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The Impact of Adolescents' Risky Health Behaviors on Their Later Economic Outcomes

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The impact of adolescents' risky health behaviors on their later economic outcomes

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Abstract

Risky health behaviors such as illicit drug use, smoking, overconsumption of alcohol, violence, and early sexual activity have contemporaneous and intertemporal adverse health and economic outcomes. The health-related and economic costs to individuals and to society overall are particularly pronounced when adolescents are the ones engaging in one or more of such behaviors.

This paper uses longitudinal data from the Philippines (from the Cebu Longitudinal Health and Nutrition Survey) to examine the long-term impact of adolescents' risky behaviors in 2002 (related to sex, tobacco, alcohol, and violence, but not drugs) on their economic outcomes in 2009 (related to participation in the labor force, educational attainment, and family formation). The results reveal that risky behaviors are most likely to affect educational outcomes. Teenagers who smoked at least one cigarette a day were 21% less likely to be in college several years later, and this difference was 17% for those who had an early sexual initiation, and 7% for those who consumed alcohol at least once a week. Labor outcomes were also adversely affected.

1. Introduction

Risky health behaviors such as illicit drug use, smoking, overconsumption of alcohol, poor diet, violence, and early or high-risk sexual activity have contemporaneous and intertemporal adverse health and economic outcomes (Burgess and Propper 1998; Grossman and Markowitz 2005; Cawley and Ruhm 2011; World Bank 2014). The health-related and economic costs to individuals and society overall are particularly pronounced when adolescents are the ones engaging in one or more of such behaviors.

Grossman and Markowitz (2005) found that adolescents are more vulnerable than adults to acquiring the human immunodeficiency virus (HIV) and other sexually transmitted diseases (STDs). One reason for this is that teenagers are more likely to give in to peer pressure to engage in risky sexual activity (World Bank 2014). In the Philippines, the Department of Health (2015) reported that the rate of HIV's prevalence among adolescents increased at an alarming rate of 230% between 2011 and 2015.

The risky behaviors analyzed here include smoking, alcohol consumption, and early sexual activity. According to the Young Adult Fertility and Sexuality Survey conducted in the Philippines in 2013 (YAFS 2013), the proportion of 15- to 24-year-olds who were smoking, drinking, or using drugs at the time of the survey was 19.7%, 36.7%, and 4%, respectively. The percentage of respondents who reported having an early sexual initiation, that is, before the age of 18, increased from 13% in 1994 to 23% in 2013.

A study by Adams et al. (2013) in the United States shows how adolescent behaviors can have intertemporal effects. Women who experienced intimate partner violence (IPV) during adolescence, presumably inflicted by an adolescent partner as well, have lower educational attainment levels compared with those who did not.

Burgess and Propper (1998) found that health-related behaviors during adolescence in the United States (heavy substance abuse, violent behavior, running away from home, and work-related ill-health) led to lower earnings and labor force participation among men ten years later.

Schvaneveldt et al. (2001) examined the relationship of (i) early sexual initiation and (ii) academic goals and achievements, using longitudinal data for the United States spanning 11 years, and found it to be inverse and bidirectional.

This research paper aims to contribute to the existing literature by examining the intertemporal impact of risky behaviors during adolescence on later outcomes, using longitudinal data from the Philippines—from the Cebu Longitudinal Health and Nutrition Survey (CLHNS)—that span about three decades. This study examines several risky behaviors among adolescents during the 2002 survey, namely: (i) the age at which they had their first sexual encounter; (ii) alcohol and tobacco consumption patterns; and (iii) violent tendencies, or violent actions perpetrated against partners. The outcomes of interest, as measured seven years after the initial survey, and once the same adolescents had entered early adulthood (during the 2009 survey), are the following: (i) labor force participation; (ii) family formation; and (iii) educational attainment. If individuals' risky health behaviors are interpreted as a reduction in their health status, human-capital-related outcomes will be affected. Risky behavior may also have demographic effects, for example, on the decision to form a family.

This research paper is an empirical exercise that endeavors to add to the growing literature on the economics of risky behavior in several ways. First, by using relatively extensive and comprehensive measures of risky health behaviors, and economic and demographic outcomes, it extends beyond earlier studies, most of which examined the

relationship of two to three variables. This endeavor may reveal a more nuanced understanding of risky behaviors in general, and their impact in the Philippine context in particular—and this is one of the first papers if not the very first to focus on relevant data from that country. To enrich its analysis, the paper uses various econometric methods and compares them.

The results suggest that adolescents' risky behaviors have an adverse impact on their educational attainment. The results are robust across different measures of educational outcomes. Those who had an early sexual encounter (before the age of 18) were less likely to be in college seven years later (by about 17%), while those who had reported using any form of family planning were more likely to be in college (by about 16%). Smoking also adversely impacted the likelihood of being in college (by 14%); and this negative impact increased (to 21%) if the smoking was daily. Weekly drinking decreased the likelihood of being in college by 7%.

Regarding labor outcomes, adolescent smokers were 8% less likely to be working by the time they were 26 years old than those who quit smoking. The use of family planning positively affected the likelihood of working. Regarding family formation, those who smoked daily were more likely to cohabitate by 2009 (by about 49%) than those who stopped smoking.

The paper is organized as follows. A brief review of the related literature is presented in Section 2. Then, in Section 3, data and methodology are discussed, and, in Section 4, the results are presented. Section 5 concludes.

2. Review of related literature

This section is divided into four subsections—in the first two, studies related to the adverse impact of distinct risky behaviors on education and labor outcomes are

presented. In the third subsection, one study analyzing the relative impact of several risky behaviors is discussed, while in the fourth, studies examining the Philippines are reviewed.

2.1 The impacts of risky behaviors on education

2.1.1 Alcohol and education

In the United States, early alcohol consumption has been shown to have a negative impact on education (Cook and Moore 1993; Koch and Ribar 2001; Chatterji 2006a). Cook and Moore (1993) examined the effect of youthful drinking on years of schooling and the likelihood of college graduation. The authors postulated mechanisms through which an individual's decision to drink can interact with his or her decisions related to schooling. The first finding is that heavy drinking can interfere with learning and classroom performance, and reduces an individual's incentive to continue investing in human capital. Second, since higher education is rationed according to past scholastic performance, heavy drinking could raise the cost of continuing on in school. Because of the potential endogeneity of drinking decisions, the authors used two-stage estimation procedures to establish the causal impact of heavy drinking in high school on schooling outcomes. State-level alcohol policies such as a beer tax and minimum purchase age are used as instruments for alcohol consumption. The study found that high school seniors who were frequent drinkers eventually completed 2.3 fewer years of college compared with those who were not frequent drinkers. Frequent drinkers were categorized as those who drank more than once a week.

To further address the problem of endogeneity, two studies on alcohol use and educational attainment applied alternative empirical approaches. Koch and Ribar (2001) exploited the same dataset as Cook and Moore (1993) and argued that the estimates

produced by the earlier study were relatively imprecise. Koch and Ribar (2001) estimated the effect of (i) the age at which an individual started to drink alcohol on (ii) his or her number of years of schooling by the age of 25. Focusing on a sibling-pair sample, the authors used several empirical methods: the (i) ordinary least squares (OLS) method; (ii) family fixed effects model; and (iii) instrumental variables (IV) model, using a sibling's age upon the initiation of alcohol consumption as the instrument. Their findings suggest that the actual effects of youthful drinking are likely to be small. The upper-bound estimate on the effect of drinking's initiation on later schooling is a 0.47 year-effect for men and 0.36 year-effect for women.

Chatterji (2006a), using panel data from the United States, estimated the association between high school alcohol use and educational attainment variables by age 26, such as graduating from high school on schedule, receiving any type of high school diploma, entering a 4-year college, and graduating from college. The author used Probit and bivariate Probit to address the possibility that unobservable determinants of alcohol use and educational attainment may be correlated with one another. The identifying variables for this analysis are state-level alcohol policies. A constrained bivariate Probit model was also estimated as a solution to the problem of questionable identifying variables. The baseline findings are that alcohol use has large and statistically significant effects on educational attainment. For instance, binge drinking is associated with a 9 percentage point reduction in college entrance. However, the results of the constrained bivariate Probit model, which seeks to improve the precision of estimates, show that alcohol use has no statistically significant effect on education.

2.1.2 Drug use and education

A number of studies in the United States have examined the inverse relationship of drug use in high school and educational attainment (Yamada et al. 1996; Chatterji 2006b; McCaffrey et al. 2010). Yamada et al. (1996), using the Probit method, showed that frequent drinkers were 4.3% less likely to graduate from high school, while frequent marijuana users were 5.6% less likely to graduate. Chatterji (2006b) analyzed the impact of marijuana use in the previous 30 days or cocaine use at any point in a life. Using state-level substance use policies and prices, and school-level variables as instrumental variables for drug use, the analysis indicates that students who reported either type of drug use while in 10th grade were 14% to 28% less likely to be in school at age 26 than those students who did not. For students in 12th grade, this same difference was 5%.

Mccaffrey et al. (2010) analyzed the association between heavy and persistent marijuana use (HPMU), defined as more than three times in the past month, and the likelihood of dropping out of high school. Using propensity score matching (PSM), the results indicate that persistent marijuana users were six times more likely to drop out than students who used it rarely or not at all.

2.1.3 Smoking and education

Zhao et al. (2012), who used (i) the number of vendors registered to sell alcohol and (ii) the food price index at the community level as instruments, found that in rural China one additional cigarette per day among students aged 9–13 can decrease math test scores by 0.076 standard deviations.

2.1.4 Early sexual initiation and educational attainment

Schvaneveldt et al. (2001), using the U.S. National Survey of Children for the years 1976, 1981, and 1987, found that an early sexual initiation (that is, before age 18) was associated with lower educational attainment. Similarly, Parkes et al. (2010), using data

from the United Kingdom, found that an early sexual initiation (in that case, before age 16) and participation in tertiary education were inversely correlated.

2.1.5 Adolescent violence, adult labor, and education

Macmillan (2000) studied the consequences of violent experiences in early life such as sexual assault, robbery, being attacked with a weapon, and being beaten. Macmillan (2000) found that adolescent victims had low overall educational attainment levels and a relatively low occupational status in early adulthood, which enlarged the income gap between them and nonvictims.

Adams et al. (2013) examined how adolescent intimate partner violence (IPV) shaped the economic trajectory of women in terms of their educational attainment and earnings. Using longitudinal data from a sample of adult women in the United States receiving welfare, the authors used statistical methods to model the effects of adolescent IPV on women's educational attainment and earnings growth over 4 years in adulthood. Their findings showed that adolescent IPV produced educational deficits for women and had economic consequences into adulthood—victims earned significantly less and experienced significantly lower earnings growth over time than those who had not experienced violence.

2.2 The impact of risky behaviors on labor outcomes

2.2.1 Alcohol consumption and labor outcomes

A few studies in the United States have shown how heavy drinking during adolescence adversely affects adult labor force participation and earnings (Chatterji and DeSimone 2006; Renna 2007). Chatterji and DeSimone (2006) were among the first to examine the effects of adolescent drinking on young adults' labor outcomes, using data from the United States. The employment status and wages of young adults were regressed ten

years back, against their binge drinking tendencies in 10th grade. The results of OLS and Probit regression models show that for both sexes, binge drinking is statistically significant and negatively associated with employment. In particular, adolescent binge drinking is associated with a lower wage for females (-4.5% to -1.7%) and a higher wage (4.1% to 5.3%) for males. Yet, the effect is not statistically significant for females. The authors raised the issue of unobserved heterogeneity between the two variables of interest. Expanded specifications that attempt to control for all other determinants of adult labor market outcomes were also estimated. Additional covariates include high school academic achievement, educational attainment, adult drinking, adult personal characteristics, state fixed-effects, and job characteristics. Among females, the inverse relationship between binge drinking and adult employment disappears when high school achievement is controlled for in the regression. After controlling for other factors, the results for males persist, wherein binge drinking is negatively related to employment but positively to wages. The authors' findings suggest that when looking at the relationship between the two, unobserved heterogeneity is important to consider in future work.

Another outcome to consider in the long run is the timing of graduation from high school. The earnings of students who graduate after their peers may be lower, since prospective employers can then use the age at graduation to sort low-productivity job workers from high-productivity ones. Given this, Renna (2007) investigated the economic cost of heavy drinking in high school, in terms of lost earnings attributable to the fact that individuals engaged in heavy drinking graduate later than scheduled. Using a longitudinal dataset from the United States and a two-step Probit regression, Renna (2007) estimated the effect of binge drinking on the probability that survey respondents would complete 12 years of education before age 19. The IVs used were variables representing problematic drinkers within a family and an indicator for regular attendance

at religious services. The paper finds that binge drinking has a statistically significant and negative effect on the probability of graduating on time, by as much as 5.2% for women and 14.5% for men. As an extension, the author also performed regression analysis on labor outcomes, such as the probability of working and a logarithm of earnings. The paper also finds that late graduates' incomes were lower, relative to their peers who graduated by age 19. In particular, young men and women who binge drank in high school faced an earnings penalty of 1.5–1.84 percentage points and 2.7 percentage points, respectively. Regarding the women's sample, the author stated that the reduction in earnings was most likely a result of employment in industries and occupations that pay lower overall wages.

Bockerman et al. (2015) explored the adverse consequences of alcohol consumption on long-term labor market outcomes in Finland using identical twins. A longitudinal twin cohort study allowed the researchers to correct for the problem of unobservable factors, which may be correlated with alcohol consumption and labor outcomes. The information on alcohol consumption is retrospective while the long-term labor outcome variables are represented by individuals' average annual employment and earnings over a 20-year period. The authors used OLS to regress labor market measures on alcohol consumption for the entire twin sample. The authors distinguished between dizygotic (DZ) and monozygotic (MZ) twins, and performed regressions within pairs in each sample. The results reveal that heavy drinkers worked, on average, 1 month less per year over the 20-year period, and had considerably lower earnings (by 20%) than moderate drinkers.

2.2.2 Drug use and labor outcomes

Ringel et al. (2006) showed how using illicit drugs in adolescence negatively affects earnings and labor force participation in later life. Ringel et al. (2006) found that daily marijuana use translated to a reduction of USD 15,000–20,000 in annual earnings, on average.

2.2.3 Smoking and labor outcomes

Auld (2005), using the Canadian General Social Survey, and Levine et al. (1997), using the National Longitudinal Survey of Youth from the United States, found a negative relationship between smoking and earnings. Levine et al. (1997) used panel data (from 1984 and 1991) from the United States, but did not test for early smoking and later labor outcomes. Instead, the authors implemented OLS regression analyses on the 1984 sample and 1991 sample separately. The OLS results indicate that smoking reduces wages by 4% to 8%. The authors addressed the issue of endogeneity by differentiating sibling data in the 2 samples (the eldest sibling against the youngest) and also pooling sibling data across the 2 samples. The results of these analyses are consistent with the OLS: smoking is associated with a 6% reduction in wages. Levine et al. (1997) concluded that the statistical methods employed in their study were insufficient to address empirical issues.

Using data from Canada, Auld (2005) provided an empirical analysis of the causal effects of drinking and smoking patterns on income. The author treated smoking and drinking as both exogenous and endogenous. If the variables were exogenous, the income equation was estimated using the maximum likelihood method. The endogeneity of substance abuse with respect to income was addressed using the Probit submodel for smoking and multinomial Probit models for drinking. Auld's findings (2005) are consistent with previous results—all other things being equal, moderate and heavy

drinking are associated with incomes that are higher by 10% and 12%, respectively, than no drinking. Meanwhile, smoking is associated with a reduction in earnings of 8% compared with not smoking. Treating smoking status as endogenous increases the magnitude of this estimated loss, to 24%.

2.3 Comparing the effects of risky behaviors

Burgess and Propper (1998) examined the impact of various health-related risky behaviors enacted during adolescence (heavy substance abuse, violence and extreme violence, and running away from home) on later-life economic chances (earnings, labor supply, poverty rate, and age at first marriage). Using panel data from the United States (National Longitudinal Survey of Youth, 1979–1992) on a restricted sample of men, outcomes were compared with a gap of 10 years, for the same group of respondents.

The authors applied an OLS regression analysis for continuous outcome variables and Logit analysis for binary variables. Their results reveal a negative relationship between health-related behaviors (heavy substance abuse, violent behavior, running away from home, and work-related health problems) and earnings and labor force participation, but not with household formation. They found no significant effect of light substance abuse on all measures of earnings, but marijuana use was significantly associated with a lower labor force participation rate.

2.4 Literature on the Philippines

In the Philippines, among adults aged 10–24, the leading causes of death are attributable to risky behaviors, which include substance abuse, violence, and poor diet, among others. Other risk factors include overweight and mental health issues (Peltzer and Pengpid 2016). Thus far, there have been no studies that comprehensively explore the

empirical relationship between risky behaviors and economic outcomes. But investigative research has examined the patterns and trend estimates of adolescent smoking, drinking, and drug use.

Peltzer and Pengpid (2016) exploited three waves (2003, 2007, and 2011) of the Global School-based Health Survey (GSHS) to determine the prevalence of various risky behaviors among adolescents in the Philippines. Differences in means were then taken to see if changes were significant across time. While it should be noted that the sample included only adolescents who attended school, the study presented a decreasing trend in the use of smokeless tobacco among boys, the likelihood of being in a physical fight among boys and girls, and troubles from alcohol drinking.

Choe and Raymundo (2001) used the Philippine Young Adults Fertility Survey (YAFS-II) to show the prevalence of risky behaviors decomposed by age and gender. They also examined the initiation of drinking, smoking, and drug abuse and their possible determinants, including family background, and life-cycle and individual characteristics.

Fehringer and Hindin (2009) used data from the CLHNS to investigate the relationship between witnessing interparental violence during childhood and the experience of violence in adult partnerships—in other words, the intergenerational transmission of interpersonal violence. They used multinomial logistic regression to assess whether or not individuals who witnessed parental violence as a child were likely to be perpetrators or victims of violence during adulthood. The findings revealed that witnessing parental violence was associated with a higher probability of being the victim of a violent act than being a perpetrator.

Ramiro et al. (2010) examined the association between adverse childhood experiences, risky behaviors, and chronic conditions in adult life. To do this, they conducted a survey in selected villages in Quezon City in Metro Manila, using the Adverse Childhood Experiences Questionnaire as a template. The authors estimated an odds ratio between (i) adverse childhood experiences, and (ii) risky behaviors and health conditions. Survey respondents who experienced negative events during their childhood were more likely to smoke, use drugs or alcohol, or engage in risky sexual activity. The study also found a strong relationship between the number of exposures to negative events during childhood and poor health, especially asthma, skin diseases, digestive disorders, and mental health disorders.

3. Data and methodology

This section is divided into three subsections, analyzing our process of data preparation, descriptive statistics, and our empirical model.

3.1 Data preparation

This study depends on the CLHNS, which monitored and tracked a cohort of Filipino women who gave birth between May 1, 1983, and April 30, 1984. Their index children were also monitored in succeeding follow-up surveys. We will consider the risky behaviors of these index children in 2002 and examine several key outcomes, in the years 2005, 2007, and 2009.

