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Household and community income, economic shocks and risky sexual behavior of young adults:

evidence from the Cape Area Panel Study 2002 and 2005

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Abstract

Objective—We describe recent trends in adolescent sexual behavior in Cape Town, South Africa. We ask whether household and community poverty and negative economic shocks predict risky sexual behavior.

Data—Matched survey data on 2,993 African and Coloured youth from the Cape Area Panel Study 2002 and 2005.

Main outcome measures—Sexual debut, multiple sexual partners in past year, condom use at last sex, measured in 2002 and 2005.

Methods—We test for changes over time in reported sexual behavior and estimate multivariate probit models to measure the association between 2002 individual, household and community characteristics and 2005 sexual behavior.

Results—There is a statistically significant increase in condom use and decrease in the incidence of multiple sexual partners between 2002 and 2005 for females aged 17–22. Females in households with 10% higher income are 0.53 percentage points less likely to sexually debut by 2005; males in communities with a 10% higher poverty rate are 5 percentage points less likely to report condom use at last sex. Negative economic shocks are associated with a 0.04 percentage point increase in the probability of multiple partnerships for females. Education is positively correlated with sexual debut for females and with multiple partnerships for both sexes.

Conclusions—Trends in sexual behavior between 2002 and 2005 indicate significant shifts towards safer practices. There is little evidence of a relationship between negative economic shocks, household and community poverty, and risky behavior. We hypothesize that the unexpected positive relationship between education and sexual debut may be driven by peer effects in schools with substantial age mixing.

Keywords

HIV; adolescence; economic resources; sexual debut; condom use; multiple partnerships; South Africa

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INTRODUCTION

A recent United Nations publication states that “poverty increases vulnerability to HIV/AIDS” [1], although in a complex fashion: the HIV burden is concentrated in the poorest regions of the world but not always amongst the poorest populations in these areas. HIV prevalence rates are indeed highest amongst South African youth living in poor urban informal settlements compared to other areas [2]. However, the mechanisms through which conditions of poverty may influence sexual risk-taking behavior and hence the probability of contracting HIV and other STD’s are complex and currently not well understood.

Researchers in public health and economics have hypothesized and less frequently tried to measure the channels from individual and community poverty to higher rates of sexual risk-taking behavior. Fenton [3], Gersovitz [4] and Sumola [5] argue that inadequate information (often concentrated amongst the poor) acts as a barrier to adopting safer behaviors; Cohen et al [6] argue that access to resources for safer sex may be costly; MacPhail et al [7] and LeClerc-Madlala [8] argue that poverty directly induces sex work and informal transactional sex relationships particularly for females while Johnston [9] provides descriptive evidence of these correlations and Luke [10] and Luke [11] use survey data to quantify this relationship. Dunkel et al [12] use data from young, rural South African men to show a strong positive correlation between higher socio-economic status and the probability of reporting transactional sex with casual partners. At a community level, Zulu et al [13] compare non-poor non-slum residents to poor slum residents in Nairobi and find significantly higher probabilities of reporting early sexual debut, more sexual partners and lack of condom use amongst the poor slum dwellers. Economic inequality may also operate to increase risk-taking within communities: LeClerc-Madlala [8] posits that the growth of a black middle class with money has increased the emphasis on transactional sex in some South African communities.

In many of these studies, it is difficult to isolate whether economic resources matter directly for behavior or whether unobservable characteristics correlated with poverty are driving factors. In addition, since the experience of poverty is likely to have persistent effects on behavior over time, it is hard to distinguish whether current or long term resource deprivation matters for behavior. To convincingly measure the direct effect of economic resources on behavior, we would want to randomly assign these resources to households and observe the impact on behaviors. Approaching this research design with observational data is challenging.

In this paper, we investigate whether household and community incomes and negative economic shocks predict risky behaviors of young adults. Focusing on young adults who are for the most part not yet working and who are just transitioning into sex allows us to isolate the relationship between household level and community resources and behavior. In the absence of random assignment of income to households or communities, we use economic shocks to capture one source of unexpected variation in household resources. While this research design does not identify the causal effect of economic deprivation on behavior, we advance some way towards an understanding of the relationship between economic resources and risky sexual behavior of young adults. Surprisingly, we find little evidence that differences in household or community income or differences in economic shocks are correlated with more risk-taking behavior.

