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## Sex, Violence, and Drugs Among Latin American and Caribbean Adolescents: Do Engaged Parents Make a Difference?

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# Sex, Violence, and Drugs Among Latin American and Caribbean Adolescents

## Do Engaged Parents Make a Difference?

Inder J. Ruprah  
Ricardo Sierra  
Heather Sutton

Inter-American Development Bank  
Institutions for Development and the  
Country Department Caribbean Group

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## **ABSTRACT**

This paper uses data from the Global School-based Student Health Survey to investigate the prevalence of health risk behaviors—in particular, substance use, risky sexual behavior, and violence—among adolescents in 15 Latin American and Caribbean countries. Using logit regressions and meta-analysis, we find that having parents engaged in raising their children is associated with significantly reduced problem behaviors in adolescents. That said, in the Caribbean the prevalence of health risk behaviors in adolescents is higher and engaged parents is lower than in Latin America, and the correlation between engaged parenting and reduced risk behaviors is generally weaker. Nonetheless, for both subgroups of countries, engaged parents do appear to make a difference.

**Keywords:** parenting, health risk behaviors, adolescents, Latin America and the Caribbean

**JEL classification:** I12, I18, I20, J13, O54

## **I) INTRODUCTION**

In this paper, we explore the relation between adolescents' health risk behaviors and parental engagement in 15 Caribbean and Latin American countries. The relation is examined through logit regressions, and the overall effect is estimated through meta-analysis.

Adolescence is a time of many developmental challenges related to identity, autonomy, and sexuality. This period includes experimentation with perceived facets of adulthood. Many adolescents experiment with risk behaviors, such as delinquent, antisocial, and high-risk sexual behaviors. Adolescence is also a period in which these problem behaviors can become established patterns, thereby affecting well-being later in life. During this time, there is also a transformation in the parent-adolescent relationship. This study investigates whether parental engagement can be a significant predictor of risk behaviors of adolescents in Latin America and the Caribbean, as has been indicated in many studies of adolescents in developed countries. Furthermore, we aim to investigate any related differences between the Caribbean and Latin American countries.

This paper has five sections. Section I introduces the paper. Section II presents a brief literature review on the adolescent-parent relationship and its influence on adolescent health risk behaviors. In section III, we describe the data, variables of interest, and research methods. In section IV, we present the results, and we end with a discussion of the findings in section V.

## **II) ADOLESCENT HEALTH RISK BEHAVIORS: RISK AND PROTECTION FACTORS**

An extensive body of research exists on how adolescent risk behaviors (such as abuse of alcohol and drugs, delinquency, early sexual activity, and violence) contribute to the morbidity and mortality of youth worldwide. This research suggests that decreasing certain risk factors and increasing protective factors can help prevent problem behaviors and their negative consequences. While more research is being conducted in Latin American countries, only a handful of studies have been conducted in the Caribbean. Moreover, few studies have been able to analyze the effect of the same risk and protective factors across multiple countries in the Latin America and the Caribbean region.

The most widely recognized risk and protection factors found in the literature are based on the social development model, which outlines four domains thought to influence adolescent problem behaviors: community, school, family, and peer/individual (Arthur et al., 2002). The commonly examined risk and protective factors include adolescents': disadvantaged socioeconomic backgrounds, relationships with their parents and their schools, individual characteristics (such as self-esteem and religiosity), family influences (such as substance abuse or domestic violence in the household), and peer and community influences. While many studies analyze a single problem behavior, others have found a confluence or clustering of adolescent problem behaviors (e.g., Jessor and Jessor 1977, Jessor et al., 2003; Ohene, Ireland and Blum, 2005; Wu, McMahon and Dodge, 2010). For example, in the Caribbean, Ohene et al. (2005) find that initiation of sexual activity is positively associated with gang involvement and weapon-carrying in young adolescents and even more risk behaviors in older adolescents.

Within the family domain, parental monitoring of adolescent children is a central component of many risk behavior prevention models (e.g., Hirschi, 1969). Hirschi defined four social bonds that he argued affect delinquency: attachment, commitment, involvement, and belief. He posits that adolescents who are attached, committed, and involved in conventional activities while holding strong beliefs about conformity would be less likely to deviate from the norms of society.

