was wealthier than most, fairly typical, or poorer than most (coded 2, 1, and 0); and whether the household had electricity, a radio, a television, a refrigerator, a flush toilet, and motorcycle or scooter, and a working car or truck (each coded 0 or 1). This pool of items was moderately internally consistent (Cronbach's $\alpha = 0.72$); we therefore summed them to create a household wealth index similar to that used in other surveys in developing countries (Rutstein & Johnson, 2004). Finally, sexual initiation status was assessed by asking each respondent, after she or he had already answered questions about possible romantic relationships, whether she or he had ever had sex.

Analysis

Our analysis was conducted in four stages. The first stage consisted of the computation of simple frequencies on the 26 focal items as well as the six follow-up questions dealing with which adults played the different roles.

The second stage dealt with the internal consistency of the items in the four proposed scales. We approached this issue in two ways: (1) using confirmatory factor analysis; and (2) using logistic regression to examine heterogeneity in the bivariate associations between each item and self-reported sexual initiation. Because our items used three ordinal response options, standard methods of estimating confirmatory factor analysis models (which rely upon the assumption of multivariate normality) are not appropriate. We therefore conducted these analyses using the matrix of polychoric correlation coeffecients and weighted least squares estimation as suggested in recent methodological literature (Flora & Curran, 2004; Holgado-Tello, Chacón-Moscoso, Barbero-García, & Vila-Abad, 2010; Yang-Wallentin, Jöreskog, & Luo, 2010). We first estimated a four-factor model using all of 26 items, with each item loading on its respective factor. We evaluated the fit of the model using several goodness-of-fit indices: the Comparative Fit Index (CFI), the Tucker-Lewis Index, the root mean squared error of approximation (RMSEA), and the standardized root mean squared residual (SMSR). Generally, values of CFI and TLI in excess of .95, and values of the RMSEA and SMSR less than .05, are considered indicative of adequate fit (Kline, 2005). We also examined the magnitude of the standardized factor loadings in order to identify item with low loadings. In parallel with this, we ran 26 logistic regression models, each using a single item to predict self-reported sexual initiation. We then examined the resulting odds ratios for items within each scale, in order to identify items whose association with self-reported sexual initiation was substantially different from the associations of other items in the same scale. We removed from the scales those items

that had low (<.5) standardized factor loadings, and/or associations with self-reported sexual initiation that were inconsistent with the associations of other items in the same scale.

In the third stage of the analysis, we examined the validity of the scales using a known-groups approach. After removing items with low loadings or discrepant associations with self-reported sexual initiation, we computed scale scores by taking the average of the items in each of our and then standardizing (subtracting the mean and dividing by the standard deviation). We then examined the pattern of associations between the scale scores and select sociodemographic variables. Based upon existing literature and our familiarity with the study sites, we expected that girls would be more heavily monitored than boys but would also have more conflict with adults; that younger and in-school participants would be more heavily monitored, supported, and financially supported than older and out-of-school participants, and would have less conflict than adults; that household wealth would correlate positively with financial support and monitoring; and that youth living with both biological parents would report more support, monitoring, and financial support than youth living with neither biological parent. The overall extent to which the pattern of associations in our data corresponds to these expectations we took as an indication of the (known-groups) validity of our scales.

In the fourth and final stage, we examined the extent to which scores on each of the four scales was predictive of participants sexual initiation status using a series of simple and multivariate logistic regression models

Results

The distributions of responses to the 26 focal interview items are presented in the first part of Table 2. These data show that the majority of youth report low levels of conflict with and high levels of support from the adults in their lives. The majority also report being closely monitored by one or more adults, and receiving financial support from at least one adult.

The frequencies with which respondents identified different people in connection to six of the items are shown in Table 3. For all six of these items, mothers are by far the most frequently identified as providing monitoring, emotional support, and financial support. For five of the six items, fathers are the second most frequently identified person, followed by siblings, aunts, grandmothers, and uncles. (On the sixth item, the rank order of father and sibling is reversed). These findings highlight the important roles played by older siblings and extended family members, especially aunts, uncles, and grandmothers. Non-family caregivers or guardians were identified by approximately five percent of youth on each of the six items. Although respondents mentioned other individuals, these occurred infrequently with a few exceptions (e.g., teachers not infrequently advise youth and would punish them if they misbehaved, according to our respondents).