Young adults are a particularly interesting demographic group as they represent healthy cohorts whose future behavior will influence the course of the HIV epidemic. Various researchers have shown that in high sero-prevalence regions, a large proportion of new infections occur during adolescence [8]. Survey data that match detailed individual sexual behavior measures to good measures of household and community level resources are rare; panel data that enable us to see the evolution of sexual behaviors for young adults are even more unusual. We use new

panel data on adolescents (ages 14-22) in urban Cape Town, South Africa to measure the extent to which resources and shocks to household resources early on in their lives can predict variation in sexual behaviors. We consider the following outcome measures that correspond to the A-B-C of HIV prevention campaigns: sexual debut, annual number of sexual partners and condom use at last sex.

DATA AND METHODS

(a) Data

The Cape Area Panel Study (CAPS) is a representative longitudinal study of 4,752 adolescents aged 14-22 (in 2002) living in Cape Town, South Africa. The full sample was first interviewed in 2002 and again in 2005. Most data are collected directly from the young adults. We use data from the household module, basic demographic data and detailed information about sexual relationships captured in both waves.¹ These panel data allow us to look at whether sexual behavior is changing over time as well as how current behaviors are related to a range of household level variables measured earlier in the young adult's life.

In order to generate an approximately equal sample of African and Coloured individuals, African youth were oversampled.² Completed interviews for 2,151 Africans, 1,980 Coloureds and 621 Whites and other races were captured in 2002. Once weights adjusting for survey design and wave 1 non-response are applied, Africans represent 15% of this wave 1 sample, Coloureds represent 59% and the remaining races constitute 26% of the sample. In the 2005 wave 3,324 of the initial 4,752 sample were re-interviewed, of which 2,993 are African and Coloured individuals (27.8% attrition rate).

Since initial non-response and attrition between waves were very high for the small sample of White youth, we exclude them from our analysis. Fifty-three percent of Whites were successfully followed in 2005, while attrition among Coloured and African sub samples was substantially lower (21% and 36% respectively). All of our reported results are weighted with sampling weights correcting for sample design and first wave non-response. Weighting for attrition between 2002 and 2005 does not change any results substantively (results not reported). Our final matched sub-sample consists of 1,410 African youth and 1,583 Coloured youth.

(b) Variables

For each individual in our analysis sub-sample, we use sexual behavior information provided by the respondent in 2002 and 2005. To examine changes in average behavior over time, we investigate three reported behaviors for the group aged 17 to 22: whether the young adult has ever had sex, whether the young adult used a condom at last sex and whether the young adult had more than one sexual partner in the 12 months before each survey.

We are cautious about the reliability of reported sexual behavior data. Misreporting is more likely when questions are more sensitive [16-19]. CAPS questions and survey protocols were carefully constructed to try to minimize the biases in these sensitive questions. In both years, respondents were questioned without the presence of any other family members as far as possible. For the 2005 survey, respondents could choose to directly fill out their responses regarding each of their ten most recent partnerships instead of having the interviewer fill in the information. Fourteen percent of applicants chose to self-report. Comparing those who did with

¹We do not use data on what young people know about HIV and AIDS. [14] report that levels of HIV and AIDS knowledge are very high in the 2002 CAPS data.

²See [15] for details of sampling methodology, initial non-response and attrition.

those who did not respond themselves, there was no systematic difference in the number of sex partners reported in 2005.

Restricting to the same set of ages (17-22) in 2002 and 2005 allows us to compare average behavior for this group over time. To examine how 2002 individual, household and community level variables are correlated with behavior, we investigate these three sexual behavior variables measured in 2005. Variables used to predict individual behaviors within the probit model include: age in 2002; sex; education; race; literacy and numeracy test scores; per capita household income in 2002; presence of parents at home in 2002; and the proportion of households in the community below the poverty line in the 2001 census. We also use information on negative economic shocks experienced at the household level between 2002 and 2005. A negative shock is defined as having occurred if the household experienced a death, job loss, loss of a grant or loss of support from outside the household, and if the household respondent reported that the shock had a moderate to severe financial impact on the household.