Empirical evidence based on several cross-sectional and longitudinal studies' findings, mainly from data in developed countries, is consistent with this formulation. Inferior levels of parental knowledge (i.e., minimal knowledge of children's whereabouts, activities, and friends) and weak family management can result in too much autonomy, lead to insufficient imposition of rules, and leave youth more susceptible to the influence of delinquent peers. Insufficient parental monitoring is correlated with more adolescent participation in antisocial and delinquent behaviors (e.g., for a review, see Dishion and McMahon, 1998) and greater use of tobacco, alcohol, and other drugs (e.g., Chilcoat and Dishion, 1995; Steinberg, Darling and Fletcher, 1995; Barnes, Reifman, Farrell and Dintcheff, 2000). In addition, the parenting practices of establishing unclear behavioral expectations, exposing children to adults who exhibit antisocial behaviors, and tolerating misbehavior are also associated with adolescents' health risk behaviors (Dishion and Kavanagh, 2000; Dishion, Nelson and Bullock, 2004; Maguire, 2012). Finally, there is complementary evidence that family interventions can be even more effective than individual ones for reducing substance abuse in risk-taking adolescents (Feldstein and Miller, 2006).

### III) METHODS

#### *Global School-Based Student Health Survey*

The data used in this study are from the Global School-based Student Health Survey (GSHS), developed by the World Health Organization and the Centers for Disease Control and Prevention. The GSHS is a self-administered questionnaire given primarily to students ages 13–17 years during one regular class period. The survey uses a standardized scientific sample selection process<sup>1</sup> as well as common school-based methodology, and it features core questionnaire modules, core-expanded questions, and country-specific questions. The 10 core questionnaire modules address the leading causes of morbidity and mortality among children and adults worldwide: alcohol use; dietary behaviors; drug use; hygiene; mental health; physical activity; protective factors; sexual behaviors that contribute to HIV infection, other sexually transmitted infections, and unintended pregnancy; tobacco use; and violence and unintentional injury.

The countries covered in this study, the year of the survey, and the response rates are given in Table 1. We cover 15 countries from Latin America and the Caribbean. The Caribbean countries are Antigua and Barbuda, Barbados, Grenada, Guyana, Jamaica, St. Lucia, Suriname, Trinidad and Tobago, and St. Vincent and the Grenadines. The remaining six countries are classified as Latin American for the purpose of this study.<sup>2</sup> The average number of observations per country is 2,051. The average overall response rate was 79 percent (for schools and students, the response rate was 97 percent and 82 percent, respectively).

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<sup>1</sup> A two-stage probability sample is followed for in all GSHS rounds. The first stage is a selection (done by the Centers for Disease Control and Prevention) of schools with probability proportional to size and with grades that 13–17-year-olds attend. The second stage is an in-country random selection of classrooms.

<sup>2</sup> While some countries have collected GSHS data for two rounds (i.e., Uruguay for 2006 and 2012), the selected countries in the sample correspond to those for which all of the model's core variables were asked. Furthermore, countries that would have made the Latin American sample richer were left out of the study because of missing data for the underlying parenting index variables (Colombia) or because of limited representativeness (Venezuela, as data is only available from Barinas and Lara).



**Table 1. Data Description**

<b>Country code</b>	<b>Country</b>	<b>No. of obs.</b>	<b>Survey year</b>	<b>School response rate</b>	<b>Student response rate</b>	<b>Overall response rate</b>
AR	Argentina	1,980	2007	0.940	0.820	0.770
ATG	Antigua and Barbuda	1,186	2009	0.950	0.710	0.670
BA	Barbados	1,629	2011	0.870	0.840	0.730
CH	Chile (Metropolitan)	2,111	2004	1.000	0.850	0.850
CR	Costa Rica	2,679	2009	1.000	0.720	0.720
EC	Ecuador (Quito)	2,215	2007	0.920	0.930	0.860
GRD	Grenada	1,542	2008	0.950	0.820	0.780
GY	Guyana	2,392	2010	0.970	0.780	0.760
JA	Jamaica	1,623	2010	1.000	0.720	0.720
LCA	St. Lucia	1,276	2007	1.000	0.820	0.820
PE	Peru	2,882	2010	1.000	0.850	0.850
SU	Suriname	1,698	2009	1.000	0.890	0.890
TT	Trinidad and Tobago	2,811	2011	0.970	0.930	0.900
UR	Uruguay	3,406	2006	0.950	0.750	0.710
VCT	St. Vincent and the Grenadines	1,333	2007	1.000	0.840	0.840