3.1.1 Dependent variables

Three later-life outcomes are identified as the dependent variables: (i) labor outcomes, (ii) education outcomes, and (iii) family formation outcomes.

3.1.1.1 Labor outcomes

Labor outcomes are measured using the following variables derived from the year 2009: (i) a binary variable capturing whether the index child is currently working; (ii) a binary variable that captures whether the index child's primary job is as a wage worker; (iii) a binary variable for a secondary job; and (iv) four discrete variables capturing the type of primary job—agricultural (farming and fishing), wage/salary work, or self- or family-employed.

3.1.1.2 Education outcomes

To measure educational attainment by 2009, three dependent variables were generated: (i) a binary variable that captures whether the index child is at least a high school student; (ii) a binary variable equal to 1 if the index child is at least a college student; and (iii) three binary variables that pertain to the highest educational level attained (primary school, high school, or college and postgraduate studies).

3.1.1.3 Family formation

Only one variable measures the index child's family formation—a binary variable that captures the year when the index child first got married or cohabitated.

3.1.2 Independent variables

3.1.2.1 Risky behaviors

Risky behaviors were introduced to the analysis in 2002, when the index children were in their adolescence (aged 17–19). There are four such behaviors identified: (i) sexual activity, (ii) smoking, (iii) alcohol consumption, and (iv) interpersonal violence.

A. Sexual behavior

For sexual behavior, we generated three variables: (i) a discrete variable that measures whether the index child's sexual initiation had occurred by the year 2002; (ii) a discrete

variable capturing the use of family planning by the index child; and (iii) a continuous variable capturing the age at which the index child had his or her first sexual encounter.

B. Smoking

Four variables are used to measure the smoking behavior of the index child in 2002: (i) a discrete variable pertaining to whether the child ever smoked; (ii) a categorical variable capturing the frequency of smoking (at least once a day, not daily, and had quit smoking); (iii) a continuous variable corresponding to the daily consumption of cigarettes; and (iv) the age at which the child first started to smoke.

C. Alcohol consumption

Three variables correspond to the index child's drinking behavior in 2002: (i) a binary variable indicating whether the child ever consumed alcohol; (ii) a categorical variable capturing the frequency of alcohol consumption (every day, every week, on occasion, and had stopped drinking); and (iii) the age at which an index child had his or her first drink.

D. Interpersonal violence

For the analysis of interpersonal violence, the index child is identified as an aggressor or the victim of violence, which is categorized as (i) physical violence (stomping, pushing, smashing, hitting, and throwing things); and (ii) verbal violence (nagging, swearing, and yelling).

3.1.2.2 Control variables

The control variables for labor and education outcomes are derived from the 2009 survey and are categorized into index child characteristics (age and gender), and household characteristics (urbanity, household size, gender of the household head, and demographic composition). The control variables for family formation are derived from

the years when the index child got married or cohabitated, which could be 2002, 2005, 2007, or 2009.

3.2 Descriptive statistics

3.2.1. Dependent variables

3.2.1.1 Labor outcomes

It can be gleaned from Table 1 that in the span of three survey years (2002, 2005, and 2007), on average, 58% of the index children were working, about 73% were wage earners, and about 7.5% had a second job. In addition, on average, about 25% were self- or family-employed, and about 1.4% were working in the agricultural sector.

3.2.1.2 Family formation

In the year 2005, out of the 532 married index children, the mean age of first cohabitation or marriage was 19 years old, by 2007 it was 20 years old, and by 2009 it was 21 years old.

3.2.1.3 Education outcomes

On average (over the three survey years), 56% of the index children completed high school education while about 28% completed college and about 16% either finished primary school or had not reported completing a grade level.

3.2.2. Independent variables

In Table 2, we report the index children's risky behaviors in 2002. Of the 2,051 index children, about 26% had experienced sexual initiation and about 51% were using some kind of family planning. The corresponding mean age of sexual initiation among the index children was 16 years old.

Likewise, in 2002, about 51% had already smoked, 38% smoked at least once a day, 14% smoked but not on a daily basis, and 48% had stopped smoking. The mean age

of the first smoke was 15 years old. Among those who smoked daily, the average consumption was around seven cigarettes.

About 80% of the index children had ever consumed an alcoholic beverage. Of this share, less than 1% had a daily drinking habit, about 12% drank weekly, 64% drank occasionally, and 24% had stopped drinking. The mean age of the first drink was about 16 years old.

Interpersonal violence corresponds to cases wherein the index child was the victim or the perpetrator. In cases where the index child was the victim, 26% experienced physical violence and 42% verbal violence. About 34% of the index children inflicted physical harm on a partner and about 60% were verbally abusive.

3.2.3 Control variables

In 2002, the index children were adolescents with a mean age of 18 and by 2009 they were young adults with a mean age of 25; half of the index children were male, and half female. On average, during the survey years 2002, 2005, 2007, and 2009, 70% lived in urban areas. The mean household size was about five members. About 80% of households were headed by males. In the earlier years, household composition was comprised largely of 15- to 24-year-old males. In the later years, however, the households were mainly comprised of 25- to 59-year-old males.

3.3 Econometric models

This study analyzes the impact of four measures of adolescents' risky behaviors in 2002 (sexual activity, consumption of tobacco, consumption of alcohol, and violence) on three economic outcomes in 2005, 2007, and 2009 (labor outcomes, educational attainment,

and family formation). The first model, depicted in Eq. 1, examines the relationship of a child's risky behavior in 2002 on later labor outcomes in 2009.

$$Labor_{i,2009} = b_0 + b_1 RiskyBh_{i,j,2002} + b_2 X_{i,2009} + u_{i,2009} \quad (1)$$

where $Labor_i$ represents the later labor outcomes of the index child i as of 2009; $RiskyBh_{i,j,2009}$ is the j^{th} risky behavior of the index child i in 2002; $X_{i,2009}$ is a vector of the household and index child characteristics that affect the later-life outcomes of the index child in the year 2009; and $u_{i,2009}$ is the error term that varies across index children. Eq. 1 is estimated using Probit for labor outcomes in 2009 that are measured as discrete variables such as whether the index child was working, whether he or she was a wage worker, or had a second a job. Eq. 1 is also estimated using multinomial logit (Mlogit) for labor outcomes that are measured as categorical variable such as type of main job (wage worker, agricultural, or self-employed).

Eq. 2 shows the impact of individual risky behaviors on the educational attainment of the index child.

$$Educ_{i,2009} = b_0 + b_1 RiskyBh_{i,j,2002} + b_2 X_{i,2009} + u_{i,2009} \quad (2)$$

where $Educ_i$ is the educational attainment of the index child i as of 2009. The rest of the variables are similar to those in Eq. 1. Similar to Eq. 1, Eq. 2 is also either estimated using Probit (for binary measures of educational outcome such as whether the child was a high school, or college student during the 2009 survey year) and Mlogit (for the highest grade completed).

The Cox Proportional Hazards Model is used to estimate the hazard ratios of an index child getting married or cohabitating early, conditional on risky behaviors during adolescence (in 2002):

$$h(t | RiskyBh_{i,j,2002}) = h_0(t) \exp(b_1 RiskyBh_{i,j,2002} + b_2 X_{it}) \quad (3)$$

where $h(t/RiskyBh_{i,j,2002})$ is the hazard function, which is a function of risky behavior in 2002, which determines the probability that the index child i marries or cohabitates; and $h_0(t)$ is the baseline hazard—that is, the hazard that the index child i faces is multiplicatively proportional to the baseline hazard. The function $\exp(.)$ was chosen to ensure a non-negative hazard function; and X_{it} is a vector of household and child characteristics where t corresponds to the time the index child got married or cohabitated.

4. Results

4.1 Base model (Simple Regression Analysis)

4.1.1 Labor outcomes

Table 3 presents the results of the simple regression for the four labor outcome measures. For sexual activity during adolescence, those who had an early sexual initiation (before the age of 18) were about 7.5% less likely to be wage workers and about 8% more likely to be self-employed. However, the use of any form of family planning had a positive impact (10%) on the probability of working.

For smoking, those who had ever smoked by 2002 were about 5% more likely to be self- or family-employed. Children who smoked at least one cigarette daily were about 10% less likely to be wage workers, and 3% and 7% more likely to be in the agricultural sector and self- or family-employed, respectively.

For drinking, a different result is observed. Those children who had consumed an alcoholic beverage by 2002 were 6% more likely to be employed in a salaried job in 2009 than to be self- or family-employed.

4.1.2 Educational outcomes

Table 4, which presents the simple regression results for the three education outcomes, shows that those children who had experienced their first sexual encounter by 2002 were 10% less likely to be at least a high school student (or 10% more likely to have attained only primary education), while those who used any kind of family planning were 9% more likely to be at least a high school student than those who did not.

A similar adverse effect is observed for those who had smoked by 2002: they were about 10% less likely to be at least a high school student than those who had not smoked. Those who smoked at least once daily were 15% less likely to be at least a high school student, relative to those who had stopped smoking.

As expected, given previous results regarding educational outcomes, there is an inverse correlation between adolescent risky behaviors (early sexual initiation, use of family planning, and smoking) and college completion. Index children who were sexually active in their adolescent years were about 23% less likely to attend college, while those who used any form of family planning were 17% more likely to complete college. Age of first sexual encounter is found to be inversely correlated with college education. Children who smoked were about 14% less likely to attend college relative to non-smokers, while those who smoked at least once daily were about 21% less likely to attend or complete college than those who had already stopped smoking.

Index children with a weekly drinking habit were 9% less likely to be in college than those who drank occasionally. However, those who had stopped drinking were also about 6% less likely to be college educated than those who drank occasionally. This should be interpreted with caution, since the data do not reveal the details of past drinking behaviors, which may have had lasting and adverse effects before they were

stopped. It is also interesting to note that the age the index child started drinking is inversely correlated with being in college.

Using the MLogit econometric strategy, it was found that those who were sexually active in their adolescent years were about 23% less likely to be in college and about 10% more likely to be in primary school than in high school. On the contrary, those who used any family planning method were about 9% less likely to be in primary school and about 18% more likely to be in college than to be in secondary school, which is consistent with the other measures of educational attainment. Age of first sexual encounter is found to be inversely correlated with college education.

Smoking during adolescence resulted in lower educational attainment—smokers were about 10% more likely to be in primary school and about 14% less likely to be in college. Those who smoked at least one cigarette daily in 2002 were about 15% more likely to be in primary school and about 21% less likely to be in college in 2009.

The adverse impact of drinking during adolescence is consistent with the previous measures of educational attainment—those who had a weekly drinking habit had a 9% smaller chance of getting into college compared to those who drank frequently. Age of the child when he or she started drinking is negatively associated with college education.

4.1.3 Family formation

Table 5, which presents the results of Stcox regressions for family formation, shows that index children who had an early sexual initiation (2002) were more likely to form a family at an earlier age than those who were not sexually active during their adolescent

years (about 63% higher hazard). Similarly, those who used family planning had a higher hazard (by about 25%).

While smoking daily resulted in earlier family formation (about 23% more likely) than having quit smoking, those who smoked in 2002 were actually about 32% less likely to get married or cohabitate early than those who did not smoke during adolescence.

The results discussed, thus far, are limited to simple regression and should be interpreted with caution. The next section presents the multiple regression results with additional control variables.

4.2 Base model (Multiple Regression Analysis)

Tables 6, 7, and 8 depict the results of multiple regression, controlling for the location and demographic characteristics of the index child and his/her household.

4.2.1 Labor outcomes

Table 6.1 presents Probit regression results for the labor outcome variable “currently working.” Index children who used any kind of family planning during their early sexual activity (as of 2002) were about 12% more likely to be currently working by the year 2009 than those who did not (column 2). Adolescent smokers who smoked only occasionally were 8% less likely to be currently working relative to those who had stopped smoking (column 6). For those who had experienced interpersonal violence, it can be gleaned from Table 6.1 that index children who were verbally abused in 2002 were 7% more likely to be currently working after 7 years and those who were physically violent in 2002 were also about 7% more likely to be working compared with those who were not violent (columns 12 and 13, respectively).

For the second measure of labor outcome, “wage worker” (Table 6.2), those who smoked at least one cigarette daily were about 12% less likely to have a salaried job compared with those who had already stopped smoking (column 6). And as daily cigarette consumption increased, the probability of having a salary or being a wage worker decreased by about 1.4% (column 7). Drinking during adolescence had inconsistent results—those who consumed alcohol by 2002 were more likely (7%) to have a salaried job, while everyday drinking resulted in a lower probability (about 47%) of having a salaried job (columns 8 and 10, respectively).

For the third measure of labor outcome, “has a second job” (Table 6.3), the later the index child first had sex, the smaller the probability (by about 2%) of having a secondary job (column 3). Smoking during adolescence resulted in a lower probability (about 5%) of having a secondary job (column 4). The frequency of smoking during adolescence also affected this labor outcome 7 years later—those who smoked irregularly and those who smoked daily were about 12% and 8%, respectively, less likely to have a second job than those who had stopped smoking (column 6). Similarly, adolescent drinking resulted in a lower probability of having a second job—those who had a weekly drinking habit were about 6% less likely to have a second job while those who had stopped drinking were more likely to have a second job compared to those who drank occasionally (column 10).

The fourth measure of labor outcomes involves an Mlogit regression (Table 6.4). Index children who had an early sexual initiation were about 5% more likely to be self- or family-employed than to be salaried workers (column 2). We take note that family-employed index children, in this case, did not receive any remuneration from their families. In addition, index children who smoked at least once a day were about 9%

more likely to be self- or family-employed than to be salaried workers (column 8). The number of cigarettes smoked daily is also positively correlated (about 1%) with being self- or family-employed (column 10). Drinking had conflicting results—index children who were drinking in 2002 were about 7% more likely to be salaried/wage workers than be self-employed (column 12), while those who had a daily drinking habit were about 33% more likely to have an agricultural job, like fishing or farming, than a salaried job (column 15).

4.2.2 Education outcomes

Tables 7.1 to 7.3 present the regression results using three different measures of education outcomes. Table 7.1 corresponds to the first measure, when the index child's highest educational attainment is at least high school. The Probit results show that although index children who were sexually active during adolescence were about 7% less likely to be in high school (or 7% more likely to be in primary school), those who used any kind of family planning were about 10% more likely to complete high school (columns 1 and 2, respectively). In addition, the later the sexual initiation, the lower the probability of entering or completing high school (about 3%) compared to those who had an earlier sexual initiation (column 3).

Smoking has a clearly adverse impact on educational attainment—those who smoked during adolescence were about 8% less likely to be in high school (or 8% more likely to be in primary school) and those who smoked daily were 14% less likely to be in high school compared to those who had stopped smoking (columns 4 and 6, respectively). Adolescent drinking had conflicting results—while those who had a daily drinking habit were 40% less likely to be in high school than those who drank

occasionally, those who stopped drinking were also less likely to be in high school, albeit by a small percentage (4%), relative to those who drank occasionally (column 10).

Table 7.2 shows the Probit results after regressing risky behaviors on college entrance, which are consistent with the results in Table 7.1, where high school was used as a measure for educational attainment. Children who had engaged in sexual activity by 2002 were about 17% less likely to enter or complete college compared with those who had not (column 1); however, those who used any form of family planning were about 16% more likely to be at least a college student (column 2). Smoking adversely affected education, decreasing a child's probability of being at least a college student in 2009 by about 14%; if the child smoked daily, the probability dropped by about 21% (columns 4 and 6, respectively). Similar to Table 7.1, the results for drinking in Table 7.2 are conflicting—as the age of the first drink increases, the probability of being in college lowers (by about 1%; column 9), while a weekly drinking habit or quitting drinking decreases the likelihood of being in college by about 7% and 5%, respectively, relative to drinking occasionally (column 10).

Table 7.3, which presents the regression results using Mlogit, reveals that relative to being in high school, children who had an early sexual orientation were about 7% more likely to be in primary school and about 17% less likely to be in college (columns 1 and 2, respectively). Among those who were sexually active by 2002, those who used any form of family planning were about 10% less likely to be in primary school and about 16% more likely to be in college (columns 3 and 4, respectively). These results are as expected, since family planning methods may have prevented unwanted pregnancies and STDs, which could have resulted in a delay in education or even prompted a student to quit school altogether. The age of sexual initiation, however,

is negative and statistically significant—as the age of sexual initiation increased by 1 year, the index child was about 3% less likely to be in college (column 6).

Adolescent smoking and educational attainment had an inverse relationship—those who smoked by 2002 were about 9% more likely to be in primary school and about 14% less likely to be in college by 2009 (columns 7 and 8, respectively). Similarly, those who smoked daily in 2002 were about 14% more likely to be in primary school and about 21% less likely to be in college by 2009 relative to those who had stopped smoking (columns 11 and 12, respectively).

The impact of adolescent drinking on educational attainment is robust across different measures. The age at which an index child had his or her first drink is inversely related to college education, suggesting that those people who started drinking later were less likely (by about 1%) to be college educated (Column 18). A daily drinking habit was correlated with being in primary school far more (by about 37%) than being in high school (column 19). Those who had a weekly drinking habit had a smaller probability of being in college (about 8%), while those who had stopped drinking also had a smaller probability of being in college (about 6%) than those who drank occasionally (column 20).

4.2.3 Family formation

Table 8 shows the results of modeling the impact of risky behaviors on early family formation using a duration model (Cox hazard model). Some of the risky behaviors did not result in early family formation. First, those who had an early sexual orientation were less likely (with a hazard of about 82% less) to have formed a family by 2009 (column 1). Second, those who had ever smoked during adolescence were also less likely (by about 78%) to marry or cohabitate early (column 3). Third, those who smoked

irregularly were more likely to marry or cohabit early (by about 49%) relative to those who had stopped smoking during adolescence (column 4). Fourth, as the number of cigarettes smoked daily increased, the probability of forming a family early decreased (by 3%; column 5). Fifth, those who had consumed alcohol by 2002 were also less likely (by about 65%) to form a family early.

5. Conclusion

This paper examines the long-term impact of adolescents' risky behaviors on their labor force participation, family formation, and educational attainment during early adulthood. It is important to determine intertemporal impacts. Until now, most studies of the Philippines have examined only the contemporaneous effects, focusing on trends and descriptive analyses but ignoring lasting adverse effects and actual costs.

This analysis shows that the risky behaviors of adolescents have adverse long-term effects on their educational attainment and labor force participation as young adults, and these results are consistent with the existing literature (Cook and Moore 1993; Levine et al. 1997; Koch and Ribar 2001; Schvaneveldt et al. 2001; Chatterji and DeSimone 2006; Chatterji 2006a; Renna 2007; Parkes et al. 2010; Zhao et al. 2012; Bockerman et al. 2015). In particular, those adolescents whose sexual initiation occurred before the age of 18 were 17% less likely to have a college education. This result is robust across different measures of educational outcomes and across different econometric strategies (Probit and MLogit). Those who used any form of family planning, however, were 16% more likely to be in college. The positive effect of family planning extends to labor force participation.

Smoking during adolescence had an adverse impact on the educational attainment and labor outcomes of early adults. Teens who smoked daily were 21% less

likely to be in college and those who smoked occasionally were 8% less likely to be working seven years later. In addition, those who smoked daily were more likely to form a family early (by 49%) compared with those who had stopped smoking.