The same literacy and numeracy test was administered to each young adult in 2002 regardless of age or education level. While the test is not age-appropriate for the entire sample, we include a full set of age dummies in the probit models to take out mean differences across age groups in test performance. Hence, if 22 year-old youth score consistently above average on the test simply because they are older and have had more schooling, this effect is absorbed in the 22 year-old dummy.

(c) Methods

We compare the proportion of each sex, race and age group reporting each type of behavior in each wave for ages 17 to 22. The change in these proportions between 2002 and 2005 gives us some insight into overall trends in behaviors. To measure the association between individual level demographic data, prior income shocks, household and community resources and current sexual behavior, we estimate probit models for each of the three binary outcome variables separately for females and males. Results are reported as the marginal change in the probability of a particular behavior associated with a unit increase in each explanatory variable.

In the probit models we restrict the sample to ages 14 to 18 in 2002 for the sexual debut and condom use outcomes, but include all ages 14 to 22 in 2002 when modeling multiple partners. There are two reasons for this. First, a large proportion of those aged 19 and older have already sexually debuted so there is little variation contributed by these individuals. Second, while multiple partnerships reflect relatively unsafe behavior at all ages, not using a condom at last sex is not unambiguously risky, especially in cases where older individuals are married or in longer term monogamous relationships. Results are presented as marginal effects and robust standard errors are clustered at the household level since there are up to three young adults interviewed per household.

ANALYSIS AND RESULTS

(a) Summary statistics

In Table 1, we present summary statistics separately by race to highlight vast differences in living environments of African and Coloured youth. Except for age, all of these differences are statistically significant across race groups. Both groups were disadvantaged under apartheid, but Coloured individuals were generally able to access better educational and work opportunities in Cape Town than Africans. Mean schooling is about ninth grade, although Africans have on average half a year less schooling than Coloureds. Africans also exhibit poorer performance on the literacy and numeracy test. Coloured youth are significantly more likely to live with their biological mothers (82% compared with 64% for Africans) and fathers (54%

compared with 35% for Africans). Coloured households have a higher mean log per capita income compared with African households. On average, youth live in communities in which 25% of households are below the 2001 poverty line, but this percentage is substantially higher for Africans (45%). Eighteen percent of these young adults lived in households experiencing a serious economic shock between 2002 and 2005. While shocks are observed in households in all income quintiles, they are somewhat more prevalent in the poorest quintiles (results not shown). Almost one in five African youth lives in a household that experienced an economic shock between 2002 and 2005. Across all variables, African youth live in significantly poorer households and communities.

Table 2 shows the percentage of each race, sex and two-year age group reporting each of three sexual behaviors in 2002 and 2005.³ The first panel shows the percentage reporting having ever had sex at the time of the 2002 or 2005 interview. The overall pattern is an increase in sexual activity between 2002 and 2005. About 60% of 17-18 year-old African females reported ever having sex in 2002, compared to 72% in 2005. While sexual activity appears to have increased among young people between 2002 and 2005, the second and third panels of Table 2 show evidence of a decrease in risky sexual behavior. Condom use at last sex for male and female Africans is significantly higher in 2005 than in 2002 across all age groups except males aged 17 and 18. For African females, these increases are very large - around twenty percentage points or higher for each age group. There is also some evidence of increased condom use among Coloured females, although both the initial level and the increase between waves is smaller for Coloured females than for African females.

The changes in condom use between 2002 and 2005 are shown graphically in Figure 1, using single years of age from 17 to 22. Reported condom use by African females increases at every age between 2002 and 2005. The proportion of 17-year-old African females who reported using a condom at last sex rose from 50% in 2002 to 82% in 2005. In contrast, Coloured females consistently report lower rates of condom use than African females at every age, and there is less evidence of an increase in condom use over time for young Coloured females. Higher rates of marriage at young ages cannot explain this significantly lower rate of condom use among Coloured females, since only 4 to 5% of African and Coloured females are married by ages 17 to 22 in 2002.⁴

The third panel of Table 2 shows the changing prevalence of multiple sexual partners by age, race and sex. There is a fairly consistent pattern of decreasing unsafe sexual behavior for all groups. Among African females, 22% of 17-22 year-olds reported having multiple sexual partners (not necessarily concurrently) in the last 12 months in 2002, compared to 11% in 2005. For African males, this decrease is even larger - 55% of African males reported multiple partners in 2002, falling to 37% in 2005. Coloured males also show a decline in the incidence of multiple partnerships across all age groups.