Our analyses of the internal consistency of the 26 items generally supported our *a priori* conceptualization of four distinct (albeit correlated) constructs and our corresponding partitioning of items into scales. The last two columns in Table 2 present factor loadings from our confirmatory factor analysis models, and Figure 1 presents bivariate associations between the items and self-reported sexual behavior. The four factor model with all 26 items (Model 1) fit quite well (Model 2; CFI=0.946, TLI=0.975, RMSEA=0.045, SMSR=0.065). Three items stood out as having low factor loadings (below 0.50). These were items C6 (“Criticizes you a lot”), S5 (“Respects your sense of freedom”), and M4 (“Knows who your friends are”). The same three items had bivariate associations with self-reported sexual initiation that differed substantially

from the other items in those scales, as shown in Figure 1. On the basis of these findings we removed those three items from their respective scales. A four factor model with the remaining 23 items fit slightly better (Model 4; CFI=0.959, TLI=0.982, RMSEA=0.043, SMSR=0.060).

Each of the resulting four scales has adequate internal consistency according to the conventional criterion of Cronbach's $\alpha > 0.70$. The coefficient α for the conflict, support, monitoring, and financial support scales are, respectively 0.73, 0.80, 0.73, and 0.82. The correlations between the four scale scores (derived by averaging the 5, 9, 6, and 3 items in the conflict, support, monitoring, and financial support scales) are not inordinately high. Conflict is correlated at -0.16, -0.15 and -0.16 with support, monitoring, and financial support, respectively. Support is correlated at 0.53 with monitoring and 0.43 with financial support, and monitoring and financial support are correlated at 0.50. All correlation coefficients were statistically significant at the $p<0.001$ level.

Associations between the four scale scores and select sociodemographic variables are presented in Table 5. The patterns observed here are largely consistent with our expectations. Compared with girls, boys report less conflict with, less monitoring by, and less financial support from adults in their lives. Youth in the older cohort report more conflict, less support, less monitoring, and less financial support than those in the younger cohort. Youth who were attending school reported less conflict, more support, more monitoring, and more financial support than out-of-school youth. Compared to youth who were living with both biological parents, youth living with neither biological parent reported less support from adults, less monitoring, and less financial support. In general, this pattern of associations is highly consistent with expectations, providing support for the validity of the four scales.

Results of logistic regression models predicting whether or not each participant reported ever having sex are shown in Table 6. The first column collects the results of bivariate models for each predictor. All four scales show strong bivariate associations with initiation of sex: A standard deviation increase in conflict with adults is associated with a 66% increase in the odds of having had sex; a standard deviation increase in support is associated with a 26% decrease in the odds of having had sex; a standard deviation increase in monitoring is associated with a 53% decrease in the odds of having had sex, and a standard deviation increase in financial support is associated with a 40% decrease in the odds of having had sex. The pattern of bivariate associations between self-reported initiation of sex and various demographic variables reveals few surprises. Members of the older cohort were much more likely than members of the older cohort to report sex. Youth residing in the high prevalence town, and youth residing with neither biological parent, were more likely to report sex. In-school youth and youth from wealthier households were less likely to report sex. Youth who had achieved higher levels of schooling were more likely to report sex. Most of these effects persist in a multivariable logistic regression model of self-reported sex in relation to demographic covariates. As shown in the second column of Table 6, however, the effect of highest achieved level of schooling disappears, presumably because that variable is highly collinear with age. Additionally, the protective effect of being male, which was not statistically significant in the bivariate analysis, becomes statistically significant when other demographic variables are controlled.

Results of the full multivariate model of self-reported initiation of sex appear in the last column of Table 6. The key finding here is that the effects of conflict with and monitoring by adults, although slightly attenuated, remain statistically significant when the demographic variables and other scale scores are controlled. The effects of support and financial support, in

contrast, are more substantially attenuated and are no longer statistically significant in this multivariate model.