Source: Authors' calculations using GSHS data

### *Variables*

We used the GSHS to measure five health risk behaviors across the 15 countries. These risk behaviors are treated as the outcome variables and outlined in Table 2. Given our hypothesis—that engaged parents serve as a protective factor against risk behaviors—engaged parenting was the independent variable measured through an Engaged Parenting Index.<sup>3</sup> While the literature is replete with different instruments and scales designed to measure parenting,<sup>4</sup> this study was limited to the few questions on the GSHS regarding parental involvement as perceived by the student respondent (Table 2). To isolate the relation between parenting and problem behaviors, the study controlled for five additional risk/protective factors associated with risk behaviors.

<sup>3</sup> See Figure A2 for a graphical representation of the components of the parenting index, by country.

<sup>4</sup> See, for example, the Communities That Care (CTC) family risk and protective scales of the CTC Youth Survey used commonly throughout the United States and other developed nations. <http://www.pccd.pa.gov/Juvenile-Justice/Documents/Risk%20and%20Protective%20Factor%20Scale.pdf>.

We chose control variables on the basis of previous studies with data from the Caribbean that have been identified as being associated with the outcome behaviors of interest. Being male has been found to be an important predictor of the likelihood of adolescents to engage in violent behavior, substance abuse, and early sexual activity (Meeks Gardner, 2003; Blum and Ireland, 2004; Kurtz, Douglas and Lugo, 2005; Ohene et al., 2005; Maharaj, Nunes and Renwick, 2009). Having good relationships and interactions with prosocial peers has been negatively associated with adolescent problem behaviors (Katz and Fox, 2010; Maguire, Wells and Katz, 2011). Skipping school has been associated with early sexual initiation, substance abuse, and violence (Blum and Ireland, 2004; Ohene et al., 2005). Finally, recent depression or attempted suicide has been correlated with sexually risky behavior (Blum and Ireland, 2004; Kurtz et al., 2005; Maharaj et al., 2009).

**Table 2. Variables and Corresponding Survey Questions**

<b>Outcome variable</b>	<b>Survey question</b>
Sexual intercourse	Have you ever had sexual intercourse?
Drug use	During the past 12 months, how many times have you used drugs? <i>(Responses: A. 0 times; B. 1 or 2 times; C. 3 to 9 times; and D. 10 or more times. Those who answered B to D were classified as drug users.)</i>
Drinking	During your life, how many times did you drink so much alcohol that you were really drunk? <i>Responses: A. 0 times; B. 1 or 2 times; C. 3 to 9 times; D. 10 or more times. Those who answered B to , C, or D were classified as drinkers.</i>
Getting in trouble	During your life, how many times have you ever gotten into trouble with your family or friends, missed school, or gotten into fights as a result of drinking alcohol? <i>Responses: A. 0 times; B. 1 or 2 times; C. 3 to 9 times; D. 10 or more times. Those who answered B, C, or D were classified as fighting and missing school.</i>
Fighting	During the past 12 months, how many times were you in a physical fight? <i>Responses: A. 0; B. 1; C. 2 or 3; D. 4 or 5; E. 6 or 7; F. 8 or 9; G. 10 or 11; H. 12 or more. Those who answered B to H were classified as having been in a fight.</i>