(b) Probit regressions

Table 3 presents probit results analyzing the determinants of sexual debut between 2002 and 2005, condom use at most recent sex in 2005, and multiple partners in the last year in 2005. For condom use and multiple partner outcomes, we include a dummy variable for whether sexual debut had occurred by 2002, to capture differences in behavior between those who make an early versus late sexual debut.

³Note that for Table 2 we do not follow the same individuals over time, but simply look at the cross-section of respondents in a given age group in each wave. Since the original sample of 14-22 year-olds was 17-25 in 2005, we look at the ages from 17-22, the ages that overlap in the two waves.

⁴In 2005, only 3.4% of Coloured females and 1.6% of African females aged 17 to 22 were married.

Three main points emerge from these results. First, African and Coloured behavior is statistically significantly different on all outcomes except for male sexual debut in 2005. These differences are large but do not consistently reflect more risky behavior on the part of African youth. Compared to Coloured females, African females have a 33.6 percentage point higher probability of sexual debut and an 8.4 percentage point higher prevalence of multiple partners, controlling for the other variables included in the probits. At the same time, African females have a 52.6 percentage point higher probability of using a condom at last sex.⁵

Second, higher levels of education are associated with more unsafe behavior for females and males. Controlling for age and the other variables in Table 3, those with more schooling are more likely to have had sex and more likely to report multiple partners. Yet higher scores on the 2002 literacy and numeracy test are associated with a statistically significant lower probability of sexual debut and a lower likelihood of multiple partnerships for both sexes. A young adult with one standard deviation higher score on the test has a 5 percentage point lower probability of sexual debut between 2002 and 2005.

A third point relates to the set of economic variables. Per capita household income has a small and statistically significant negative correlation with probability of female sexual debut. A 10% increase in 2002 income is associated with a 0.6 percentage point decline in the probability of sexual debut between 2002 and 2005. The estimated marginal effect of income on sexual debut is also negative for males but not statistically significant at conventional levels. Males are less likely to report condom use at last sex if they live in poorer communities: at the mean community level poverty rate of 0.25, this is an 11 percentage point reduction in the probability of condom use at last sex. Females are 0.03 percentage points more likely to report multiple partners if they live in a household experiencing an economic shock. We tested the joint significance of all of the economic variables (household per capita income, household shock and community poverty) and could not reject that the coefficients were jointly zero in each regression.

DISCUSSION

Three main findings emerge from our analysis of the panel data of 2,993 Cape Town youth. First, for young people aged 17 to 22, we document large and statistically significant increases in the probability of sexual debut for females of both races, increased condom use at last sex for African females, African males, and Coloured males, as well as significant reductions in reporting of multiple sexual partnerships. Changes in household or community level economic resources are unlikely to explain these behavioral changes, both because we estimate relatively small effects of income on sexual behavior and because there are only small improvements in economic conditions over this period. It is also unlikely that these differences arise from a change in social desirability pressure towards answering sensitive questions in particular ways: these young adults are reporting increases in risky behavior (sexual debut) at the same time as increases in protective behaviors (more condom use, fewer multiple partnerships).

Our main interest in this paper related to whether household or community poverty variables could predict risky behavior of young adults and, in particular, whether sexual behavior is affected by unexpected income shocks. However, after controlling for detailed individual and family background variables, we find little of the variation in sexual behavior in 2005 is predicted by economic variables. Where household income and economic shocks are significant, their marginal effects are relatively small compared to other variables. Thus, our second finding is that for the sample of young adults in urban Cape Town, there is little evidence

⁵Since the sample changes across outcome variables, the group of girls in column (1) is a subset of the girls in column (3).

that community or household level income or income shocks are the main factors influencing risky behavior.

Taking our first two findings together, it appears that at least in Cape Town there are significant increases in condom use and decreases in the number of sexual partners, changes that cannot be explained by individual behavioral change appears to be taking place.