Discussion

(In progress)

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Table 1. Description of Sample (%)[a]

	Girls (697)	Boys (578)	Total (1275)	p-value
Community				
Low HIV prevalence	49.4	47.6	51.5	.527
High HIV prevalence	50.6	52.4	48.6	
Cohort				
Younger (13-14)	60.0	51.7	56.2	.003
Older (18-19)	40.0	48.3	43.8	
School Status				
Not in school	21.4	17.1	19.5	.056
In school	78.6	82.9	80.6	
Highest Schooling				
None or Primary	54.2	54.0	54.1	.647
JSS	34.2	32.9	33.6	
SSS	11.5	13.1	12.3	
Living Situation				
Neither biological parent	44.9	34.6	40.2	.000
Mother only	26.1	24.6	25.4	
Father only	4.0	9.9	6.7	
Mother and Father	25.0	31.0	27.7	
Household Wealth (mean, SD)	0.02 (0.97)	-0.03 (1.03)	0.00 (1.00)	.401
Initiation of Sex				
Never had sex	77.1	80.2	78.5	.189
Ever had sex	22.9	19.8	6.5	

[a] Figures are percentages unless otherwise noted.

Table 2. Distribution of Responses to Questions about Relationships with Adults, by Sex (%)[a]

	Very True	Somewhat True	Not At All True	CFA Item Loadings Model 1	CFA Item Loadings Model 2
C1. Nags you	17.0	16.3	66.7	0.72	0.71
C2. Gets annoyed at you	19.2	21.0	59.7	0.70	0.70
C3. Gets mad at you a lot	10.7	8.7	80.6	0.80	0.79
C4. Puts you down	10.0	10.8	79.1	0.76	0.75
C5. Quarrels with you a lot	7.8	7.3	84.9	0.81	0.80
C6. Criticizes you a lot	24.6	22.6	52.8	0.46	
S1. Praises you	82.0	13.6	4.4	0.67	0.66
S2. Gives you attention	82.9	13.0	4.1	0.71	0.71
S3. Comforts you	80.2	14.4	5.5	0.78	0.78
S4. Gives you advice	93.8	5.3	0.9	0.82	0.82
S5. Respects your sense of freedom	65.9	23.7	10.4	0.49	
S6. Understands you	83.9	14.1	2.0	0.81	0.80
S7. Encourages you	87.8	9.2	3.0	0.73	0.73
S8. Trusts you	82.4	14.4	3.1	0.72	0.72
S9. Gives you guidance	91.0	7.3	1.7	0.82	0.83
S10. Listens to you	85.2	11.9	3.0	0.83	0.83
M1. Knows where you are at night	80.5	6.2	13.3	0.67	0.69
M2. Knows where you are during the day	84.2	7.6	8.2	0.78	0.79
M3. Would find out if you misbehaved	83.2	10.0	6.8	0.73	0.74
M4. Knows who your friends are	77.9	10.7	11.4	0.49	
M5. Knows what you do with your free time	65.5	21.4	13.0	0.76	0.76
M6. Would punish you if you misbehaved	78.4	8.7	12.9	0.75	0.76
M7. Knows how you spend your money	55.9	19.1	25.0	0.63	0.63
F1. Provides for your necessities	89.6	6.0	4.5	0.93	0.93
F2. Gives you money	85.7	8.8	5.5	0.89	0.88
F3. Buys you things	85.0	8.1	6.9	0.94	0.94

[a] All questions began, "There is adult in your life who…." Items beginning with C, S, M, and F were intended, respectively, to be part of the Conflict, Support, Monitoring, and Financial Support scales.

Table 3. Distribution of Responses to "Which adults usually…"[a]