Those who had a weekly drinking habit, on the other hand, were 7% less likely to be in college while those who had a daily habit were less likely to be wage or salaried workers. Experiences of violence during adolescence, whether as perpetrators or as victims, had a counterintuitive positive impact on labor force participation. This result requires further investigation, and could be due to any number of weaknesses or limitations in the analysis.

The endogeneity of a risky behavior is yet to be tested and corrected. Further research is planned to instrument for risky behavior or to differentiate the economic outcomes of those who engaged in one or more risky behaviors from those who did not, assuming similar characteristics. In addition, the intersection of risky behaviors needs to be incorporated into the analysis to produce more detailed and representative results. For example, heavy drinking and drug use combined are likely to have a more pronounced negative impact on educational attainment and labor participation than is heavy drinking alone.

It would also be helpful to account for family characteristics (such as the type of household, level of income, and educational attainment of parents). For example, parental absence during adolescence, perhaps due to parental migration or separation for other reasons, could translate into physical and emotional neglect and be a factor in an adolescent's decision to engage in a risky behavior. The consumption of illicit drugs as a risky behavior and earnings as a labor outcome have been excluded from the analysis due to data limitations; however, future research might consider them when the data

become available. It is also interesting to differentiate the results by gender since the literature and stylized facts suggest that adolescent boys are most likely to engage in risky activity.

Addressing the above-mentioned limitations and weaknesses will provide a more nuanced understanding of the long-term impact of adolescents' risky behaviors, and also better identification strategies. It will help policymakers consider not only the short-term health-related and economic costs of adolescent smoking, drinking, drug use, and early sexual initiation but also the long-term costs in terms of reduced labor productivity (either due to resulting poor health or a lack of education); health costs (that will possibly be shouldered by the government); and social costs—if, for example, heavy substance abuse results in crime.

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Table 1 Descriptive statistics for dependent variables (mean, standard deviation)

Covariate	Description	Survey years		
		2005	2007	2009
<i>Labor force participation</i>				
IC is currently working ^{a/}	=1 if IC is currently working	0.559 (0.497)	0.527 (0.499)	0.654 (0.476)
<i>N</i>		1,876	2,069	1,719
IC is a wage worker	=1 if IC is a salaried or wage worker	0.710 (0.455)	0.781 (0.414)	0.709 (0.454)
IC has a second job	=1 if IC has a second job apart from his/her main job	0.028 (0.166)	0.068 (0.253)	0.128 (0.334)
IC's main job (categorical)	Agricultural	0.010	0.014	0.017
	Self- or family-employed	0.281	0.205	0.274
	Wage/salary worker	0.710	0.781	0.709
<i>N</i>		317	1,081	1,129
<i>Family formation</i>				
IC's age as of first marriage or cohabitation	IC's age as of first marriage or cohabitation	19.070 (1.738)	20.224 (2.274)	21.246 (2.762)
<i>N</i>		532	572	1,021
<i>Educational attainment</i>				
IC is at least a high school student	=1 if IC is at least a high school student	0.846 (0.361)	0.818 (0.386)	0.869 (0.337)
IC is at least a college student	=1 if IC is at least a college student	0.278 (0.448)	0.209 (2.297)	0.362 (0.481)
IC's highest educational attainment (categorical)	Primary ^{b/}	0.154	0.182	0.131
	Secondary	0.568	0.609	0.507
	Tertiary ^{c/}	0.278	0.210	0.362
<i>N</i>		1,900	716	1,593

Notes: ^{a/} IC = Index Child. ^{b/} Primary also includes index children who completed no grade.

^{c/} Tertiary includes also those who proceeded to graduate studies.

Table 2 Descriptive statistics for independent variables (mean, standard deviation)

Covariate	Description	2002
<i>Sexual behavior</i>		
IC ever had sex	=1 if IC ever had sex	0.255 (0.436)
<i>N</i>		2,051
IC used FP	=1 if IC used FP method/s	0.509 (0.500)
IC's age at sexual initiation	Average age of ICs' first sexual encounter	16.398 (1.514)
<i>N</i>		519
<i>Smoking</i>		
IC ever smoked	=1 if IC ever smoked	0.511 (0.500)
<i>N</i>		2,050
IC's age when first smoked	Average age IC first tried smoking	15.235 (2.304)
Frequency of smoking	Smokes at least once daily Smokes, but not daily Stopped smoking	0.378 0.138 0.484
<i>N</i>		1,048
Cigarettes consumed daily	Average number of cigarettes IC consumes daily	6.606 (5.644)
<i>N</i>		396
<i>Drinking</i>		
IC ever drunk	=1 if IC has ever drunk alcoholic beverage	0.799 (0.401)
<i>N</i>		2,050
IC's age at first drink	Average age IC first tried drinking alcohol	15.814 (2.005)
Frequency of drinking	Every day Every week Only occasionally Stopped drinking	0.004 0.116 0.641 0.239
<i>N</i>		1,638
<i>Interpersonal violence</i>		
IC as victim	=1 if IC experienced any kind of physical violence from partner	0.261 (0.439)
	=1 if IC experienced any kind of verbal violence from partner	0.423 (0.494)
IC as aggressor	=1 if partner experienced any kind of physical violence from IC	0.336 (0.473)
	=1 if partner experienced any kind of verbal violence from IC	0.599 (0.490)
<i>N</i>		855

Notes: Physical violence includes stomping, pushing, smashing, hitting, and throwing things. Verbal violence includes nagging, swearing, and yelling.

Table 2 Descriptive statistics for independent variables (continuation)

Covariate	Description	Survey years			
		2002	2005	2007	2009
<i>IC characteristics</i>					
IC average age	Average IC age	18.182 (0.404)	20.945 (0.341)	23.683 (0.465)	25.226 (0.474)
<i>N</i>		2,051	1,900	938	1,719
IC gender	=1 if IC is male	0.531 (0.499)	0.527 (0.499)	0.497 (0.500)	0.524 (0.500)
<i>N</i>		2,051	1,900	941	1,719
<i>Household characteristics</i>					
Urbanity	=1 if household is in an urban barangay	0.744 (0.437)	0.667 (0.472)	0.693 (0.461)	0.703 (0.457)
<i>N</i>		2,202	2,066	2,051	1,719
Household size	Average size of IC's household	5.466 (2.831)	6.284 (2.656)	4.416 (2.132)	5.760 (2.772)
Household head's gender	=1 if household head is male	0.787 ^{a/} (0.410)	0.796 (0.403)	0.884 ^{b/} (0.321)	0.754 (0.431)
Household proportion of less than 1 y/o males	Proportion of less than 1 y/o males in the mother's household	0.020 (0.067)	0.015 (0.053)	0.032 (0.085)	0.018 (0.057)
Household proportion of 1–6 y/o males	Proportion of 1–6 y/o males in the mother's household	0.040 (0.088)	0.040 (0.091)	0.120 (0.156)	0.088 (0.131)
Household proportion of 7–14 y/o males	Proportion of 7–14 y/o males in the mother's household	0.045 (0.088)	0.048 (0.084)	0.020 (0.066)	0.031 (0.069)
Household proportion of 15–24 y/o males	Proportion of 15–24 y/o males in the mother's household	0.260 (0.210)	0.228 (0.161)	0.215 (0.198)	0.077 (0.116)
Household proportion of 25–59 y/o males	Proportion of 25–59 y/o males in the mother's household	0.156 (0.152)	0.163 (0.121)	0.143 (0.162)	0.279 (0.162)
Household proportion of 60 y/o and above males	Proportion of 60 y/o and above males in the mother's household	0.030 (0.073)	0.016 (0.054)	0.014 (0.059)	0.018 (0.057)
Household proportion of less than 1 y/o females	Proportion of less than 1 y/o females in the mother's household	0.017 (0.061)	0.013 (0.048)	0.023 (0.071)	0.018 (0.059)
Household proportion of 1–6 y/o females	Proportion of 1–6 y/o females in the mother's household	0.042 (0.089)	0.039 (0.084)	0.091 (0.140)	0.076 (0.124)
<i>N</i>		335	1,895	716	1,719

Notes: ^{a/}Number of observations, $N=333$; ^{b/}Number of observations, $N=715$

Table 2 Descriptive statistics for independent variables (continuation)

Covariate	Description	Survey years			
		2002	2005	2007	2009
Household proportion of 7–14 y/o females	Proportion of 7–14 y/o females in the mother’s household	0.040 (0.085)	0.047 (0.086)	0.017 (0.059)	0.027 (0.069)
Household proportion of 15–24 y/o females	Proportion of 15–24 y/o females in the mother’s household	0.223 (0.189)	0.208 (0.153)	0.236 (0.158)	0.098 (0.131)
Household proportion of 25–59 y/o females	Proportion of 25–59 y/o females in the mother’s household	0.086 (0.109)	0.161 (0.113)	0.071 (0.122)	0.248 (0.165)
Household proportion of 60 y/o and above females	Proportion of 60 y/o and above females in the mother’s household	0.043 (0.095)	0.020 (0.067)	0.018 (0.064)	0.022 (0.067)
<i>N</i>		335	1,895	716	1,719

Table 3 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes (Simple Regression, Mlogit for type of main job, Probit for the rest)

Variable	Currently working	N	wage worker	N	has second job	N	Type of main job ^{c/}		
							Agriculture	Self-employed	N
Sexual behavior									
IC had sex by 2002	0.0053 (0.0265)	1,711	-0.0753** (0.0303)	1,118	-0.0260 (0.0236)	1,118	-0.0099 (0.0107)	0.0825*** (0.0290)	1,118
IC used FP in 2002	0.1015** (0.0447)	432	-0.0280 (0.0569)	284	0.0012 (0.0372)	284	-0.0092 (0.0138)	0.0371 (0.0564)	284
Age at which IC first had sex	0.0080 (0.0147)	432	0.0144 (0.0175)	284	-0.0155 (0.0101)	284	-0.0005 (0.0027)	-0.0139 (0.0173)	284
Smoking behavior									
IC ever smoked in 2002	0.0396* (0.0229)	1,710	-0.0567** (0.0271)	1,118	-0.0724*** (0.0199)	1,118	0.0112 (0.0086)	0.0457* (0.0267)	1,118
Age at which IC first smoked	0.0018 (0.0068)	875	0.0084 (0.0079)	589	-0.0015 (0.0050)	589	-0.0039* (0.0022)	-0.0039 (0.0076)	589
Frequency of smoking in 2002 ^{a/}									
Smokes but not daily	-0.0631 (0.0481)		0.0655 (0.0535)		-0.1051*** (0.0264)		0.0018 (0.0137)	-0.0673 (0.0525)	
Smokes at least once daily	0.0291 (0.0343)	875	-0.1024** (0.0423)	589	-0.0581** (0.0264)	589	0.0298** (0.0145)	0.0726* (0.0415)	589
Cigarettes consumed daily	0.0050 (0.0047)	318	-0.0140*** (0.0054)	223	0.0010 (0.0031)	223	0.0015 (0.0025)	0.0123** (0.0052)	223
Drinking behavior									
IC had drunk by 2002	0.0631** (0.0282)	1,710	0.0585* (0.0342)	1,118	-0.0424* (0.0244)	1,118	0.0031 (0.0106)	-0.0606* (0.0329)	1,118
Age at which IC first tried drinking	-0.0105 (0.0065)	1,368	0.0022 (0.0072)	912	-0.0001 (0.0056)	912	-0.0008 (0.0017)	-0.0013 (0.0070)	912
Frequency of drinking in 2002 ^{b/}									
Every week	0.0289 (0.0396)		-0.0666 (0.0484)		-0.0579** (0.0250)		-0.0099 (0.0105)	0.0765 (0.0480)	
Every day	0.1244 (0.1797)		-0.4773** (0.2174)				0.2311 (0.2167)	0.2461 (0.2508)	
Stopped drinking	-0.0509* (0.0307)	1,368	0.0145 (0.0352)	912	0.0669** (0.0293)	908	-0.0048 (0.0099)	-0.0097 (0.0345)	912
Violence									
IC was physically violated in 2002	0.0191 (0.0408)	721	-0.0015 (0.0503)	458	0.0376 (0.0335)	458	0.0078 (0.0160)	-0.0066 (0.0495)	458
IC was verbally violated in 2002	0.0954*** (0.0356)	721	-0.0371 (0.0446)	458	0.0087 (0.0309)	458	-0.0060 (0.0152)	0.0431 (0.0437)	458
IC was physically violent in 2002	0.0107 (0.0379)	721	0.0183 (0.0471)	458	-0.0064 (0.0326)	458	-0.0014 (0.0158)	-0.0169 (0.0463)	
IC was verbally violent in 2002	-0.0277 (0.0366)	721	-0.0257 (0.0454)	458	0.0230 (0.0317)	458	-0.0004 (0.0151)	0.0262 (0.0447)	458

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of smoking is IC stopped smoking. ^{b/} Base outcome for frequency of drinking is IC drinks only occasionally. ^{c/} Base outcome is wage worker.

Table 4 Marginal effects of adolescent risky behavior on index child's later-life education outcomes (Simple Regression, Mlogit for highest grade completed, Probit for the rest)

Variable	At least high school		At least college		Highest grade completed ^{c/}		N
		N		N	Primary	Tertiary	
Sexual behavior							
IC ever had sex in 2002	-0.1010*** (0.0176)	1,580	-0.2286*** (0.0273)	1,580	0.1021*** (0.0168)	-0.2295*** (0.0285)	1,580
IC used FP in 2002	0.0905** (0.0403)	406	0.1741*** (0.0379)	406	-0.0897** (0.0394)	0.1765*** (0.0396)	406
IC age first sex	-0.0185 (0.0140)	406	-0.0404*** (0.0129)	406	0.0168 (0.0143)	-0.0406*** (0.0125)	406
Smoking behavior							
IC ever smoked in 2002	-0.1025*** (0.0172)	1,579	-0.1369*** (0.0232)	1,579	0.1034*** (0.0180)	-0.1367*** (0.0230)	1,579
IC's age first smoked	0.0015 (0.0060)	805	0.0024 (0.0070)	805	-0.0016 (0.0061)	0.0024 (0.0070)	805
Frequency of smoking in 2002 ^{a/}							
Smokes but not daily	-0.0500 (0.0371)		-0.0566 (0.0487)		0.0500 (0.0371)	-0.0566 (0.0487)	
Smokes at least 1 stick daily	-0.1515*** (0.0304)	805	-0.2065*** (0.0333)	805	0.1515*** (0.0304)	-0.2065*** (0.0333)	805
Cigarette sticks consumed daily	-0.0046 (0.0045)	302	-0.0036 (0.0041)	302	0.0046 (0.0044)	-0.0036 (0.0042)	302
Drinking behavior							
IC ever drunk in 2002	-0.0266 (0.0218)	1,579	-0.0254 (0.0298)	1,579	0.0268 (0.0223)	-0.0259 (0.0297)	1,579
IC's age first tried drinking	-0.0041 (0.0047)	1,256	-0.0151** (0.0067)	1,256	0.0038 (0.0046)	-0.0150** (0.0067)	1,256
Frequency of drinking in 2002 ^{b/}							
Every week	-0.0348 (0.0324)		-0.0953** (0.0410)		0.0348 (0.0324)	-0.0953** (0.0410)	
Every day	-0.3737 (0.2504)		0.1161 (0.2507)		0.3735 (0.2504)	0.1163 (0.2507)	
Stopped drinking	-0.0211 (0.0231)	1,256	-0.0579* (0.0315)	1,256	0.0211 (0.0231)	-0.0579* (0.0315)	1,256
Violence							
IC was physically violated in 2002	-0.0422 (0.0315)	669	0.0110 (0.0383)	669	0.0420 (0.0310)	0.0119 (0.0382)	669
IC was verbally violated in 2002	-0.0351 (0.0287)	669	-0.0405 (0.0343)	669	0.0350 (0.0286)	-0.0405 (0.0344)	669
IC was physically violent in 2002	-0.0132 (0.0300)	669	-0.0161 (0.0359)	669	0.0132 (0.0299)	-0.0161 (0.0360)	669
IC was verbally violent in 2002	-0.0309 (0.0295)	669	-0.0258 (0.0345)	669	0.0310 (0.0298)	-0.0259 (0.0344)	669

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of smoking is IC stopped smoking. ^{b/} Base outcome for frequency of drinking is IC drinking only occasionally. ^{c/} Base outcome is secondary

Table 5 Hazard ratios of adolescent risky behavior on family formation (Simple Regression, Stcox)

Variable	Time to family formation	<i>N</i>
Sexual behavior		
IC ever had sex in 2002	1.6275*** (0.1126)	1,911
IC used FP in 2002	1.253** (0.1333)	434
Smoking behavior		
IC ever smoked in 2002	0.6831*** (0.0463)	1,901
Frequency of smoking in 2002 ^{a/}		
Smokes but not daily	1.1192 (0.1437)	
Smokes at least 1 stick daily	1.2267** (0.1075)	1,015
Cigarette sticks consumed daily	1.0047 (0.0106)	386
Drinking behavior		
IC ever drunk in 2002	0.8700 (0.0763)	1,934
Frequency of drinking in 2002 ^{b/}		
Every week	1.1320 (0.1072)	
Every day	1.184 (0.7045)	
Stopped drinking	1.1861** (0.0953)	1,581
Violence		
IC was physically violated in 2002	0.9641 (0.1102)	649
IC was verbally violated in 2002	1.0983 (0.1019)	649
IC was physically violent in 2002	0.9678 (0.1056)	649
IC was verbally violent in 2002	1.0696 (0.0974)	649

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively.

Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of smoking is IC stopped smoking. ^{b/} Base outcome for frequency of drinking is IC drinking only occasionally.