The third main finding relates to the role of education in predicting sexual risk behaviors. We do not see a protective impact of grade attainment *per se*, although we do find that test scores are positively correlated with safer sexual behaviors. Surprisingly, we find a significant positive association of schooling with sexual debut for females and with multiple sexual partners for both males and females, controlling for age, household income, and other variables. One interpretation of our results is that the test score variable captures some of the differences in knowledge or ability that education usually measures - hence, youth with higher numeracy and literacy skills are less likely to report risky behaviors. We speculate that the unexpected positive association between schooling and risky behaviors may be due to the impact of peers within the school system. There is a great deal of grade repetition in South Africa [21] with a wide mix of ages in any given grade. A 17-year-old in Grade 11 interacts with a much more sexually active group of peers than a 17-year-old in Grade 8. Further research will be required to understand why years of education may not have the protective effect that is usually hypothesized.

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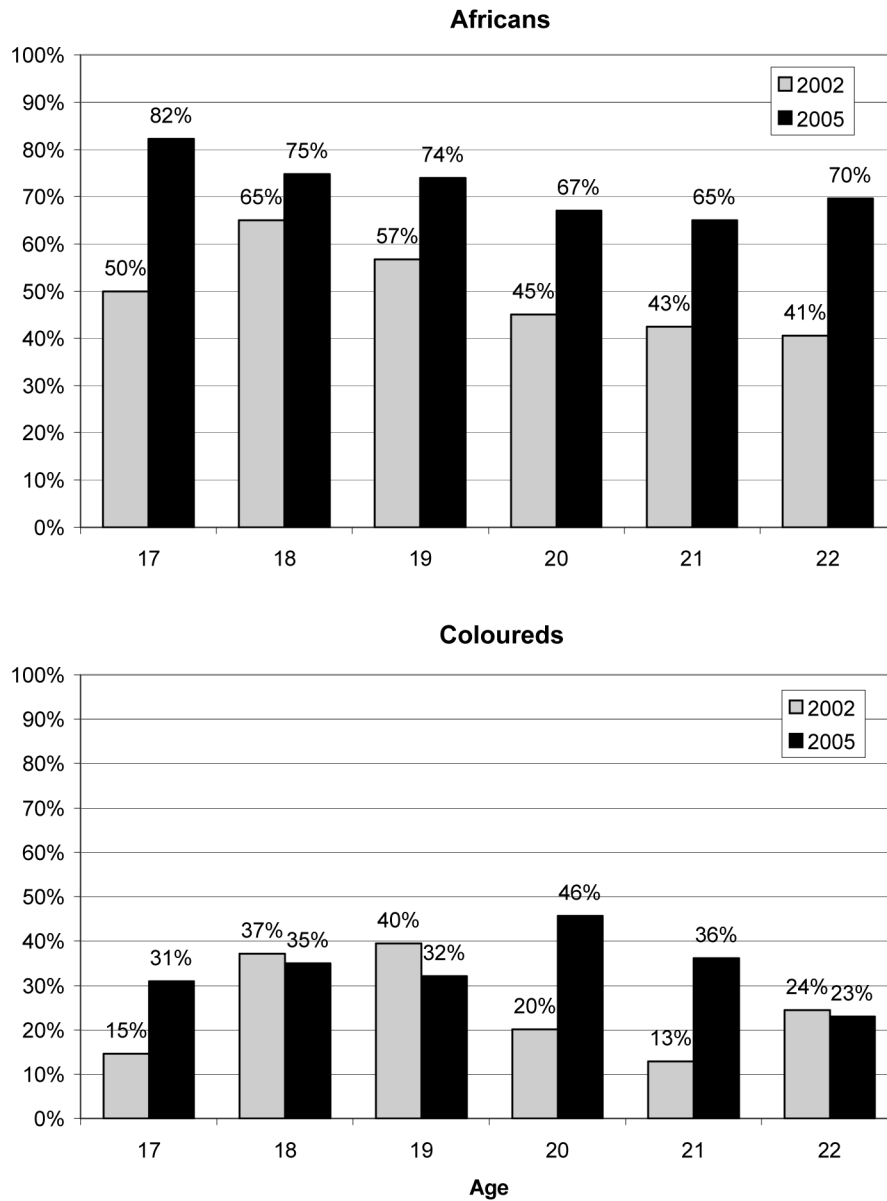


Figure 1. Percentage of females reporting condom use at last sex, Cape Area Panel Study 2002 and 2005

Notes: Only girls who report having had sex before are included in this sample. Percentages are weighted to correct for sampling design and Wave 1 non-response. See Table 2 for overall sample sizes.