M1. Know where you are at night.		M4. Know who your friends are.		M6. Would punish you if you misbehaved.	
Mother	47.4	Mother	50.6	Mother	43.8
Father	23.8	Sibling	23.8	Father	34.7
Sibling	18.7	Father	23.7	Sibling	15.3
Aunt	13.3	Aunt	13.0	Aunt	10.9
Grandmother	12.3	Grandmother	11.1	Uncle	8.2
Uncle	5.7	Uncle	5.1	Teacher	7.7
Caregiver/Guardian	4.6	Neighbor	5.1	Grandmother	7.6
Neighbor	4.3	Caregiver/Guardian	3.7	Caregiver/Guardian	3.8
Other Relative	3.5	Cousin	3.3	Other Relative	3.4
Grandfather	3.1	Other Relative	3.2	Grandfather	2.9
Cousin	3.1	Grandfather	2.0	Cousin	1.7
Other	1.5	Teacher	2.3	Other	1.9
		Other	1.8		
S4. Give you advice.		S10. Listen to you.		F1. Provide for your necessities.	
Mother	58.9	Mother	58.9	Mother	62.6
Father	33.1	Father	32.7	Father	41.5
Sibling	22.7	Sibling	22.4	Sibling	14.9
Aunt	18.7	Aunt	15.3	Aunt	14.7
Grandmother	16.2	Grandmother	14.4	Grandmother	11.2
Uncle	10.1	Uncle	6.0	Uncle	7.7
Teacher	9.6	Caregiver/Guardian	4.5	Caregiver/Guardian	4.6
Neighbor	7.4	Teacher	4.4	Other Relative	3.9
Grandfather	5.3	Other Relative	3.6	Grandfather	3.5
Caregiver/Guardian	4.9	Grandfather	3.3	Cousin	1.7
Other Relative	3.5	Cousin	2.6	Other	2.5
Cousin	3.3	Neighbor	2.3		
Minister	2.6	Other	3.1		
Other	3.0				

[a] Figures are percentages of the total sample. Categories endorsed by fewer than 20 respondents for each question are grouped into "Other." Figures sum to greater than 100% because respondents were allowed to endorse more than one option.

Table 4. Bivariate Correlates of Relationships with Adults[a]

	Conflict		Support		Monitoring		Financial Support	
	Effect	p-value	Effect	p-value	Effect	p-value	Effect	p-value
Male (vs. Female)	-0.10	0.070	-0.01	0.832	-0.13	0.020	-0.16	0.005
Older cohort (vs. Younger)	0.27	0.000	-0.22	0.000	-0.66	0.000	-0.55	0.000
High (vs. Low) prevalence town	0.17	0.002	0.01	0.876	-0.22	0.000	-0.10	0.082
In school (vs. Out of school)	-0.35	0.000	0.31	0.000	0.68	0.000	0.72	0.000
Household wealth index	0.04	0.210	0.11	0.000	0.13	0.000	0.19	0.000
Mother only (vs. Both)	0.10	0.174	-0.19	0.016	-0.10	0.186	-0.08	0.287
Father only (vs. Both)	0.21	0.087	-0.06	0.630	0.02	0.875	-0.10	0.423
Neither (vs. Both)	0.12	0.086	-0.30	0.000	-0.39	0.000	-0.22	0.002

[a] Effects represent group differences in standard deviation units with one exception: For the Household wealth index the effects are Pearson correlation coefficient

Table 5. Logistic Regression Models of Sexual Behavior

	Bivariate		Multivariate 1		Multivariate 2	
	OR	p value	AOR	p value	AOR	p value
Conflict	1.66	0.000			1.49	0.000
Support	0.74	0.000			1.13	0.238
Monitoring	0.47	0.000			0.64	0.000
Financial Support	0.60	0.000			0.99	0.876
Male (vs. Female)	0.83	0.190	0.63	0.007	0.62	0.009
Age at Wave 1 (in Years)	1.87	0.000	1.88	0.000	1.79	0.000
High (vs. Low) prevalence town	1.91	0.000	1.77	0.001	1.60	0.009
In school (vs. Out of school)	0.15	0.000	0.40	0.000	0.46	0.000
Household wealth index	0.79	0.001	0.86	0.089	0.91	0.284
Junior Secondary (vs. Primary)	3.58	0.000	0.70	0.117	0.71	0.166
Senior Secondary (vs. Primary)	4.17	0.000	0.65	0.132	0.66	0.154
Mother only (vs. Both)	1.25	0.278	1.07	0.783	1.08	0.766
Father only (vs. Both)	1.28	0.418	1.29	0.503	1.15	0.723
Neither (vs. Both)	1.74	0.002	1.17	0.479	1.05	0.847

NOTES: Figures in the “Bivariate” column are unadjusted odds ratios; figures in the “Multivariate” columns are odds ratios adjusted for all other variables shown in the corresponding column.

Figure 1. Bivariate Associations between Youth-Adult Relations Items and Self-Reported Sexual Initiation