Table 6.1 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Currently working (Multiple Regression, Probit)

Variable	Currently working						
	1	2	3	4	5	6	7
Sexual behavior							
IC ever had sex in 2002	0.0035 (0.0273)						
IC used FP in 2002		0.1165*** (0.0437)					
IC age first sex			0.0069 (0.0146)				
Smoking behavior							
IC ever smoked in 2002				-0.0133 (0.0257)			
IC's age first smoked					0.0025 (0.0066)		
Frequency of smoking in 2002 ^{a/}							
Smokes but not daily						-0.0815* (0.0477)	
Smokes at least 1 stick daily						-0.0068 (0.0366)	
Cigarette sticks consumed daily							0.0002 (0.0044)
2009 controls^{b/}							
Urbanity	-0.0198 (0.0248)	-0.0607 (0.0491)	-0.0476 (0.0493)	-0.0188 (0.0248)	-0.0913*** (0.0351)	-0.0902*** (0.0349)	-0.1435*** (0.0512)
Age of IC	0.0468 (0.0299)	0.1286** (0.0533)	0.1309** (0.0539)	0.0480 (0.0298)	0.0518 (0.0355)	0.0506 (0.0354)	0.1182** (0.0487)
Gender of IC	0.1081*** (0.0319)	0.0347 (0.0611)	0.0469 (0.0628)	0.1151*** (0.0342)	0.1042** (0.0454)	0.1104** (0.0475)	0.3947*** (0.0981)
Household size	-0.0072 (0.0048)	-0.0094 (0.0098)	-0.0102 (0.0099)	-0.0071 (0.0048)	-0.0096 (0.0064)	-0.0098 (0.0064)	-0.0163* (0.0095)
Gender of household head	0.0613** (0.0282)	0.1815*** (0.0564)	0.1815*** (0.0574)	0.0584** (0.0282)	0.0680* (0.0394)	0.0659* (0.0394)	0.0038 (0.0629)
Proportion of less than 1 y/o males	-0.0602 (0.2032)	-0.0868 (0.4318)	-0.0283 (0.4309)	-0.0642 (0.2030)	0.2630 (0.2814)	0.2479 (0.2821)	0.3765 (0.3670)
Proportion of 1–6 y/o males	-0.0118 (0.1087)	0.3043 (0.2048)	0.2823 (0.2120)	-0.0096 (0.1080)	0.2494* (0.1456)	0.2579* (0.1459)	0.4754** (0.2173)
Proportion of 7–14 y/o males	-0.0186 (0.1860)	-0.1304 (0.3273)	-0.0044 (0.3353)	-0.0177 (0.1846)	0.0214 (0.2449)	0.0403 (0.2462)	0.1902 (0.3485)
Proportion of 15–24 y/o males	0.0049 (0.1223)	0.1769 (0.2900)	0.1442 (0.2928)	0.0014 (0.1223)	0.1435 (0.1729)	0.1516 (0.1721)	0.1968 (0.2435)
<i>N</i>	1,701	432	432	1,700	872	872	317

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of smoking is IC stopped smoking. ^{b/} Base outcome for household proportions is the proportion of 25- to 59-year-old males

Table 6.1 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Currently working (continuation)

Variable	Currently working						
	1	2	3	4	5	6	7
2009 controls							
Proportion of 60 y/o and above males	0.0418 (0.2164)	-0.2857 (0.4831)	-0.2595 (0.4775)	0.0452 (0.2165)	-0.0819 (0.2734)	-0.0767 (0.2715)	-0.0486 (0.4220)
Proportion of less than 1 y/o females	0.0026 (0.2012)	0.2648 (0.4111)	0.2732 (0.4195)	-0.0014 (0.2007)	0.1756 (0.2709)	0.1866 (0.2683)	0.4369 (0.4193)
Proportion of 1–6 y/o females	-0.0159 (0.1141)	0.0267 (0.2143)	0.0067 (0.2198)	-0.0118 (0.1133)	0.3296** (0.1554)	0.3376** (0.1546)	0.2683 (0.2255)
Proportion of 7–14 y/o females	-0.0977 (0.1824)	-0.3415 (0.2987)	-0.2241 (0.3037)	-0.0991 (0.1808)	0.0825 (0.2461)	0.0844 (0.2455)	-0.0184 (0.3661)
Proportion of 15–24 y/o females	0.4059** * (0.1181)	0.4574* (0.2675)	0.4978* (0.2784)	0.3980** * (0.1180)	0.5365** * (0.1587)	0.5429** * (0.1581)	0.3802 (0.2369)
Proportion of 25–59 y/o females	0.2985** * (0.1120)	0.4038* (0.2425)	0.3978 (0.2519)	0.2950** * (0.1120)	0.5132** * (0.1530)	0.5176** * (0.1518)	0.5488* * (0.2264)
Proportion of 60 y/o y/o and above females	-0.2200 (0.2024)	0.0733 (0.4215)	0.0543 (0.4187)	-0.2279 (0.2024)	0.0465 (0.2593)	0.0538 (0.2579)	-0.0126 (0.3971)
<i>N</i>	1,701	432	432	1,700	872	872	317

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported

Table 6.1 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Currently working (continuation)

Variable	Currently working						
	8	9	10	11	12	13	14
Drinking behavior							
IC ever drunk in 2002	0.0266 (0.0291)						
IC's age first tried drinking		-0.0087 (0.0064)					
Frequency of drinking in 2002 ^{a/}							
Every week			-0.0073 (0.0415)				
Every day			0.1615 (0.1427)				
Stopped drinking			-0.0297 (0.0303)				
Violence							
IC was physically violated in 2002				0.0262 (0.0406)			
IC was verbally violated in 2002					0.0709** (0.0356)		
IC was physically violent in 2002						0.0697* (0.0386)	
IC was verbally violent in 2002							0.0013 (0.0363)
2009 controls							
Urbanity	-0.0201 (0.0248)	-0.0547** (0.0279)	-0.0540* (0.0279)	0.0009 (0.0375)	-0.0015 (0.0375)	-0.0021 (0.0373)	0.0021 (0.0375)
Age of IC	0.0482 (0.0298)	0.0455 (0.0317)	0.0463 (0.0318)	0.0879* (0.0481)	0.0892* (0.0479)	0.0836* (0.0479)	0.0890* (0.0481)
Gender of IC	0.1025*** (0.0326)	0.1184*** (0.0352)	0.1166*** (0.0359)	0.1211** (0.0496)	0.1100** (0.0497)	0.1387*** (0.0503)	0.1221** (0.0498)
Household size	-0.0072 (0.0048)	-0.0081 (0.0052)	-0.0083 (0.0052)	-0.0033 (0.0074)	-0.0033 (0.0074)	-0.0032 (0.0074)	-0.0032 (0.0074)
Gender of household head	0.0600** (0.0282)	0.0537* (0.0313)	0.0552* (0.0313)	0.1573*** (0.0431)	0.1512*** (0.0432)	0.1547*** (0.0431)	0.1574*** (0.0435)
Proportion of less than 1 y/o males	-0.0692 (0.2030)	0.0318 (0.2220)	0.0192 (0.2229)	-0.2104 (0.3178)	-0.2120 (0.3171)	-0.1628 (0.3194)	-0.2117 (0.3173)
Proportion of 1–6 y/o males	-0.0188 (0.1078)	0.0909 (0.1193)	0.0828 (0.1195)	0.0343 (0.1643)	0.0250 (0.1630)	0.0264 (0.1633)	0.0416 (0.1641)
Proportion of 7–14 y/o males	-0.0223 (0.1846)	-0.0049 (0.2020)	-0.0139 (0.2015)	-0.0198 (0.2776)	-0.0659 (0.2772)	-0.0450 (0.2761)	-0.0089 (0.2782)
<i>N</i>	1,700	1,362	1,362	719	719	719	719

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of drinking is IC drinking only occasionally

Table 6.1 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Currently working (continuation)

Variable	Currently working						
	8	9	10	11	12	13	14
2009 controls^{a/}							
Proportion of 15–24 y/o males	0.0032 (0.1222)	0.0838 (0.1355)	0.0773 (0.1357)	-0.2048 (0.2065)	-0.2072 (0.2058)	-0.2207 (0.2058)	-0.1947 (0.2063)
Proportion of 60 y/o and above males	0.0340 (0.2165)	0.0514 (0.2278)	0.0510 (0.2277)	0.0888 (0.4123)	0.0954 (0.4095)	0.0863 (0.4112)	0.0866 (0.4130)
Proportion of less than 1 y/o females	0.0010 (0.2012)	0.0360 (0.2229)	0.0359 (0.2220)	0.0847 (0.2996)	0.0655 (0.2991)	0.1207 (0.2971)	0.0839 (0.2993)
Proportion of 1–6 y/o females	-0.0190 (0.1134)	0.1065 (0.1247)	0.0992 (0.1249)	-0.1173 (0.1727)	-0.1297 (0.1709)	-0.1283 (0.1705)	-0.1007 (0.1714)
Proportion of 7–14 y/o females	-0.0982 (0.1813)	-0.1581 (0.2022)	-0.1402 (0.2016)	0.0466 (0.2804)	0.0047 (0.2817)	0.0139 (0.2798)	0.0627 (0.2790)
Proportion of 15–24 y/o females	0.3961*** (0.1181)	0.4497*** (0.1303)	0.4493*** (0.1301)	0.4819** (0.2012)	0.4774** (0.2000)	0.4768** (0.2011)	0.4882** (0.2012)
Proportion of 25–59 y/o females	0.2901*** (0.1122)	0.4034*** (0.1232)	0.4043*** (0.1229)	0.3210 (0.1955)	0.3123 (0.1942)	0.3229* (0.1945)	0.3222* (0.1954)
Proportion of 60 y/o and above females	-0.2295 (0.2022)	-0.2340 (0.2215)	-0.2253 (0.2202)	0.0655 (0.3511)	0.0712 (0.3473)	0.0748 (0.3508)	0.0780 (0.3494)
<i>N</i>	1,700	1,362	1,362	719	719	719	719

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for household proportions is the proportion of 25- to 59-year-old males

Table 6.2 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Wage worker (Multiple Regression, Probit)

Variable	Wage worker						
	1	2	3	4	5	6	7
Sexual behavior							
IC ever had sex in 2002	-0.0417 (0.0310)						
IC used FP in 2002		-0.0529 (0.0578)					
IC age first sex			0.0159 (0.0190)				
Smoking behavior							
IC ever smoked in 2002				-0.0327 (0.0295)			
IC's age first smoked					0.0078 (0.0077)		
Frequency of smoking in 2002 ^{a/}							
Smokes but not daily						0.0528 (0.0533)	
Smokes at least 1 stick daily						-0.1188*** (0.0452)	
Cigarette sticks consumed daily							-0.0146*** (0.0055)
2009 controls^{b/}							
Urbanity	0.1092*** (0.0277)	0.1006 (0.0615)	0.0978 (0.0614)	0.1068*** (0.0277)	0.1328*** (0.0392)	0.1271*** (0.0391)	0.1264* (0.0649)
Age of IC	0.0408 (0.0330)	0.0753 (0.0681)	0.0678 (0.0682)	0.0372 (0.0328)	0.0092 (0.0415)	0.0186 (0.0413)	0.0298 (0.0645)
Gender of IC	-0.0202 (0.0371)	-0.0291 (0.0801)	-0.0162 (0.0812)	-0.0064 (0.0398)	0.0120 (0.0579)	0.0586 (0.0603)	-0.1185 (0.2121)
Household size	0.0008 (0.0059)	-0.0111 (0.0132)	-0.0119 (0.0130)	0.0014 (0.0059)	-0.0171** (0.0080)	-0.0184** (0.0079)	-0.0261* (0.0150)
Gender of household head	0.0336 (0.0344)	0.0469 (0.0818)	0.0548 (0.0815)	0.0301 (0.0345)	-0.0312 (0.0512)	-0.0337 (0.0504)	-0.0005 (0.0861)
Proportion of less than 1 y/o males	-0.1516 (0.2458)	-0.2101 (0.5808)	-0.1796 (0.5762)	-0.1552 (0.2454)	0.1063 (0.3377)	0.1861 (0.3325)	-0.2312 (0.4745)
Proportion of 1–6 y/o males	-0.1873 (0.1204)	-0.3752 (0.2649)	-0.3648 (0.2586)	-0.1999* (0.1198)	-0.0278 (0.1702)	-0.0535 (0.1706)	-0.1551 (0.2567)
Proportion of 7–14 y/o males	0.0161 (0.2264)	0.0397 (0.4429)	0.0262 (0.4438)	-0.0100 (0.2252)	0.4309 (0.3364)	0.4513 (0.3304)	-0.3961 (0.5294)
Proportion of 15–24 y/o males	0.3590** (0.1460)	0.2867 (0.3965)	0.3223 (0.3840)	0.3555** (0.1457)	0.6581*** (0.2221)	0.6553*** (0.2232)	0.6447* (0.3883)
<i>N</i>	1,114	284	284	1,114	588	588	223

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of smoking is IC stopped smoking. ^{b/} Base outcome for household proportions is the proportion of 25- to 59-year-old males

Table 6.2 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Wage worker (continuation)

Variable	Wage worker						
	1	2	3	4	5	6	7
2009 controls							
Proportion of 60 y/o and above males	0.2646 (0.2632)	-0.4026 (0.6957)	-0.4185 (0.7029)	0.2665 (0.2648)	0.5323 (0.3761)	0.5358 (0.3647)	-0.1662 (0.6959)
Proportion of less than 1 y/o females	-0.2949 (0.2251)	-0.1230 (0.4930)	-0.1276 (0.4935)	-0.3151 (0.2238)	-0.0929 (0.3202)	-0.1147 (0.3231)	0.0885 (0.5430)
Proportion of 1–6 y/o females	-0.0201 (0.1308)	-0.3196 (0.2791)	-0.2991 (0.2719)	-0.0389 (0.1304)	0.1756 (0.1812)	0.1943 (0.1819)	0.1224 (0.2885)
Proportion of 7–14 y/o females	-0.0590 (0.2216)	-0.3277 (0.4337)	-0.3069 (0.4324)	-0.0812 (0.2218)	0.0089 (0.3126)	0.0359 (0.3087)	0.3596 (0.5275)
Proportion of 15–24 y/o females	0.3209** (0.1329)	0.1476 (0.3451)	0.1023 (0.3400)	0.3270** (0.1329)	0.2954 (0.1907)	0.2693 (0.1915)	-0.2677 (0.3081)
Proportion of 25–59 y/o females	0.4058*** (0.1265)	0.1002 (0.3019)	0.0911 (0.2929)	0.4114*** (0.1267)	0.2578 (0.1834)	0.2587 (0.1835)	-0.2609 (0.3059)
Proportion of 60 y/o and above females	0.0127 (0.2577)	0.1498 (0.5429)	0.1545 (0.5429)	0.0241 (0.2572)	0.1304 (0.3834)	0.1642 (0.3621)	-0.8776 (0.5839)
<i>N</i>	1,114	284	284	1,114	588	588	223

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported

Table 6.2 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Wage worker (continuation)

Variable	Wage worker						
	8	9	10	11	12	13	14
Drinking behavior							
IC ever drunk in 2002	0.0737** (0.0344)						
IC's age first tried drinking		0.0062 (0.0072)					
Frequency of drinking in 2002 ^{a/}							
Every week			-0.0510 (0.0475)				
Every day			-0.4690** (0.2072)				
Stopped drinking			0.0194 (0.0347)				
Violence							
IC was physically violated in 2002				0.0054 (0.0496)			
IC was verbally violated in 2002					-0.0375 (0.0449)		
IC was physically violent in 2002						-0.0020 (0.0488)	
IC was verbally violent in 2002							-0.0484 (0.0450)
2009 controls							
Urbanity	0.1082*** (0.0276)	0.1149*** (0.0303)	0.1185*** (0.0302)	0.1346*** (0.0453)	0.1371*** (0.0454)	0.1348*** (0.0454)	0.1373*** (0.0454)
Age of IC	0.0365 (0.0328)	0.0203 (0.0347)	0.0191 (0.0349)	-0.0283 (0.0573)	-0.0271 (0.0572)	-0.0279 (0.0573)	-0.0291 (0.0570)
Gender of IC	-0.0399 (0.0380)	-0.0180 (0.0416)	-0.0054 (0.0425)	0.0039 (0.0633)	0.0106 (0.0639)	0.0034 (0.0649)	-0.0008 (0.0634)
Household size	0.0013 (0.0059)	0.0032 (0.0065)	0.0035 (0.0064)	-0.0128 (0.0095)	-0.0126 (0.0094)	-0.0128 (0.0095)	-0.0130 (0.0094)
Gender of household head	0.0347 (0.0343)	0.0497 (0.0374)	0.0483 (0.0372)	0.0643 (0.0612)	0.0680 (0.0614)	0.0643 (0.0613)	0.0736 (0.0617)
Proportion of less than 1 y/o males	-0.1708 (0.2464)	-0.2928 (0.2579)	-0.2505 (0.2568)	-0.4767 (0.4222)	-0.4548 (0.4241)	-0.4782 (0.4232)	-0.4853 (0.4230)
Proportion of 1–6 y/o males	-0.2324* (0.1188)	-0.1641 (0.1309)	-0.1470 (0.1311)	-0.3337* (0.1929)	-0.3145 (0.1926)	-0.3301* (0.1920)	-0.3205* (0.1927)
Proportion of 7–14 y/o males	-0.0132 (0.2247)	0.0643 (0.2505)	0.0727 (0.2513)	0.2584 (0.3801)	0.3181 (0.3851)	0.2660 (0.3810)	0.3055 (0.3782)
<i>N</i>	1,114	910	910	457	457	457	457

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of drinking is IC drinking only occasionally

Table 6.2 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Wage worker (continuation)

Variable	Wage worker						
	8	9	10	11	12	13	14
2009 controls^{a/}							
Proportion of 15–24 y/o males	0.3534** (0.1460)	0.3862** (0.1606)	0.3885** (0.1598)	0.3448 (0.2658)	0.3578 (0.2658)	0.3482 (0.2656)	0.3604 (0.2640)
Proportion of 60 y/o and above males	0.2426 (0.2650)	0.1489 (0.2787)	0.1338 (0.2769)	0.3140 (0.4987)	0.3181 (0.4981)	0.3162 (0.4985)	0.3533 (0.4969)
Proportion of less than 1 y/o females	-0.3042 (0.2233)	-0.2055 (0.2478)	-0.2143 (0.2478)	-0.4896 (0.3604)	-0.4645 (0.3629)	-0.4896 (0.3606)	-0.4734 (0.3601)
Proportion of 1–6 y/o females	-0.0669 (0.1300)	-0.0284 (0.1395)	-0.0152 (0.1397)	0.0301 (0.2133)	0.0506 (0.2132)	0.0344 (0.2123)	0.0405 (0.2122)
Proportion of 7–14 y/o females	-0.0713 (0.2202)	-0.0800 (0.2540)	-0.0836 (0.2531)	-0.2036 (0.3679)	-0.1674 (0.3700)	-0.1991 (0.3699)	-0.1831 (0.3670)
Proportion of 15–24 y/o females	0.3127** (0.1322)	0.3264** (0.1458)	0.3186** (0.1461)	0.2018 (0.2511)	0.2171 (0.2523)	0.2045 (0.2515)	0.2179 (0.2511)
Proportion of 25–59 y/o females	0.3830*** (0.1266)	0.4236*** (0.1378)	0.4296*** (0.1381)	0.3341 (0.2271)	0.3520 (0.2273)	0.3355 (0.2269)	0.3423 (0.2285)
Proportion of 60 y/o and above females	0.0103 (0.2594)	0.0436 (0.2849)	0.0794 (0.2819)	-0.1178 (0.4221)	-0.1103 (0.4221)	-0.1144 (0.4207)	-0.1081 (0.4183)
<i>N</i>	<i>1,114</i>	<i>910</i>	<i>910</i>	<i>457</i>	<i>457</i>	<i>457</i>	<i>457</i>

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for household proportions is the proportion of 25- to 59-year-old males

Table 6.3 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Has second job
(Multiple Regression, Probit)