Table 1
Descriptive statistics of matched Africans and Coloured young adults

	African	Coloured	Full sample
Variables measured in 2002			
Proportion female	0.54	0.51	0.52
Age in 2002	17.93 (2.51)	17.72 (2.45)	17.79 (2.47)
Years of schooling	8.89 (2.20)	9.44 (2.06)	9.27 (2.12)
Resides with biological mother	0.64	0.82	0.76
Resides with biological father	0.35	0.54	0.48
Literacy and numeracy test z-score	-0.46 (0.87)	0.18 (0.83)	-0.02 (0.89)
Log per capita household income	5.60 (0.95)	6.57 (0.87)	6.28 (1.00)
Household income imputed	0.04	0.05	0.05
Community poverty rate (2001 census)	0.45	0.17	0.25
Variables measured between 2002-2005			
Negative economic shock	0.24	0.16	0.18
N young adults	1410	1583	2993
N households	999	1184	2183

Notes: Sample consists of all African and Coloured young adults interviewed in 2002 and again in 2005. All statistics (means and standard deviation in parentheses) are weighted by the individual youth weight that corrects for sample design and non-response in the first wave. Household shock variable is =1 if any adult in the household died between 2002 and 2005, or if the household experienced a moderate or large financial shock due to any of the following between 2002 and 2005: job loss, loss of a grant, loss of financial support from outside of the house or other reason. All variables are statistically significantly different ($p = 0.05$) across race groups, except for age which is not different across the two groups.

Table 2
Percentage of CAPS respondents in three categories of sexual behavior, 2002 and 2005

Age	African female		African male		Coloured female		Coloured male	
	2002	2005	2002	2005	2002	2005	2002	2005
<i>Ever had sex</i>								
17-18	60.4	71.6**	59.2	64.6	22.2	30.7**	35.9	37.4
19-20	84.4	87.8	79.5	87.8*	52.1	56.3	61.0	68.8
21-22	88.0	96.4***	86.7	88.1	70.7	63.4	67.5	77.2*
All	76.5	86.8***	74.9	80.1*	44.7	51.1**	51.7	61.8***
N	511	529	418	411	524	594	451	534
<i>Condom use at last sex</i>								
17-18	58.9	77.3***	75.3	79.9	30.5	33.7	74.3	82.8
19-20	51.5	70.5***	76.5	85.0	28.1	40.7*	74.9	61.9**
21-22	41.4	67.3***	68.8	87.5***	17.9	30.5**	55.9	63.3
All	50.4	71.7***	72.0	84.7***	24.9	33.5**	68.2	65.3
N	371	420	296	293	221	272	214	294
<i>Multiple sex partners in last year</i>								
17-18	23.1	12.7*	56.8	39.6**	16.3	4.7*	48	25.1**
19-20	20.5	7.2***	52.5	41.9	4.7	2.4	48	26.9***
21-22	22.3	12.2**	63.3	31.9***	8.9	5.6	43.2	19.2***
All	21.8	10.8***	56.7	36.5***	7.7	3.7*	47.8	24.5***
N	339	406	270	277	194	246	186	253

Notes: Asterisks indicate significance level for test of equality between 2002 and 2005 percentages: * ≤ 0.1 , ** ≤ 0.05 , *** ≤ 0.01 . Sample includes all African and Coloured respondents in 2002 who were followed in 2005. "Ever had sex" = 1 if young person reported ever having had sex in that year's interview. "Condom use at last sex" = 1 if young person reported using a condom at last sex. "Multiple partners in last year" = 1 if young person reported more than one sex partner in the 12 month before the survey. Only respondents who have ever had sex are included in the definitions of condom use and multiple sex partners.