Variable	Has second job						
	1	2	3	4	5	6	7
Sexual behavior							
IC ever had sex in 2002	-0.0128 (0.0246)						
IC used FP in 2002		0.0109 (0.0368)					
IC age first sex			-0.0200* (0.0104)				
Smoking behavior							
IC ever smoked in 2002				-0.0542*** (0.0207)			
IC's age first smoked					-0.0017 (0.0051)		
Frequency of smoking in 2002 ^{a/}							
Smokes but not daily						-0.1196*** (0.0275)	
Smokes at least 1 stick daily						-0.0802*** (0.0282)	
Cigarette sticks consumed daily							0.0011 (0.0029)
2009 controls							
Urbanity	0.0069 (0.0218)	-0.0534 (0.0385)	-0.0500 (0.0378)	0.0059 (0.0217)	0.0068 (0.0248)	-0.0039 (0.0242)	-0.0223 (0.0312)
Age of IC	-0.0028 (0.0256)	-0.0053 (0.0425)	0.0035 (0.0430)	-0.0035 (0.0257)	-0.0019 (0.0250)	-0.0008 (0.0246)	0.0041 (0.0304)
Gender of IC	-0.0580** (0.0288)	-0.1007* (0.0531)	-0.1218** (0.0550)	-0.0310 (0.0300)	0.0234 (0.0379)	0.0623 (0.0380)	
Household size	0.0041 (0.0043)	0.0096 (0.0090)	0.0087 (0.0090)	0.0043 (0.0043)	0.0092* (0.0048)	0.0073 (0.0045)	0.0064 (0.0070)
Gender of household head	0.0416 (0.0264)	0.0496 (0.0558)	0.0464 (0.0548)	0.0368 (0.0262)	-0.0056 (0.0310)	-0.0120 (0.0304)	-0.0088 (0.0428)
Proportion of less than 1 y/o males	0.0227 (0.1874)	0.2997 (0.3393)	0.2830 (0.3357)	0.0335 (0.1891)	0.0806 (0.2041)	0.1459 (0.1997)	0.1655 (0.2192)
Proportion of 1–6 y/o males	0.0156 (0.0966)	-0.0958 (0.1679)	-0.0799 (0.1599)	0.0331 (0.0965)	0.0565 (0.1072)	0.0771 (0.1090)	0.2039 (0.1360)
Proportion of 7–14 y/o males	-0.1461 (0.1804)	-0.3938 (0.2760)	-0.4105 (0.2754)	-0.1444 (0.1766)	-0.2653 (0.2272)	-0.2003 (0.2135)	-0.3140 (0.2099)
Proportion of 15–24 y/o males	0.0658 (0.1074)	-0.4473* (0.2670)	-0.4067 (0.2492)	0.0641 (0.1091)	-0.0007 (0.1389)	0.0231 (0.1329)	-0.3367 (0.2505)
<i>N</i>	1,114	284	284	1,114	588	588	218

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of smoking is IC stopped smoking

Table 6.3 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Has second job (continuation)

Variable	Has second job						
	1	2	3	4	5	6	7
2009 controls^{a/}							
Proportion of 60 y/o and above males	0.0363 (0.1848)	0.2934 (0.4116)	0.3828 (0.4120)	0.0447 (0.1834)	-0.2027 (0.2978)	-0.1994 (0.2975)	0.1848 (0.3839)
Proportion of less than 1 y/o females	0.1369 (0.1686)	0.0022 (0.3091)	0.0358 (0.3068)	0.1226 (0.1698)	0.1348 (0.1858)	0.1392 (0.1853)	0.2812 (0.2344)
Proportion of 1–6 y/o females	-0.0691 (0.1053)	-0.3721** (0.1861)	-0.3537** (0.1724)	-0.0616 (0.1057)	-0.1038 (0.1230)	-0.0700 (0.1208)	-0.2103 (0.1658)
Proportion of 7–14 y/o females	-0.2294 (0.1805)	-0.1791 (0.2646)	-0.2286 (0.2631)	-0.2227 (0.1788)	-0.2387 (0.2098)	-0.1952 (0.1998)	-0.1101 (0.2663)
Proportion of 15–24 y/o females	-0.0189 (0.1016)	-0.1873 (0.2347)	-0.1314 (0.2299)	-0.0165 (0.1029)	-0.1022 (0.1305)	-0.1042 (0.1284)	0.0838 (0.1877)
Proportion of 25–59 y/o females	-0.0112 (0.0978)	-0.0377 (0.1974)	-0.0039 (0.1843)	-0.0035 (0.0996)	-0.1427 (0.1350)	-0.1231 (0.1325)	0.0251 (0.2101)
Proportion of 60 y/o and above females	0.0856 (0.1941)	0.0693 (0.3123)	0.0575 (0.2989)	0.0921 (0.1915)	-0.3466 (0.2648)	-0.3836 (0.2713)	-0.2136 (0.3916)
<i>N</i>	<i>1,114</i>	<i>284</i>	<i>284</i>	<i>1,114</i>	<i>588</i>	<i>588</i>	<i>218</i>

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for household proportions is the proportion of 25- to 59-year-old males

Table 6.3 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Has second job (continuation)

Variable	Has second job						
	8	9	10	11	12	13	14
Drinking behavior							
IC ever drunk in 2002	-0.0212 (0.0254)						
IC's age first tried drinking		-0.0023 (0.0055)					
Frequency of drinking in 2002 ^{a/}							
Every week			-0.0573** (0.0247)				
Every day							
Stopped drinking			0.0560* (0.0291)				
Violence							
IC was physically violated in 2002				0.0466 (0.0322)			
IC was verbally violated in 2002					0.0212 (0.0305)		
IC was physically violent in 2002						-0.0231 (0.0322)	
IC was verbally violent in 2002							0.0119 (0.0306)
2009 controls							
Urbanity	0.0064 (0.0218)	0.0043 (0.0235)	0.0106 (0.0234)	0.0071 (0.0327)	0.0048 (0.0330)	0.0057 (0.0328)	0.0050 (0.0330)
Age of IC	-0.0039 (0.0255)	0.0078 (0.0263)	0.0097 (0.0264)	-0.0529 (0.0394)	-0.0516 (0.0391)	-0.0504 (0.0390)	-0.0515 (0.0392)
Gender of IC	-0.0537* (0.0297)	-0.0719** (0.0317)	-0.0470 (0.0314)	-0.0608 (0.0429)	-0.0635 (0.0433)	-0.0666 (0.0435)	-0.0588 (0.0433)
Household size	0.0043 (0.0043)	0.0075* (0.0045)	0.0077* (0.0045)	0.0118* (0.0061)	0.0122** (0.0062)	0.0119* (0.0062)	0.0123** (0.0062)
Gender of household head	0.0398 (0.0264)	0.0160 (0.0277)	0.0172 (0.0275)	0.0644 (0.0467)	0.0603 (0.0461)	0.0644 (0.0462)	0.0605 (0.0464)
Proportion of less than 1 y/o males	0.0238 (0.1880)	-0.0066 (0.1992)	0.0439 (0.1993)	-0.2853 (0.3291)	-0.2958 (0.3303)	-0.3026 (0.3236)	-0.2792 (0.3277)
Proportion of 1–6 y/o males	0.0147 (0.0960)	0.0242 (0.1052)	0.0307 (0.1059)	-0.0925 (0.1344)	-0.0774 (0.1358)	-0.0647 (0.1356)	-0.0726 (0.1355)
Proportion of 7–14 y/o males	-0.1563 (0.1792)	-0.1298 (0.1902)	-0.1250 (0.1865)	-0.4022* (0.2375)	-0.3625 (0.2520)	-0.3074 (0.2482)	-0.3455 (0.2456)
<i>N</i>	1,114	910	906	457	457	457	457

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of drinking is IC drinking only occasionally

Table 6.3 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Has second job (continuation)

Variable	Has second job						
	8	9	10	11	12	13	14
2009 controls^{a/}							
Proportion of 15–24 y/o males	0.0684 (0.1082)	-0.0250 (0.1241)	-0.0108 (0.1251)	-0.2402 (0.1798)	-0.2215 (0.1821)	-0.2065 (0.1815)	-0.2160 (0.1820)
Proportion of 60 y/o and above males	0.0418 (0.1852)	0.0393 (0.2008)	0.0126 (0.1982)	-0.2978 (0.4086)	-0.2983 (0.3988)	-0.2752 (0.3996)	-0.2972 (0.3997)
Proportion of less than 1 y/o females	0.1304 (0.1683)	0.1080 (0.1821)	0.1191 (0.1874)	-0.0775 (0.2598)	-0.0926 (0.2616)	-0.0859 (0.2586)	-0.0842 (0.2598)
Proportion of 1–6 y/o females	-0.0705 (0.1045)	-0.1112 (0.1125)	-0.0946 (0.1136)	-0.2766** (0.1409)	-0.2538* (0.1434)	-0.2364* (0.1437)	-0.2445* (0.1426)
Proportion of 7–14 y/o females	-0.2433 (0.1800)	-0.2454 (0.2032)	-0.2232 (0.2031)	-0.3853 (0.2575)	-0.3981 (0.2534)	-0.3454 (0.2637)	-0.3767 (0.2592)
Proportion of 15–24 y/o females	-0.0129 (0.1021)	0.0001 (0.1146)	0.0017 (0.1146)	-0.1384 (0.1780)	-0.1266 (0.1804)	-0.1146 (0.1806)	-0.1219 (0.1798)
Proportion of 25–59 y/o females	-0.0049 (0.0988)	-0.0653 (0.1110)	-0.0382 (0.1098)	-0.1531 (0.1667)	-0.1487 (0.1702)	-0.1419 (0.1683)	-0.1437 (0.1696)
Proportion of 60 y/o and above females	0.0856 (0.1946)	-0.0013 (0.2200)	0.0769 (0.2238)	0.0020 (0.3097)	0.0289 (0.3101)	0.0371 (0.3091)	0.0287 (0.3078)
<i>N</i>	<i>1,114</i>	<i>910</i>	<i>906</i>	<i>457</i>	<i>457</i>	<i>457</i>	<i>457</i>

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for household proportions is the proportion of 25 to 59-year-old males

Table 6.4 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Type of main job (Multiple Regression, Mlogit)

Variable	Type of main job (<i>base outcome: wage worker</i>)							
	Agricultural	Self- employed	Agricultural	Self- employed	Agricultural	Self- employed	Agricultural	Self- Employed
	1	2	3	4	5	6	7	8
Sexual behavior								
IC ever had sex in 2002	-0.0121 (0.0098)	0.0527* (0.0302)						
Smoking behavior								
IC ever smoked in 2002			0.0004 (0.0090)	0.0305 (0.0292)				
IC's age first smoked					-0.0036 (0.0022)	-0.0034 (0.0074)		
Frequency of smoking in 2002 ^{a/}								
Smokes but not daily							0.0010 (0.0142)	-0.0587 (0.0525)
Smokes at least 1 stick daily							0.0267 (0.0162)	0.0911** (0.0452)
2009 controls								
Urbanity	-0.0313*** (0.0103)	-0.0776*** (0.0273)	-0.0319*** (0.0104)	-0.0748*** (0.0273)	-0.0487*** (0.0172)	-0.0867** (0.0384)	-0.0475*** (0.0168)	-0.0813** (0.0385)
Age of IC	-0.0025 (0.0086)	-0.0378 (0.0326)	-0.0032 (0.0085)	-0.0327 (0.0324)	0.0002 (0.0110)	-0.0110 (0.0411)	-0.0010 (0.0108)	-0.0180 (0.0407)
Gender of IC	0.0178 (0.0134)	0.0029 (0.0365)	0.0184 (0.0142)	-0.0108 (0.0392)	0.0155 (0.0277)	-0.0214 (0.0568)	-0.0003 (0.0273)	-0.0560 (0.0593)
Household size	0.0022 (0.0016)	-0.0022 (0.0061)	0.0022 (0.0016)	-0.0028 (0.0061)	0.0036 (0.0029)	0.0156* (0.0081)	0.0041 (0.0032)	0.0164** (0.0079)
<i>N</i>	1,114	1,114	1,114	1,114	588	588	588	588

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of smoking is IC stopped smoking

Table 6.4 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Type of main job (continuation)

Variable	Type of main job (base outcome: wage worker)							
	Agricultural	Self- employed	Agricultural	Self- employed	Agricultural	Self- employed	Agricultural	Self- Employe
	1	2	3	4	5	6	7	8
2009 controls^{a/}								
Gender of household head	0.0016 (0.0114)	-0.0335 (0.0344)	0.0003 (0.0112)	-0.0284 (0.0346)	-0.0014 (0.0169)	0.0345 (0.0524)	0.0024 (0.0145)	0.0352 (0.0514)
Proportion of less than 1 y/o males	-0.0447 (0.0450)	0.1844 (0.2431)	-0.0504 (0.0460)	0.1886 (0.2421)	-0.0279 (0.0563)	-0.0950 (0.3431)	-0.0591 (0.0639)	-0.1397 (0.3357)
Proportion of 1–6 y/o males	0.0139 (0.0277)	0.1749 (0.1150)	0.0071 (0.0278)	0.1944* (0.1144)	0.0178 (0.0376)	0.0188 (0.1665)	0.0195 (0.0384)	0.0493 (0.1680)
Proportion of 7–14 y/o males	0.0414 (0.0603)	-0.0758 (0.2278)	0.0350 (0.0588)	-0.0389 (0.2268)	0.0965 (0.0655)	-0.5725 (0.3554)	0.1036 (0.0751)	-0.5706 (0.3495)
Proportion of 15–24 y/o males	-0.0505 (0.0451)	-0.3160** (0.1484)	-0.0521 (0.0452)	-0.3133** (0.1482)	-0.0914 (0.1035)	-0.5742** (0.2284)	-0.1128 (0.1104)	-0.5724* (0.2305)
Proportion of 60 y/o and above males	-0.0538 (0.0965)	-0.2036 (0.2693)	-0.0575 (0.0985)	-0.2081 (0.2729)	-0.0297 (0.1270)	-0.5089 (0.3825)	-0.0592 (0.1296)	-0.4916 (0.3729)
Proportion of less than 1 y/o females	0.0063 (0.0575)	0.2792 (0.2181)	0.0020 (0.0581)	0.3022 (0.2152)	-0.0105 (0.0972)	0.1040 (0.3152)	-0.0160 (0.0879)	0.1209 (0.3222)
Proportion of 1–6 y/o females	-0.0197 (0.0337)	0.0350 (0.1268)	-0.0256 (0.0339)	0.0588 (0.1266)	-0.1027 (0.0679)	-0.0890 (0.1776)	-0.1168 (0.0725)	-0.0930 (0.1788)
Proportion of 7–14 y/o females	-0.0962 (0.0946)	0.1312 (0.2175)	-0.0930 (0.0906)	0.1554 (0.2171)	-3.7326*** (1.0409)	1.4834*** (0.4898)	-3.6526*** (1.0179)	1.5240* (0.4948)
Proportion of 15–24 y/o females	-0.0337 (0.0387)	-0.2903** (0.1311)	-0.0319 (0.0385)	-0.2976** (0.1310)	-0.0353 (0.0543)	-0.2511 (0.1869)	-0.0205 (0.0503)	-0.2247 (0.1900)
Proportion of 25–59 y/o females	-0.0570 (0.0364)	-0.3586*** (0.1249)	-0.0579* (0.0352)	-0.3640*** (0.1249)	-0.0780 (0.0516)	-0.1840 (0.1800)	-0.0789 (0.0489)	-0.1800 (0.1798)
Proportion of 60 y/o and above females	-0.0386 (0.0880)	-0.0007 (0.2588)	-0.0386 (0.0865)	-0.0083 (0.2583)	-0.1790 (0.1450)	-0.0009 (0.3866)	-0.1872 (0.1465)	0.0027 (0.3617)
<i>N</i>	<i>1,114</i>	<i>1,114</i>	<i>1,114</i>	<i>1,114</i>	<i>588</i>	<i>588</i>	<i>588</i>	<i>588</i>

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for household proportions is the proportion of 25- to 59-year-old males

Table 6.4 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Type of main job (continuation)

Type of main job (base outcome: wage worker)

Variable	Agricultural		Self-employed		Agricultural		Self-Employed	
	9	10	11	12	13	14	15	16
Smoking behavior								
Cigarette sticks consumed daily	0.0024 (0.0020)	0.0128** (0.0052)						
Drinking behavior								
IC ever drunk in 2002			-0.0039 (0.0121)	-0.0683** (0.0335)				
IC's age first tried drinking					-0.0012 (0.0020)	-0.0044 (0.0071)		
Frequency of drinking in 2002 ^{a/}								
Every week							-0.0122 (0.0087)	0.0664 (0.0475)
Every day							0.3341* (0.1934)	0.1559 (0.1966)
Stopped drinking							-0.0056 (0.0104)	-0.0117 (0.0349)
2009 controls								
Urbanity	-0.0797** (0.0328)	-0.0613 (0.0651)	-0.0319*** (0.0104)	-0.0758*** (0.0273)	-0.0352*** (0.0118)	-0.0793*** (0.0298)	-0.0381*** (0.0129)	-0.0809*** (0.0298)
Age of IC	-0.0063 (0.0208)	-0.0368 (0.0633)	-0.0031 (0.0084)	-0.0326 (0.0324)	0.0031 (0.0100)	-0.0237 (0.0342)	0.0066 (0.0103)	-0.0266 (0.0346)
Gender of IC	0.3870** (0.1669)	-0.0109 (0.2020)	0.0194 (0.0150)	0.0202 (0.0376)	0.0048 (0.0154)	0.0129 (0.0412)	0.0011 (0.0161)	0.0024 (0.0421)
<i>N</i>	223	223	1 114	1 114	910	910	910	910

Note: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of drinking is IC drinking only occasionally

Table 6.4 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Type of main job (continuation)

Type of main job (base outcome: wage worker)

Variable	Agricultural		Self-employed		Agricultural		Self-Emp	
	9	10	11	12	13	14	15	16
2009 controls^{a/}								
Household size	0.0139*	0.0180	0.0022	-0.0027	0.0024	-0.0047	0.0027	-0.00
	(0.0082)	(0.0148)	(0.0016)	(0.0061)	(0.0021)	(0.0067)	(0.0023)	(0.006)
Gender of household head	-0.0056	0.0132	0.0004	-0.0328	-0.0061	-0.0417	-0.0067	-0.04
	(0.0297)	(0.0873)	(0.0113)	(0.0344)	(0.0110)	(0.0374)	(0.0111)	(0.037)
Proportion of less than 1 y/o males	-0.1604	0.3650	-0.0505	0.2013	-0.0451	0.3231	-0.0601	0.291
	(0.1115)	(0.4650)	(0.0458)	(0.2438)	(0.0460)	(0.2509)	(0.0477)	(0.250)
Proportion of 1–6 y/o males	-0.0046	0.1952	0.0081	0.2239**	0.0130	0.1575	-0.0071	0.157
	(0.0678)	(0.2609)	(0.0279)	(0.1131)	(0.0316)	(0.1257)	(0.0248)	(0.126)
Proportion of 7–14 y/o males	0.1653	0.2443	0.0351	-0.0347	0.0529	-0.1461	0.0282	-0.13
	(0.1378)	(0.5430)	(0.0590)	(0.2263)	(0.0566)	(0.2623)	(0.0527)	(0.263)
Proportion of 15–24 y/o males	-0.2893	-0.4500	-0.0516	-0.3115**	-0.0736	-0.3126*	-0.0830	-0.310
	(0.2791)	(0.3929)	(0.0460)	(0.1488)	(0.0605)	(0.1629)	(0.0662)	(0.161)
Proportion of 60 y/o and above males	0.1443	-0.0071	-0.0558	-0.1839	-0.0392	-0.1023	-0.0500	-0.08
	(0.1801)	(0.7056)	(0.0985)	(0.2734)	(0.0910)	(0.2837)	(0.0891)	(0.280)
Proportion of less than 1 y/o females	0.1123	-0.2498	0.0013	0.2897	-0.0247	0.2266	-0.0345	0.239
	(0.1526)	(0.6008)	(0.0579)	(0.2151)	(0.0787)	(0.2393)	(0.0728)	(0.240)
Proportion of 1–6 y/o females	-0.6980***	0.3823	-0.0250	0.0860	-0.0559	0.0804	-0.0601	0.073
	(0.2447)	(0.2848)	(0.0346)	(0.1262)	(0.0377)	(0.1347)	(0.0383)	(0.135)
Proportion of 7–14 y/o females	-4.2265***	1.6782**	-0.0953	0.1471	-0.1483	0.2015	-0.1406	0.200
	(1.3092)	(0.7240)	(0.0906)	(0.2152)	(0.1377)	(0.2479)	(0.1335)	(0.247)
Proportion of 15–24 y/o females	-0.0167	0.3477	-0.0314	-0.2833**	-0.0579	-0.2638*	-0.0572	-0.256
	(0.0752)	(0.3118)	(0.0394)	(0.1300)	(0.0455)	(0.1421)	(0.0418)	(0.143)
Proportion of 25–59 y/o females	-0.1415	0.4556	-0.0577	-0.3371***	-0.0911**	-0.3374**	-0.0981**	-0.336
	(0.1079)	(0.3087)	(0.0354)	(0.1250)	(0.0410)	(0.1348)	(0.0430)	(0.136)
Proportion of 60 y/o and above females	-4.7434***	3.0831***	-0.0377	0.0018	-0.1782	0.0804	-0.1954*	0.065
	(1.3043)	(0.8241)	(0.0871)	(0.2634)	(0.1133)	(0.2817)	(0.1146)	(0.274)
<i>N</i>	223	223	1,114	1,114	910	910	910	910

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for household proportions is the proportion of 25 to 59-year-old males

Table 6.4 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Type of main job (continuation)

Variable	Type of main job (base outcome: wage worker)							
	Agricultural	Self-employed	Agricultural	Self-employed	Agricultural	Self-employed	Agricultural	Self-employed
	17	18	19	20	21	22	23	24
Violence								
IC was physically violated in 2002	0.0083 (0.0162)	-0.0148 (0.0496)						
IC was verbally violated in 2002			-0.0073 (0.0159)	0.0458 (0.0448)				
IC was physically violent in 2002					0.0079 (0.0159)	-0.0049 (0.0490)		
IC was verbally violent in 2002							0.0039 (0.0138)	0.0435 (0.0450)
2009 controls								
Urbanity	-0.0512*** (0.0189)	-0.0828* (0.0452)	-0.0500*** (0.0190)	-0.0868* (0.0454)	-0.0511*** (0.0190)	-0.0831* (0.0454)	-0.0507*** (0.0188)	-0.0860* (0.0454)
Age of IC	0.0057 (0.0161)	0.0226 (0.0577)	0.0061 (0.0164)	0.0214 (0.0575)	0.0054 (0.0167)	0.0222 (0.0579)	0.0064 (0.0164)	0.0223 (0.0574)
Gender of IC	0.0020 (0.0266)	-0.0078 (0.0635)	0.0025 (0.0294)	-0.0161 (0.0640)	0.0037 (0.0272)	-0.0091 (0.0654)	0.0015 (0.0255)	-0.0038 (0.0635)
Household size	0.0047 (0.0030)	0.0102 (0.0097)	0.0048 (0.0030)	0.0099 (0.0096)	0.0049 (0.0030)	0.0100 (0.0097)	0.0048* (0.0029)	0.0102 (0.0096)
Gender of household head	-0.0114 (0.0236)	-0.0444 (0.0607)	-0.0105 (0.0243)	-0.0486 (0.0610)	-0.0116 (0.0235)	-0.0437 (0.0609)	-0.0121 (0.0230)	-0.0522 (0.0613)
Proportion of less than 1 y/o males	-0.1129 (0.0920)	0.5799 (0.4090)	-0.1027 (0.0926)	0.5490 (0.4125)	-0.1066 (0.0892)	0.5760 (0.4100)	-0.1120 (0.0918)	0.5876 (0.4103)
Proportion of 1–6 y/o males	-0.0049 (0.0431)	0.3466* (0.1852)	0.0030 (0.0447)	0.3172* (0.1852)	-0.0050 (0.0432)	0.3411* (0.1843)	-0.0014 (0.0452)	0.3275* (0.1855)
Proportion of 7–14 y/o males	-0.0086 (0.0914)	-0.2506 (0.3885)	0.0100 (0.0974)	-0.3360 (0.3935)	-0.0102 (0.0903)	-0.2613 (0.3900)	-0.0059 (0.0954)	-0.3072 (0.3864)
<i>N</i>	457	457	457	457	457	457	457	457

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported

Table 6.4 Marginal effects of adolescent risky behavior on index child's later-life labor outcomes: Type of main job (continuation)

Variable	Type of main job (base outcome: wage worker)							
	Agricultural	Self-employed	Agricultural	Self-employed	Agricultural	Self-employed	Agricultural	Self-employed
	17	18	19	20	21	22	23	24
2009 Controls ^{a/}								
Proportion of 15–24 y/o males	-0.1793 (0.1291)	-0.1911 (0.2728)	-0.1734 (0.1290)	-0.2170 (0.2733)	-0.1831 (0.1349)	-0.1946 (0.2733)	-0.1767 (0.1285)	-0.2100 (0.2711)
Proportion of 60 y/o and above males	-3.3197*** (1.0009)	1.2091* (0.6622)	-3.3061*** (0.9805)	1.1915* (0.6538)	-3.3430*** (1.0042)	1.2188* (0.6627)	-3.3309*** (0.9893)	1.1888 (0.6559)
Proportion of less than 1 y/o females	-0.0629 (0.1132)	0.5661 (0.3501)	-0.0580 (0.1120)	0.5315 (0.3548)	-0.0697 (0.1147)	0.5681 (0.3500)	-0.0689 (0.1124)	0.5524 (0.3504)
Proportion of 7–14 y/o females	-0.1051** (0.0528)	0.0851 (0.2091)	-0.1011* (0.0528)	0.0549 (0.2098)	-0.1036** (0.0526)	0.0778 (0.2084)	-0.1023* (0.0531)	0.0696 (0.2081)
Proportion of 15–24 y/o females	-0.1962 (0.1984)	0.3497 (0.3612)	-0.2003 (0.1968)	0.3062 (0.3640)	-0.2046 (0.1907)	0.3498 (0.3619)	-0.2021 (0.2001)	0.3288 (0.3608)
Proportion of 25–59 y/o females	-0.0682 (0.0741)	-0.1546 (0.2544)	-0.0633 (0.0788)	-0.1753 (0.2549)	-0.0666 (0.0747)	-0.1591 (0.2545)	-0.0653 (0.0792)	-0.1702 (0.2533)
Proportion of 60 y/o and above females	-0.1803** (0.0763)	-0.1561 (0.2202)	-0.1813** (0.0782)	-0.1766 (0.2194)	-0.1821** (0.0760)	-0.1584 (0.2194)	-0.1822** (0.0769)	-0.1655 (0.2207)
<i>N</i>	-0.1820 (0.1509)	0.2869 (0.4114)	-0.1871 (0.1473)	0.2738 (0.4129)	-0.1838 (0.1520)	0.2804 (0.4098)	-0.1753 (0.1488)	0.2694 (0.4058)
	457	457	457	457	457	457	457	457

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for house proportions is the proportion of 25- to 59-year-old males

Table 7.1 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: At least high school (Multiple Regression, Probit)

Variable	At least high school						
	1	2	3	4	5	6	7
Sexual behavior							
IC ever had sex in 2002	-0.0719*** (0.0178)						
IC used FP in 2002		0.0959** (0.0389)					
IC age first sex			-0.0248* (0.0144)				
Smoking behavior							
IC ever smoked in 2002				-0.0853*** (0.0180)			
IC's age first smoked							
Frequency of smoking in 2002 ^{a/}					0.0001 (0.0058)		
Smokes but not daily							
Smokes at least 1 stick daily						-0.0394 (0.0354)	
Cigarette sticks consumed daily						-0.1400*** (0.0310)	
2009 controls							
Urbanity	0.0693*** (0.0170)	0.1047** (0.0409)	0.1069*** (0.0409)	0.0685*** (0.0169)	0.0811*** (0.0278)	0.0740*** (0.0272)	0.1131** (0.0527)
Age of IC	-0.0291 (0.0199)	0.0138 (0.0481)	0.0221 (0.0487)	-0.0336* (0.0197)	-0.0346 (0.0287)	-0.0284 (0.0280)	-0.0520 (0.0512)
Gender of IC	-0.0393 (0.0243)	-0.0118 (0.0562)	-0.0187 (0.0580)	0.0023 (0.0257)	-0.0446 (0.0407)	0.0086 (0.0417)	-0.0530 (0.1150)
Household size	0.0063* (0.0038)	0.0077 (0.0087)	0.0070 (0.0089)	0.0071* (0.0038)	0.0068 (0.0059)	0.0058 (0.0057)	0.0006 (0.0106)
Gender of household head	0.0304 (0.0206)	0.0409 (0.0530)	0.0346 (0.0532)	0.0237 (0.0206)	0.0485 (0.0342)	0.0464 (0.0334)	0.0276 (0.0676)
Proportion of less than 1 y/o males	-0.1511 (0.1436)	-0.0912 (0.3683)	-0.1049 (0.3661)	-0.1534 (0.1396)	-0.1548 (0.2176)	-0.1041 (0.2120)	-0.0365 (0.3720)
Proportion of 1–6 y/o males	-0.1371* (0.0742)	-0.3253* (0.1798)	-0.3356* (0.1809)	-0.1441** (0.0731)	-0.2168* (0.1183)	-0.2509** (0.1137)	-0.1280 (0.2160)
Proportion of 7–14 y/o males	-0.3437*** (0.1151)	-0.8586*** (0.2667)	-0.8117*** (0.2646)	-0.3836*** (0.1153)	-0.4371** (0.1924)	-0.4190** (0.1929)	-0.3296 (0.3556)
Proportion of 15–24 y/o males	-0.0204 (0.0919)	-0.2509 (0.2555)	-0.2573 (0.2607)	-0.0336 (0.0901)	0.0626 (0.1567)	0.0755 (0.1500)	0.0461 (0.2710)
<i>N</i>	1,578	406	406	1,577	804	804	301

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of smoking is IC stopped smoking

Table 7.1 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: At least high school (continuation)

Variable	At least high school						
	1	2	3	4	5	6	7
2009 controls^{a/}							
Proportion of 60 y/o and above males	0.1094 (0.1755)	0.6973 (0.5323)	0.7943 (0.5324)	0.1354 (0.1773)	0.4030 (0.2788)	0.3862 (0.2780)	0.8646* (0.4608)
Proportion of less than 1 y/o females	-0.0367 (0.1479)	0.5232 (0.4170)	0.4961 (0.4236)	-0.0530 (0.1446)	0.0035 (0.2341)	-0.0119 (0.2299)	-0.1865 (0.4488)
Proportion of 1–6 y/o females	-0.1941** (0.0787)	-0.2370 (0.1902)	-0.2582 (0.1890)	-0.2301*** (0.0761)	-0.1978 (0.1225)	-0.1851 (0.1209)	0.0145 (0.2361)
Proportion of 7–14 y/o females	-0.2486** (0.1191)	-0.5608** (0.2564)	-0.5102* (0.2619)	-0.2931** (0.1190)	-0.3447* (0.1968)	-0.3467* (0.1916)	-0.4045 (0.3989)
Proportion of 15–24 y/o females	0.0304 (0.0887)	-0.1631 (0.2383)	-0.0502 (0.2476)	0.0337 (0.0871)	-0.0001 (0.1329)	-0.0301 (0.1287)	-0.0608 (0.2453)
Proportion of 25–59 y/o females	0.2008** (0.0946)	0.2550 (0.2115)	0.2945 (0.2177)	0.2050** (0.0945)	0.2725** (0.1312)	0.2632** (0.1265)	0.3734 (0.2451)
Proportion of 60 y/o and above females	-0.0781 (0.1505)	-0.1686 (0.4258)	-0.1877 (0.4380)	-0.0660 (0.1528)	-0.1034 (0.2262)	-0.1427 (0.2191)	0.1203 (0.4158)
<i>N</i>	1,578	406	406	1,577	804	804	301

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for household proportions is proportion of 25 to 59-year-old males.

Table 7.1 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: At least high school (continuation)

Variable	At least high school						
	8	9	10	11	12	13	14
Drinking behavior							
IC ever drunk in 2002	-0.0138						
IC's age first tried drinking	(0.0217)						
Frequency of drinking in 2002 ^{a/}		-0.0050					
Every week		(0.0049)					
Every day			-0.0144				
			(0.0291)				
Stopped drinking			-0.4002*				
			(0.2069)				
			-0.0431*				
			(0.0244)				
Violence							
IC was physically violated in 2002				-0.0168			
				(0.0310)			
IC was verbally violated in 2002					-0.0105		
					(0.0282)		
IC was physically violent in 2002						-0.0138	
						(0.0302)	
IC was verbally violent in 2002							-0.0246
							(0.0292)
2009 controls							
Urbanity	0.0663***	0.0728***	0.0750***	0.0993***	0.0990***	0.0995***	0.0982***
	(0.0171)	(0.0196)	(0.0195)	(0.0276)	(0.0275)	(0.0276)	(0.0274)
Age of IC	-0.0344*	-0.0267	-0.0287	-0.0866**	-0.0877**	-0.0865**	-0.0875**
	(0.0200)	(0.0220)	(0.0219)	(0.0366)	(0.0367)	(0.0367)	(0.0366)
Gender of IC	-0.0374	-0.0493*	-0.0544*	-0.0159	-0.0144	-0.0195	-0.0199
	(0.0250)	(0.0279)	(0.0283)	(0.0450)	(0.0453)	(0.0455)	(0.0452)
Household size	0.0066*	0.0087*	0.0085*	0.0046	0.0044	0.0045	0.0044
	(0.0038)	(0.0045)	(0.0045)	(0.0061)	(0.0060)	(0.0061)	(0.0060)
Gender of household head	0.0286	0.0363	0.0360	-0.0204	-0.0202	-0.0205	-0.0174
	(0.0209)	(0.0242)	(0.0242)	(0.0379)	(0.0381)	(0.0379)	(0.0381)
Proportion of less than 1 y/o males	-0.1521	-0.1053	-0.1185	-0.3973*	-0.3950*	-0.4096*	-0.4071*
	(0.1423)	(0.1643)	(0.1633)	(0.2350)	(0.2348)	(0.2346)	(0.2347)
Proportion of 1–6 y/o males	-0.1674**	-0.1545*	-0.1496*	-0.2093*	-0.2119*	-0.2120*	-0.2129*
	(0.0738)	(0.0847)	(0.0838)	(0.1195)	(0.1197)	(0.1199)	(0.1193)
Proportion of 7–14 y/o males	-0.4041***	-0.3294**	-0.3173**	-0.5770***	-0.5752***	-0.5772***	-0.5759***
	(0.1158)	(0.1358)	(0.1354)	(0.1946)	(0.1943)	(0.1952)	(0.1933)
<i>N</i>	1,577	1,255	1,255	669	669	669	669

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of drinking is IC drinking only occasionally

Table 7.1 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: At least high school (continuation)

Variable	At least high school						
	8	9	10	11	12	13	14
2009 controls^{a/}							
Proportion of 15–24 y/o males	-0.0065 (0.0916)	-0.0009 (0.1052)	-0.0075 (0.1046)	-0.0373 (0.1609)	-0.0418 (0.1601)	-0.0393 (0.1621)	-0.0388 (0.1623)
Proportion of 60 y/o and above males	0.1213 (0.1754)	0.0653 (0.1865)	0.0637 (0.1821)	0.4212 (0.3580)	0.4217 (0.3574)	0.4227 (0.3571)	0.4197 (0.3574)
Proportion of less than 1 y/o females	-0.0450 (0.1449)	-0.0072 (0.1663)	-0.0073 (0.1657)	-0.1848 (0.2427)	-0.1761 (0.2434)	-0.1876 (0.2427)	-0.1829 (0.2429)
Proportion of 1–6 y/o females	-0.2333*** (0.0771)	-0.1770** (0.0869)	-0.1809** (0.0870)	-0.3080** (0.1278)	-0.3149** (0.1258)	-0.3141** (0.1262)	-0.3154** (0.1247)
Proportion of 7–14 y/o females	-0.2987** (0.1202)	-0.3149** (0.1425)	-0.3173** (0.1425)	-0.5216*** (0.1976)	-0.5212*** (0.1982)	-0.5234*** (0.1980)	-0.5313*** (0.1954)
Proportion of 15–24 y/o females	0.0494 (0.0886)	0.0619 (0.0947)	0.0578 (0.0940)	-0.0694 (0.1549)	-0.0723 (0.1557)	-0.0724 (0.1551)	-0.0772 (0.1548)
Proportion of 25–59 y/o females	0.2153** (0.0954)	0.2589*** (0.0964)	0.2567*** (0.0957)	0.1312 (0.1596)	0.1327 (0.1602)	0.1291 (0.1599)	0.1278 (0.1602)
Proportion of 60 y/o and above females	-0.0599 (0.1534)	-0.0490 (0.1717)	-0.0551 (0.1705)	-0.3407 (0.2720)	-0.3517 (0.2724)	-0.3539 (0.2725)	-0.3438 (0.2705)
<i>N</i>	1,577	1,255	1,255	669	669	669	669

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for household proportions is proportion of 25- to 59-year-old males

Table 7.2 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: At least college (Multiple Regression, Probit)