Table 3 Probit regressions for reports of three sexual behavior variables in 2005 - marginal effects

Variables: 2002	Females			Males		
	(1) Ever had sex	(2) Condom at last sex	(3) Multiple partners	(4) Ever had sex	(5) Condom at last sex	(6) Multiple partners
African	0.336*** [0.0611]	0.529*** [0.0741]	0.0849*** [0.0244]	0.097 [0.080]	0.272*** [0.0611]	0.139** [0.059]
Age 15	0.235*** [0.063]	-0.124 [0.11]	0.04 [0.057]	0.152** [0.065]	0.040 [0.083]	-0.156*** [0.057]
Age 16	0.233*** [0.070]	-0.123 [0.11]	0.000 [0.036]	0.349*** [0.064]	-0.018 [0.088]	-0.072 [0.072]
Age 17	0.349*** [0.072]	-0.070 [0.12]	0.012 [0.045]	0.379*** [0.066]	-0.163* [0.097]	-0.075 [0.073]
Age 18	0.167* [0.096]	-0.159 [0.13]	-0.004 [0.036]	0.373*** [0.073]	-0.078 [0.10]	-0.197*** [0.053]
Years of education	0.0520** [0.023]	0.016 [0.024]	0.00838** [0.00411]	0.011 [0.022]	0.024 [0.018]	0.0311*** [0.0111]
Mother at home	-0.043 [0.059]	-0.014 [0.062]	0.004 [0.014]	-0.036 [0.069]	0.047 [0.061]	0.012 [0.040]
Father at home	-0.062 [0.049]	0.04 [0.056]	0.003 [0.014]	-0.019 [0.052]	-0.0868* [0.045]	-0.006 [0.037]
Test score	-0.0650* [0.034]	0.0877** [0.035]	-0.011 [0.0080]	-0.0590* [0.033]	0.029 [0.029]	-0.019 [0.022]
Log per capita household income	-0.0535* [0.029]	0.049 [0.031]	-0.004 [0.0066]	-0.031 [0.031]	-0.008 [0.027]	-0.009 [0.022]
Household shock (2002-2005)	0.076 [0.057]	0.004 [0.062]	0.0377* [0.019]	0.048 [0.062]	0.011 [0.055]	0.065 [0.048]
Community poverty rate	-0.104 [0.22]	-0.375 [0.29]	-0.088 [0.056]	0.317 [0.26]	-0.459* [0.24]	0.002 [0.17]
Ever had sex by 2002		-0.022 [0.058]	0.000 [0.014]		-0.016 [0.048]	0.036 [0.042]
Age 19			0.037 [0.055]			-0.172*** [0.062]
Age 20			-0.026 [0.025]			-0.170*** [0.064]
Age 21			-0.007 [0.035]			-0.230*** [0.048]
Age 22			-0.0358* [0.019]			-0.204*** [0.055]
Observations	686	532	952	545	450	760
Mean of outcome variable	0.47	0.51	0.06	0.49	0.74	0.28
Pseudo R-squared	0.14	0.13	0.10	0.10	0.07	0.05

Robust standard errors in brackets, clustered at household level for multiple observations in the same household: ***p<0.01, **p<0.05, *p<0.1. Results are marginal effects from probit models, evaluated at sample means. Outcome variables are binary dependent variables measured in 2005: "Ever had sex"=1 if respondent had made sexual debut between 2002 and 2005 (conditional on not having had sex by 2002); "Condom use at last sex"=1 if young person reported using a condom at last sex; "Multiple partners"=1 if young adult reported more than one sex partner in the 12 months before the 2005 survey. All independent variables measured in 2002 except for household shock, which is measured between 2002 and 2005. Sample for columns 1 and 4 is respondents aged 14-18 in 2002 who reported not having had sex in 2002 interview. Sample for columns 2 and 4 is respondents aged 14-18 in 2002 who had ever had sex by 2005. Sample for columns 3 and 6 is the full sample of 14-22 year-old respondents in Wave 1 who had ever had sex by 2005. Coefficients that are statistically significantly different across male and female regressions at 5% level: African (for outcome "Ever had sex"), Father at home (for outcome "Condom use at last sex", and age dummies 15, 19 and 21 (for outcome "Multiple partners in last year").