Variable	At least college						
	1	2	3	4	5	6	7
Sexual behavior							
IC ever had sex in 2002	-0.1689*** (0.0272)						
IC used FP in 2002		0.1597*** (0.0350)					
IC age first sex			-0.0344*** (0.0119)				
Smoking behavior							
IC ever smoked in 2002				-0.1391*** (0.0254)			
IC's age first smoked					0.0028 (0.0064)		
Frequency of smoking in 2002 ^{a/}							
Smokes but not daily						-0.0505 (0.0462)	
Smokes at least 1 stick daily						-0.2092*** (0.0331)	
Cigarette sticks consumed daily							0.0002 (0.0038)
2009 controls							
Urbanity	0.1838*** (0.0248)	0.1224*** (0.0449)	0.1218*** (0.0439)	0.1814*** (0.0248)	0.1899*** (0.0350)	0.1805*** (0.0339)	0.1668*** (0.0495)
Age of IC	0.0286 (0.0295)	0.0098 (0.0423)	0.0174 (0.0431)	0.0193 (0.0293)	0.0178 (0.0340)	0.0222 (0.0330)	-0.0065 (0.0433)
Gender of IC	-0.0099 (0.0324)	0.0332 (0.0526)	0.0288 (0.0543)	0.0424 (0.0350)	-0.0154 (0.0451)	0.0493 (0.0455)	0.0002 (0.0847)
Household size	0.0172*** (0.0046)	0.0192*** (0.0064)	0.0170** (0.0069)	0.0184*** (0.0046)	0.0136** (0.0061)	0.0109* (0.0059)	-0.0044 (0.0086)
Gender of household head	0.0483* (0.0282)	0.0356 (0.0452)	0.0187 (0.0473)	0.0375 (0.0285)	0.0385 (0.0377)	0.0332 (0.0369)	-0.0348 (0.0510)
Proportion of less than 1 y/o males	-0.1131 (0.2028)	0.0043 (0.3554)	-0.0783 (0.3362)	-0.1024 (0.2027)	0.2094 (0.2634)	0.2651 (0.2523)	-0.0226 (0.3126)
Proportion of 1–6 y/o males	-0.4871*** (0.1134)	-0.7324*** (0.1692)	-0.6737*** (0.1709)	-0.5125*** (0.1121)	-0.6551*** (0.1558)	-0.6869*** (0.1551)	-0.6056*** (0.2138)
Proportion of 7–14 y/o males	-0.4278** (0.1895)	-1.0555*** (0.2914)	-0.8953*** (0.3105)	-0.4755** (0.1888)	-0.3239 (0.2553)	-0.2962 (0.2501)	-0.2439 (0.3342)
Proportion of 15–24 y/o males	0.0400 (0.1187)	-0.2694 (0.2056)	-0.2529 (0.2139)	0.0424 (0.1191)	0.1255 (0.1664)	0.1333 (0.1654)	0.2933 (0.2114)
<i>N</i>	1,578	406	406	1,577	804	804	301

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of smoking is IC stopped smoking

Table 7.2 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: At least college (continuation)

Variable	At least college						
	1	2	3	4	5	6	7
2009 controls^{a/}							
Proportion of 60 y/o and above males	0.2546 (0.2049)	0.7199** (0.3253)	0.8288** (0.3336)	0.3039 (0.2032)	0.3418 (0.2508)	0.3150 (0.2496)	0.0647 (0.3698)
Proportion of less than 1 y/o females	-0.2291 (0.2067)	-0.8652** (0.3768)	-0.8896** (0.3991)	-0.2777 (0.2097)	-0.2498 (0.2888)	-0.2783 (0.2911)	0.1708 (0.3935)
Proportion of 1–6 y/o females	-0.4538*** (0.1187)	-0.3509** (0.1590)	-0.3439** (0.1680)	-0.5267*** (0.1179)	-0.3112** (0.1544)	-0.3082** (0.1501)	-0.2065 (0.2224)
Proportion of 7–14 y/o females	-0.3540* (0.1870)	-0.5404** (0.2542)	-0.4512* (0.2590)	-0.4500** (0.1838)	-0.2734 (0.2430)	-0.2567 (0.2352)	-0.2450 (0.3435)
Proportion of 15–24 y/o females	0.1115 (0.1172)	-0.2888 (0.1954)	-0.1041 (0.2087)	0.1069 (0.1171)	0.1128 (0.1564)	0.0768 (0.1536)	0.1933 (0.2109)
Proportion of 25–59 y/o females	0.3524*** (0.1153)	-0.1469 (0.1814)	-0.0908 (0.1931)	0.3610*** (0.1156)	0.4401*** (0.1559)	0.4066*** (0.1562)	0.2493 (0.2162)
Proportion of 60 y/o and above females	0.2998 (0.1969)	-0.1819 (0.3091)	-0.1378 (0.3212)	0.3331* (0.1972)	0.3683 (0.2451)	0.3268 (0.2450)	0.4608 (0.3119)
<i>N</i>	1,578	406	406	1,577	804	804	301

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for household proportions is proportion of 25- to 59-year-old males

Table 7.2 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: At least college (continuation)

Variable	At least college						
	8	9	10	11	12	13	14
Drinking behavior							
IC ever drunk in 2002	-0.0181 (0.0292)						
IC's age first tried drinking		-0.0110* (0.0063)					
Frequency of drinking in 2002 ^{a/}							
Every week			-0.0756* (0.0402)				
Every day			0.1433 (0.1839)				
Stopped drinking			-0.0544* (0.0302)				
Violence							
IC was physically violated in 2002				0.0226 (0.0361)			
IC was verbally violated in 2002					-0.0292 (0.0325)		
IC was physically violent in 2002						0.0088 (0.0355)	
IC was verbally violent in 2002							0.0029 (0.0328)
2009 controls							
Urbanity	0.1775*** (0.0252)	0.1764*** (0.0287)	0.1780*** (0.0287)	0.1221*** (0.0357)	0.1249*** (0.0355)	0.1227*** (0.0357)	0.1232*** (0.0357)
Age of IC	0.0203 (0.0297)	0.0116 (0.0320)	0.0134 (0.0321)	-0.0283 (0.0419)	-0.0286 (0.0418)	-0.0282 (0.0420)	-0.0275 (0.0418)
Gender of IC	-0.0228 (0.0331)	-0.0471 (0.0361)	-0.0426 (0.0369)	0.0545 (0.0449)	0.0608 (0.0450)	0.0576 (0.0459)	0.0559 (0.0450)
Household size	0.0183*** (0.0046)	0.0183*** (0.0051)	0.0180*** (0.0052)	0.0133** (0.0064)	0.0136** (0.0064)	0.0135** (0.0064)	0.0136** (0.0064)
Gender of household head	0.0458 (0.0287)	0.0725** (0.0319)	0.0726** (0.0320)	-0.0273 (0.0415)	-0.0248 (0.0415)	-0.0275 (0.0415)	-0.0278 (0.0418)
Proportion of less than 1 y/o males	-0.1132 (0.2030)	-0.1392 (0.2303)	-0.1536 (0.2296)	-0.3477 (0.2956)	-0.3509 (0.2946)	-0.3460 (0.2965)	-0.3498 (0.2945)
Proportion of 1–6 y/o males	-0.5470*** (0.1134)	-0.5202*** (0.1301)	-0.5309*** (0.1298)	-0.5102*** (0.1558)	-0.4958*** (0.1554)	-0.5056*** (0.1555)	-0.5042*** (0.1556)
Proportion of 7–14 y/o males	-0.5206*** (0.1888)	-0.3829* (0.2089)	-0.3908* (0.2112)	-0.6004** (0.2887)	-0.5780** (0.2903)	-0.5989** (0.2898)	-0.5979** (0.2907)
<i>N</i>	1,577	1,255	1,255	669	669	669	669

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of drinking is IC drinking only occasionally

Table 7.2 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: At least college (continuation)

Variable	At least college						
	8	9	10	11	12	13	14
2009 controls^{a/}							
Proportion of 15–24 y/o males	0.0702 (0.1204)	0.1608 (0.1358)	0.1449 (0.1358)	0.1632 (0.1838)	0.1831 (0.1827)	0.1710 (0.1830)	0.1742 (0.1832)
Proportion of 60 y/o and above males	0.2550 (0.2046)	0.2190 (0.2229)	0.2250 (0.2241)	0.8617*** (0.3053)	0.8571*** (0.3069)	0.8591*** (0.3057)	0.8624*** (0.3066)
Proportion of less than 1 y/o females	-0.2640 (0.2124)	-0.0907 (0.2324)	-0.1070 (0.2331)	-0.2375 (0.2870)	-0.2199 (0.2860)	-0.2339 (0.2869)	-0.2364 (0.2864)
Proportion of 1–6 y/o females	-0.5398*** (0.1188)	-0.5361*** (0.1337)	-0.5491*** (0.1336)	-0.4533*** (0.1654)	-0.4262*** (0.1631)	-0.4423*** (0.1632)	-0.4392*** (0.1629)
Proportion of 7–14 y/o females	-0.4595** (0.1842)	-0.5240** (0.2135)	-0.4960** (0.2141)	-0.8589*** (0.2779)	-0.8282*** (0.2802)	-0.8563*** (0.2812)	-0.8502*** (0.2787)
Proportion of 15–24 y/o females	0.1296 (0.1187)	0.1172 (0.1349)	0.1093 (0.1355)	0.0385 (0.1837)	0.0455 (0.1833)	0.0410 (0.1834)	0.0429 (0.1836)
Proportion of 25–59 y/o females	0.3675*** (0.1161)	0.4139*** (0.1336)	0.4113*** (0.1327)	0.1803 (0.1800)	0.1902 (0.1804)	0.1832 (0.1803)	0.1834 (0.1801)
Proportion of 60 y/o and above females	0.3320* (0.1985)	0.2511 (0.2172)	0.2494 (0.2196)	-0.2405 (0.3105)	-0.2180 (0.3101)	-0.2259 (0.3095)	-0.2273 (0.3099)
<i>N</i>		1,577	1,255	1,255	669	669	669

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for household proportions is proportion of 25- to 59-year-old males

Table 7.3 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: Highest grade completed (Multiple Regression, Mlogit)

Variable	Highest grade completed (base outcome: <i>secondary</i>)					
	Primary	Tertiary	Primary	Tertiary	Primary	Tertiary
	1	2	3	4	5	6
Sexual behavior						
IC ever had sex in 2002	0.0732***	-0.1690***				
IC used FP in 2002	(0.0174)	(0.0280)	-0.0953**	0.1634***		
IC age first sex			(0.0391)	(0.0367)	0.0208	-0.0347***
2009 controls^{a/}					(0.0152)	(0.0121)
Urbanity	-0.0713***	0.1842***	-0.1088***	0.1262***	-0.1094***	0.1207**
	(0.0167)	(0.0253)	(0.0404)	(0.0486)	(0.0400)	(0.0476)
Age of IC	0.0295	0.0342	-0.0115	0.0092	-0.0197	0.0179
	(0.0198)	(0.0297)	(0.0496)	(0.0432)	(0.0505)	(0.0443)
Gender of IC	0.0334	-0.0128	0.0082	0.0365	0.0178	0.0319
	(0.0250)	(0.0326)	(0.0576)	(0.0560)	(0.0597)	(0.0574)
Household size	-0.0056	0.0171***	-0.0064	0.0179***	-0.0053	0.0159**
	(0.0041)	(0.0045)	(0.0094)	(0.0062)	(0.0097)	(0.0069)
Gender of household head	-0.0257	0.0508*	-0.0385	0.0298	-0.0325	0.0137
	(0.0212)	(0.0283)	(0.0546)	(0.0451)	(0.0545)	(0.0483)
Proportion of less than 1 y/o males	0.1322	-0.1263	0.0840	-0.0045	0.0967	-0.0500
	(0.1449)	(0.2018)	(0.3732)	(0.3817)	(0.3671)	(0.3385)
Proportion of 1–6 y/o males	0.1431**	-0.4814***	0.3318*	-0.7063***	0.3412*	-0.6520***
	(0.0723)	(0.1161)	(0.1823)	(0.1742)	(0.1807)	(0.1760)
Proportion of 7–14 y/o males	0.3317***	-0.4235**	0.8424***	-1.0172***	0.7841***	-0.8881**
	(0.1102)	(0.1939)	(0.2642)	(0.3104)	(0.2599)	(0.3451)
Proportion of 15–24 y/o males	0.0167	0.0470	0.2381	-0.2302	0.2449	-0.2219
	(0.0967)	(0.1179)	(0.2674)	(0.2010)	(0.2732)	(0.2085)
Proportion of 60 y/o and above males	-0.1206	0.2297	-0.6638	0.6920**	-0.7378	0.8151**
	(0.1910)	(0.2038)	(0.6590)	(0.3223)	(0.6487)	(0.3256)
Proportion of less than 1 y/o females	0.0184	-0.2194	-0.5270	-0.8140*	-0.4976	-0.8842*
	(0.1491)	(0.2101)	(0.4755)	(0.4197)	(0.4854)	(0.4676)
Proportion of 1–6 y/o females	0.1922**	-0.4587***	0.2251	-0.3544**	0.2429	-0.3254*
	(0.0775)	(0.1231)	(0.1998)	(0.1591)	(0.1937)	(0.1698)
Proportion of 7–14 y/o females	0.2389**	-0.3441*	0.5102*	-0.5062*	0.4563*	-0.4124
	(0.1158)	(0.1942)	(0.2614)	(0.2751)	(0.2662)	(0.2807)
Proportion of 15–24 y/o females	-0.0418	0.1164	0.1371	-0.2854	0.0284	-0.0901
	(0.0908)	(0.1173)	(0.2591)	(0.1927)	(0.2667)	(0.2071)
<i>N</i>	1,578	1,578	406	406	406	406

Note: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for household proportions is proportion of 25- to 59-year-old males

Table 7.3 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: Highest grade completed (continuation)

Variable	Highest grade completed (base outcome: secondary)					
	Primary	Tertiary	Primary	Tertiary	Primary	Tertiary
	1	2	3	4	5	6
2009 controls						
Proportion of 25–59 y/o females	-0.2175** (0.0945)	0.3676*** (0.1172)	-0.2880 (0.2293)	-0.1321 (0.1772)	-0.3192 (0.2305)	-0.0679 (0.1916)
Proportion of 60 y/o and above females	0.0824 (0.1564)	0.3275* (0.1938)	0.1472 (0.4898)	-0.1410 (0.3018)	0.1708 (0.4993)	-0.1229 (0.3138)
<i>N</i>	<i>1,578</i>	<i>1,578</i>	<i>406</i>	<i>406</i>	<i>406</i>	<i>406</i>

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported

Table 7.3 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: Highest grade completed (continuation)

Variable	Highest grade completed (base outcome: secondary)							
	Primary	Tertiary	Primary	Tertiary	Primary	Tertiary	Primary	Tertiary
	7	8	9	10	11	12	13	14
Smoking behavior								
IC ever smoked in 2002	0.0863*** (0.0183)	-0.1389*** (0.0255)						
IC's age first smoked			-0.0005 (0.0060)	0.0029 (0.0064)				
Frequency of smoking in 2002 ^{a/}								
Smokes but not daily					0.0404 (0.0361)	-0.0486 (0.0468)		
Smokes at least 1 stick daily					0.1369*** (0.0311)	-0.2092*** (0.0335)		
Cigarette sticks consumed daily							0.0017 (0.0046)	-0.0001 (0.0041)
2009 controls								
Urbanity	-0.0694*** (0.0165)	0.1818*** (0.0254)	-0.0839*** (0.0272)	0.1932*** (0.0371)	-0.0771*** (0.0267)	0.1818*** (0.0356)	-0.1158** (0.0522)	0.1721*** (0.0554)
Age of IC	0.0349* (0.0195)	0.0258 (0.0296)	0.0378 (0.0285)	0.0252 (0.0344)	0.0321 (0.0280)	0.0281 (0.0331)	0.0521 (0.0518)	-0.0010 (0.0454)
Gender of IC	-0.0064 (0.0260)	0.0400 (0.0352)	0.0417 (0.0422)	-0.0200 (0.0454)	-0.0084 (0.0432)	0.0482 (0.0463)	0.0533 (0.1230)	-0.0068 (0.0885)
Household size	-0.0063 (0.0041)	0.0184*** (0.0045)	-0.0065 (0.0062)	0.0140** (0.0060)	-0.0056 (0.0060)	0.0117** (0.0059)	-0.0011 (0.0110)	-0.0039 (0.0093)
<i>N</i>	1,577	1,577	804	804	804	804	301	301

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of smoking is IC stopped smoking

Table 7.3 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: Highest grade completed (continuation)

Variable	Highest grade completed (base outcome: secondary)							
	Primary	Tertiary	Primary	Tertiary	Primary	Tertiary	Primary	Tertiary
	7	8	9	10	11	12	13	14
2009 controls^{a/}								
Gender of household head	-0.0200 (0.0211)	0.0407 (0.0286)	-0.0461 (0.0347)	0.0410 (0.0375)	-0.0444 (0.0341)	0.0381 (0.0370)	-0.0272 (0.0703)	-0.0310 (0.0507)
Proportion of less than 1 y/o males	0.1421 (0.1383)	-0.1155 (0.2033)	0.1491 (0.2172)	0.1916 (0.2680)	0.0986 (0.2134)	0.2620 (0.2576)	0.0365 (0.3696)	-0.0094 (0.3283)
Proportion of 1–6 y/o males	0.1532** (0.0714)	-0.5115*** (0.1146)	0.2433** (0.1158)	-0.6655*** (0.1659)	0.2638** (0.1108)	-0.6881*** (0.1644)	0.1926 (0.2132)	-0.5975** (0.2486)
Proportion of 7–14 y/o males	0.3676*** (0.1122)	-0.4845** (0.1909)	0.4084** (0.1887)	-0.3542 (0.2606)	0.3831** (0.1906)	-0.3257 (0.2598)	0.3253 (0.3503)	-0.2407 (0.3719)
Proportion of 15–24 y/o males	0.0255 (0.0939)	0.0421 (0.1183)	-0.0510 (0.1656)	0.1232 (0.1651)	-0.0626 (0.1568)	0.1182 (0.1660)	-0.0211 (0.2840)	0.2909 (0.2223)
Proportion of 60 y/o and above males	-0.1502 (0.1928)	0.2817 (0.2008)	-0.4358 (0.3002)	0.3420 (0.2505)	-0.4409 (0.2934)	0.3101 (0.2524)	-0.8700* (0.5082)	0.0796 (0.4030)
Proportion of less than 1 y/o females	0.0428 (0.1441)	-0.2798 (0.2151)	-0.0008 (0.2341)	-0.2569 (0.3027)	0.0216 (0.2302)	-0.3112 (0.2975)	0.1596 (0.4527)	0.2044 (0.4298)
Proportion of 1–6 y/o females	0.2304*** (0.0743)	-0.5326*** (0.1231)	0.2017* (0.1211)	-0.3047* (0.1611)	0.1809 (0.1201)	-0.2932* (0.1546)	0.0155 (0.2341)	-0.1670 (0.2467)
Proportion of 7–14 y/o females	0.2830** (0.1160)	-0.4506** (0.1883)	0.3382* (0.1952)	-0.2760 (0.2487)	0.3404* (0.1913)	-0.2540 (0.2404)	0.4086 (0.4058)	-0.2080 (0.3824)
Proportion of 15–24 y/o females	-0.0429 (0.0880)	0.1081 (0.1177)	0.0073 (0.1347)	0.1167 (0.1590)	0.0301 (0.1303)	0.0798 (0.1561)	0.0855 (0.2452)	0.2136 (0.2261)
Proportion of 25–59 y/o females	-0.2213** (0.0934)	0.3706*** (0.1180)	-0.2570* (0.1327)	0.4487*** (0.1600)	-0.2507** (0.1274)	0.4293*** (0.1628)	-0.3420 (0.2494)	0.2850 (0.2377)
Proportion of 60 y/o and above females	0.0749 (0.1596)	0.3481* (0.1938)	0.1212 (0.2325)	0.3796 (0.2412)	0.1507 (0.2234)	0.3430 (0.2449)	-0.0398 (0.4805)	0.4474 (0.3163)
<i>N</i>	1,577	1,577	804	804	804	804	301	301

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for household proportions is proportion of 25– to 59-year-old males

Table 7.3 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: Highest grade completed (continuation)

Variable	Highest grade completed (base outcome: secondary)					
	Primary	Tertiary	Primary	Tertiary	Primary	Tertiary
	15	16	17	18	19	20
Drinking behavior						
IC ever drunk in 2002	0.0144 (0.0221)	-0.0188 (0.0295)				
IC's age first tried drinking			0.0044 (0.0050)	-0.0107* (0.0063)		
Frequency of drinking in 2002 ^{a/}						
Every week					0.0096 (0.0288)	-0.0785* (0.0404)
Every day					0.3725** (0.1536)	0.1218 (0.1541)
Stopped drinking					0.0408 (0.0250)	-0.0572* (0.0302)
2009 controls^{b/}						
Urbanity	-0.0681*** (0.0167)	0.1788*** (0.0258)	-0.0742*** (0.0192)	0.1767*** (0.0296)	-0.0762*** (0.0191)	0.1797*** (0.0295)
Age of IC	0.0361* (0.0198)	0.0260 (0.0299)	0.0285 (0.0218)	0.0180 (0.0322)	0.0310 (0.0216)	0.0210 (0.0322)
Gender of IC	0.0321 (0.0258)	-0.0256 (0.0332)	0.0465 (0.0291)	-0.0503 (0.0362)	0.0518* (0.0295)	-0.0472 (0.0371)
Household size	-0.0059 (0.0041)	0.0183*** (0.0046)	-0.0083* (0.0049)	0.0184*** (0.0051)	-0.0083* (0.0049)	0.0181*** (0.0051)
Gender of household head	-0.0236 (0.0215)	0.0493* (0.0287)	-0.0312 (0.0250)	0.0759** (0.0319)	-0.0309 (0.0248)	0.0769** (0.0319)
Proportion of less than 1 y/o males	0.1345 (0.1423)	-0.1188 (0.2025)	0.0901 (0.1661)	-0.1578 (0.2323)	0.1051 (0.1654)	-0.1678 (0.2309)
Proportion of 1–6 y/o males	0.1745** (0.0719)	-0.5521*** (0.1159)	0.1660** (0.0833)	-0.5333*** (0.1345)	0.1596* (0.0822)	-0.5399*** (0.1335)
Proportion of 7–14 y/o males	0.3824*** (0.1112)	-0.5200*** (0.1921)	0.3164** (0.1329)	-0.3866* (0.2117)	0.3034** (0.1320)	-0.4020* (0.2131)
Proportion of 15–24 y/o males	0.0009 (0.0958)	0.0692 (0.1193)	0.0120 (0.1110)	0.1593 (0.1348)	0.0189 (0.1102)	0.1437 (0.1349)
Proportion of 60 y/o and above males	-0.1245 (0.1891)	0.2339 (0.2005)	-0.0659 (0.1963)	0.1965 (0.2194)	-0.0534 (0.1909)	0.2002 (0.2220)
Proportion of less than 1 y/o females	0.0403 (0.1447)	-0.2685 (0.2177)	0.0119 (0.1670)	-0.0860 (0.2357)	0.0095 (0.1669)	-0.1001 (0.2362)
Proportion of 1–6 y/o females	0.2340*** (0.0754)	-0.5431*** (0.1234)	0.1920** (0.0858)	-0.5416*** (0.1405)	0.1980** (0.0857)	-0.5571*** (0.1398)
Proportion of 7–14 y/o females	0.2862** (0.1171)	-0.4566** (0.1890)	0.3078** (0.1400)	-0.5172** (0.2212)	0.3123** (0.1401)	-0.4968** (0.2212)
N	1,577	1,577	1,255	1,255	1,255	1,255

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of drinking is IC drinking only occasionally. ^{b/} Base outcome for frequency of smoking is IC stopped smoking

Table 7.3 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: Highest grade completed (continuation)

Variable	Highest grade completed (base outcome: secondary)					
	Primary	Tertiary	Primary	Tertiary	Primary	Tertiary
	15	16	17	18	19	20
2009 controls						
Proportion of 15–24 y/o females	-0.0595 (0.0899)	0.1297 (0.1193)	-0.0512 (0.0962)	0.1126 (0.1365)	-0.0462 (0.0952)	0.1030 (0.1366)
Proportion of 25–59 y/o females	-0.2282** (0.0955)	0.3757*** (0.1178)	-0.2409** (0.0981)	0.4204*** (0.1376)	-0.2369** (0.0979)	0.4154*** (0.1363)
Proportion of 60 y/o and above females	0.0667 (0.1592)	0.3459* (0.1942)	0.0642 (0.1783)	0.2764 (0.2107)	0.0725 (0.1754)	0.2650 (0.2149)
<i>N</i>	1,577	1,577	1,255	1,255	1,255	1,255

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported

Table 7.3 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: Highest grade completed (continuation)

Variable	Highest grade completed (base outcome: secondary)							
	Primary	Tertiary	Primary	Tertiary	Primary	Tertiary	Primary	Tertiary
	21	22	23	24	25	26	27	28
Violence								
IC was physically violated in 2002	0.0179 (0.0310)	0.0263 (0.0364)						
IC was verbally violated in 2002			0.0100 (0.0284)	-0.0241 (0.0330)				
IC was physically violent in 2002					0.0127 (0.0306)	0.0127 (0.0361)		
IC was verbally violent in 2002							0.0288 (0.0303)	0.0036 (0.0329)
2009 controls								
Urbanity	-0.1016*** (0.0272)	0.1218*** (0.0368)	-0.1011*** (0.0272)	0.1237*** (0.0366)	-0.1016*** (0.0273)	0.1222*** (0.0368)	-0.1007*** (0.0270)	0.1228*** (0.0367)
Age of IC	0.0905** (0.0374)	-0.0197 (0.0420)	0.0918** (0.0375)	-0.0198 (0.0419)	0.0908** (0.0375)	-0.0199 (0.0421)	0.0917** (0.0373)	-0.0186 (0.0418)
Gender of IC	0.0037 (0.0469)	0.0541 (0.0449)	0.0017 (0.0470)	0.0603 (0.0451)	0.0065 (0.0476)	0.0590 (0.0458)	0.0078 (0.0474)	0.0563 (0.0450)
Household size	-0.0038 (0.0065)	0.0140** (0.0063)	-0.0037 (0.0064)	0.0142** (0.0063)	-0.0037 (0.0065)	0.0142** (0.0063)	-0.0034 (0.0063)	0.0142** (0.0063)
Gender of household head	0.0321 (0.0396)	-0.0175 (0.0422)	0.0326 (0.0398)	-0.0159 (0.0423)	0.0329 (0.0395)	-0.0179 (0.0422)	0.0293 (0.0396)	-0.0185 (0.0427)
<i>N</i>	669	669	669	669	669	669	669	669

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported

Table 7.3 Marginal effects of adolescent risky behavior on index child's later-life education outcomes: Highest grade completed (continuation)

Variable	Highest grade completed (base outcome: secondary)							
	Primary	Tertiary	Primary	Tertiary	Primary	Tertiary	Primary	Tertiary
	21	22	23	24	25	26	27	28
2009 controls^{a/}								
Proportion of less than 1 y/o males	0.3693 (0.2323)	-0.3384 (0.3025)	0.3685 (0.2326)	-0.3415 (0.3014)	0.3813 (0.2320)	-0.3331 (0.3033)	0.3823* (0.2317)	-0.3398 (0.3018)
Proportion of 1–6 y/o males	0.2096* (0.1200)	-0.5146*** (0.1619)	0.2113* (0.1206)	-0.5008*** (0.1618)	0.2112* (0.1209)	-0.5089*** (0.1617)	0.2113* (0.1201)	-0.5073*** (0.1619)
Proportion of 7–14 y/o males	0.5556*** (0.1910)	-0.6294** (0.2993)	0.5611*** (0.1903)	-0.6060** (0.3030)	0.5594*** (0.1920)	-0.6293** (0.3009)	0.5586*** (0.1892)	-0.6287** (0.3024)
Proportion of 15–24 y/o males	0.0234 (0.1651)	0.1656 (0.1829)	0.0269 (0.1650)	0.1873 (0.1821)	0.0228 (0.1664)	0.1761 (0.1820)	0.0189 (0.1662)	0.1802 (0.1824)
Proportion of 60 y/o and above males	-0.4391 (0.4184)	0.8094*** (0.2823)	-0.4359 (0.4178)	0.8024*** (0.2850)	-0.4329 (0.4162)	0.8018*** (0.2828)	-0.4365 (0.4180)	0.8054*** (0.2837)
Proportion of less than 1 y/o females	0.1408 (0.2475)	-0.2372 (0.2934)	0.1320 (0.2479)	-0.2211 (0.2924)	0.1412 (0.2476)	-0.2284 (0.2932)	0.1353 (0.2470)	-0.2337 (0.2930)
Proportion of 1–6 y/o females	0.2876** (0.1301)	-0.4486*** (0.1724)	0.2957** (0.1281)	-0.4201** (0.1702)	0.2947** (0.1290)	-0.4353** (0.1698)	0.2944** (0.1268)	-0.4310** (0.1697)
Proportion of 7–14 y/o females	0.5177*** (0.1953)	-0.8717*** (0.3023)	0.5220*** (0.1955)	-0.8412*** (0.3059)	0.5225*** (0.1968)	-0.8714*** (0.3072)	0.5279*** (0.1932)	-0.8631*** (0.3048)
Proportion of 15–24 y/o females	0.0717 (0.1593)	0.0344 (0.1824)	0.0745 (0.1612)	0.0425 (0.1826)	0.0746 (0.1601)	0.0380 (0.1825)	0.0820 (0.1591)	0.0392 (0.1827)
Proportion of 25–59 y/o females	-0.1559 (0.1646)	0.1938 (0.1808)	-0.1579 (0.1651)	0.2035 (0.1817)	-0.1553 (0.1654)	0.1986 (0.1814)	-0.1528 (0.1653)	0.1977 (0.1814)
Proportion of 60 y/o and above females	0.3377 (0.2793)	-0.2148 (0.3028)	0.3482 (0.2805)	-0.1914 (0.3047)	0.3459 (0.2821)	-0.1946 (0.3021)	0.3394 (0.2766)	-0.1972 (0.3036)
<i>N</i>	669	669	669	669	669	669	669	669

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of smoking is IC stopped smoking

Table 8 Hazard ratios of adolescent risky behavior on family formation (Multiple Regression, Stcox)

Variable	Time to first marriage/ cohabitation				
	1	2	3	4	5
Sexual behavior					
IC ever had sex in 2002	0.1862*** (0.0312)				
IC used FP in 2002		1.1221 (0.1474)			
Smoking behavior					
IC ever smoked in 2002			0.2208*** (0.0320)		
Frequency of smoking in 2002 ^{a/}					
Smokes but not daily				1.4867*** (0.2016)	
Smokes at least 1 stick daily				0.9258 (0.1127)	
Cigarette sticks consumed daily					0.9747* (0.0152)
2009 controls^{b/}					
Urbanity	0.7511*** (0.0658)	0.7719* (0.1172)	0.9794 (0.1006)	1.1185 (0.1341)	0.8335 (0.1439)
Age of IC	0.4339*** (0.0285)	0.6056*** (0.0271)	0.5759*** (0.0353)	0.6251*** (0.0336)	0.6503*** (0.0383)
Gender of IC	0.8943 (0.0795)	0.5396*** (0.1085)	1.0175 (0.1277)	1.2207 (0.2009)	1.2678 (0.6596)
Household size	0.9920 (0.0130)	1.008 (0.0231)	0.9863 (0.0147)	0.9756 (0.0223)	1.0023 (0.0351)
Gender of household head	0.9718 (0.0819)	1.0005 (0.1865)	1.0565 (0.0998)	1.3709** (0.1984)	1.4632 (0.3783)
Proportion of less than 1 y/o males	13.5294*** (8.7765)	5.0524* (4.5015)	19.4363*** (13.3970)	40.8503*** (31.5499)	258.3536*** (253.2087)
Proportion of 1–6 y/o males	3.0738* (1.8271)	1.2880 (1.2393)	2.812 (2.0662)	6.1791** (4.9602)	2.0124 (2.3089)
Proportion of 7–14 y/o males	1.5577 (1.1872)	1.8999 (2.5166)	1.7254 (1.2189)	2.3355 (2.2281)	18.5776** (21.8964)
Proportion of 15–24 y/o males	2.0939** (0.7053)	2.8293 (1.8072)	1.5118 (0.5902)	3.0328** (1.6467)	11.4872*** (9.0598)
Proportion of 25–59 y/o males	0.5168** (0.1637)	0.4816 (0.3499)	1.1692 (0.4639)	2.1229 (1.3467)	1.0361 (1.0843)
Proportion of 60 y/o and above males	0.691 (0.4885)	0.6246 (0.9601)	0.7698 (0.5526)	0.7538 (0.7274)	2.6431 (3.5910)
Proportion of less than 1 y/o females	14.3295*** (14.2463)	4.5185 (5.8046)	84.6538*** (52.6931)	207.517*** (174.3525)	323.1884*** (439.6817)
Proportion of 1–6 y/o females	3.6689* (2.5386)	1.3268 (1.3033)	3.7205* (2.7973)	7.0691** (6.5393)	56.0802*** (67.2229)
<i>N</i>	1451	297	1428	754	283

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of smoking is IC stopped smoking

Table 8 Hazard ratios of adolescent risky behavior on family formation (continuation)

Variable	Time to first marriage/ cohabitation				
	1	2	3	4	5
Controls					
Proportion of 1–6 y/o females	3.6689* (2.5386)	1.3268 (1.3033)	3.7205* (2.7973)	7.0691** (6.5393)	56.0802*** (67.2229)
Proportion of 7–14 y/o females	3.4167** (2.0394)	1.3568 (1.4708)	5.235*** (2.9834)	10.0811*** (7.9456)	5.713 (7.9230)
Proportion of 15–24 y/o females	5.0798*** (2.0302)	3.3353 (2.6676)	5.4099*** (2.2143)	9.8522*** (5.2999)	24.3439*** (22.5441)
Proportion of 25–59 y/o females	1.0174 (0.4490)	1.5556 (1.4634)	1.3222 (0.5681)	10.8731*** (6.5579)	120.0509*** (134.7756)
Proportion of 60 y/o and above females	0.9652 (0.5902)	0.6586 (0.7249)	1.8934 (1.2295)	6.2293** (5.0515)	21.2118* (34.1932)
<i>N</i>	1451	297	1428	754	283

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported

Table 8 Hazard ratios of adolescent risky behavior on family formation (continuation)

Variable	Time to first marriage/ cohabitation					
	6	7	8	9	10	11
Drinking behavior						
IC ever drunk in 2002	0.3517*** (0.0354)					
Frequency of drinking in 2002 ^{a/}						
Every week		1.0152 (0.1160)				
Every day		0.6132 (0.3903)				
Stopped drinking		0.8701 (0.1172)				
Violence						
IC was physically violated in 2002			0.9824 (0.0890)			
IC was verbally violated in 2002				1.0972 (0.0908)		
IC was physically violent in 2002					0.9572 (0.0795)	
IC was verbally violent in 2002						0.9647 (0.0796)
Controls						
Urbanity	0.786*** (0.0608)	0.7931*** (0.0669)	0.6659*** (0.0582)	0.6664*** (0.0583)	0.6685*** (0.0588)	0.6661*** (0.0582)
Age of IC	0.578*** (0.0205)	0.5938*** (0.0210)	0.1806*** (0.0144)	0.1802*** (0.0141)	0.1809*** (0.0144)	0.1808*** (0.0144)
Gender of IC	1.0007 (0.1255)	0.958 (0.1249)	1.1305 (0.1008)	1.114 (0.0983)	1.1197 (0.1011)	1.1241 (0.0986)
Household size	0.9779 (0.0179)	0.9801 (0.0196)	0.9904 (0.0151)	0.9912 (0.0150)	0.9900 (0.0151)	0.9899 (0.0150)
Gender of household head	1.0687 (0.1071)	1.0911 (0.1202)	0.9328 (0.0932)	0.9257 (0.0927)	0.9331 (0.0930)	0.9392 (0.0953)
Proportion of less than 1 y/o males	43.0354*** (21.9970)	42.8742*** (22.8596)	1.9286 (1.2064)	1.9626 (1.2227)	1.9682 (1.2336)	1.9763 (1.2370)
Proportion of 1–6 y/o males	5.5848*** (2.8073)	4.8949*** (2.6084)	0.9001 (0.5817)	0.8473 (0.5465)	0.8959 (0.5735)	0.8911 (0.5712)
Proportion of 7–14 y/o males	3.5333* (2.3371)	3.5472* (2.4973)	0.6646 (0.5715)	0.6125 (0.5261)	0.6651 (0.5743)	0.6771 (0.5848)
Proportion of 15–24 y/o males	1.2831 (0.4395)	1.337 (0.4863)	0.6025 (0.2834)	0.5875 (0.2761)	0.6047 (0.2840)	0.6037 (0.2831)
Proportion of 25–59 y/o males	1.3811 (0.6208)	1.3272 (0.6261)	0.5567 (0.2786)	0.5374 (0.2705)	0.5584 (0.2796)	0.5557 (0.2772)
Proportion of 60 y/o and above males	0.9952 (0.6624)	0.809 (0.5959)	1.1758 (1.1800)	1.1348 (1.1363)	1.2054 (1.2116)	1.1741 (1.1804)
<i>N</i>	1440	1175	480	480	480	480

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported. ^{a/} Base outcome for frequency of drinking is IC drinking only occasionally

Table 8 Hazard ratios of adolescent risky behavior on family formation (continuation)

Variable	Time to first marriage/					
	6	7	8	9	10	11
Controls						
Proportion of less than 1 y/o females	7.0913** (6.7545)	5.9723* (5.8376)	5.024** (3.6608)	4.6124** (3.3716)	5.0597** (3.6840)	5.0209** (3.6627)
Proportion of 1–6 y/o females	7.6253*** (4.3690)	5.26*** (3.2430)	1.0556 (0.6749)	1.0435 (0.6701)	1.0579 (0.6783)	1.0361 (0.6658)
Proportion of 7–14 y/o females	2.8521* (1.7823)	3.0729* (2.0535)	0.7367 (0.5345)	0.6984 (0.5040)	0.743 (0.5383)	0.74 (0.5349)
Proportion of 15–24 y/o females	3.331*** (1.2167)	2.9769*** (1.1991)	1.4152 (0.7805)	1.4004 (0.7648)	1.4293 (0.7768)	1.4343 (0.7851)
Proportion of 25–59 y/o females	1.1241 (0.4969)	1.2798 (0.5966)	0.3874 (0.2254)	0.379* (0.2209)	0.3911 (0.2281)	0.3928 (0.2297)
Proportion of 60 y/o and above females	1.6555 (1.0147)	1.793 (1.1630)	0.2783** (0.1781)	0.2586** (0.1638)	0.2805** (0.1792)	0.2777** (0.1779)
<i>N</i>	1440	1175	480	480	480	480

Notes: ***, **, * indicate 1%, 5%, and 10% statistical significance, respectively. Robust standard errors (in parentheses) are reported