<b>Control variable</b>	<b>Survey question</b>
Sex	What is your sex? <i>(Male as default)</i>
Poverty (hunger)	How often did you go hungry during the past 30 days because there was not enough food in your home? <i>Responses: A. Never; B. Rarely; C. Sometimes; D. Most of the time; E. Always. A hungry-poor teenager is considered to be one who answered D or E.</i>
Social (Friendships)	How many close friends do you have? <i>Responses: A. 0; B. 1; C. 2; D. 3 or more.</i> <i>Those who answer D are classified as having friends.</i>
Skipping school	During the past 30 days, how many days did you miss classes or school without permission? <i>Responses: A. 0; B. 1 or 2; C. 3 to 5; D. 6 to 9; E. 10 or more.</i> <i>Those who answer from B to E are classified as missing school.</i>
Suicidal thoughts	During the past 12 months, did you ever seriously consider attempting suicide? <i>Responses: A. Yes; B. No.</i> <i>Those who answer A are classified as possible suicides.</i>
<b>Independent variable</b>	<b>Survey question</b>
Engaged Parenting Index	(i) During the past 30 days, how often did your parents or guardians check to see if your homework was done? (ii) During the past 30 days, how often did your parents or guardians understand your problems and worries? (iii) During the past 30 days, how often did your parents or guardians really know what you were doing with your free time? <i>For all three questions on this index, possible responses were: A. Never; B. Rarely; C. Sometimes; D. Most of the time; and E. Always. Any individual with two or more answers of D or E was classified as having engaged parents.</i>

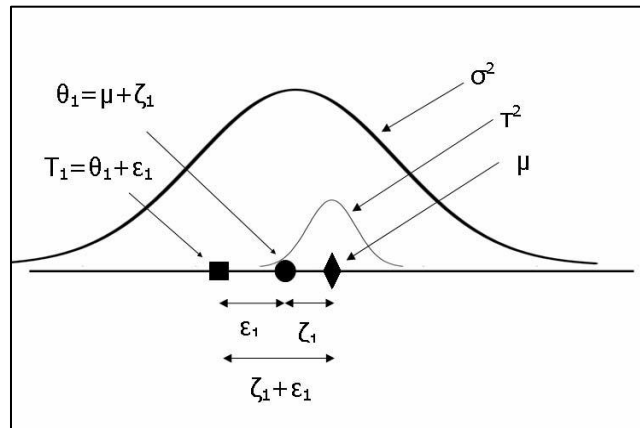
### *Data Analysis*

To estimate the effect of engaged parents on risky adolescent behaviors, the following methods were used. First, a standard logit regression was used for each country to assess the effect of engaged parents on the five health risk behaviors. Second, the individual country-level regressions were combined in a meta-analysis to obtain a summary effect. Third, a Q-test was

used to determine the difference in effect size between the two subgroups—Caribbean countries and Latin American countries.

The objective of the meta-analysis is to estimate the combined effect of engaged parenting on risk behaviors across Caribbean and Latin American countries. We assume that the country-level studies have enough in common that it makes sense to combine the information, which we do by using country-level regressions as inputs for our meta-analysis. However, because there is no reason to assume that the true effect size of engaged parenting is the same in all countries, a random effects model (see Figure 1) was used. This model assumes that there is no one unique true effect and thus allows for a distribution of true effect sizes. The combined effect therefore represents not one single common effect but rather the mean of the population of true effects.

**Figure 1. Random Effects Model**



Source: Borenstein et al. (2009).

Specifically, in a random effects model, the observed effect  $T_1$  is sampled from a distribution with true effect  $\theta_1$  and variance  $\sigma^2$ . The true effect  $\theta_1$  is then sampled from a distribution with mean  $\mu$  and variance  $\tau^2$ . The observed effect of engaged parenting on risk behaviors in a given country 1,  $T_1$ , is determined by the true effect  $\theta_1$  plus the within-study error  $\varepsilon_1$ . Subsequently, the true effect  $\theta_1$  is determined by the mean of all true effects,  $\mu$  and the between-study error  $\zeta_1$ . Therefore, for any observed effect  $T_i$ :

$$T_i = \theta_i + \varepsilon_i = \mu_i + \zeta_i + \varepsilon_i$$

Thus, in the random effects analysis, each country-level result is weighted by the inverse of its variance, where the variance includes the original (within-country results) variance plus the

between-individual country results' variance, tau-squared. The following is the weight assigned to each country-level result:

$$W_i = 1/V_i$$

where  $V_i$  is within-country results variance for country. The following is the weighted ( $T^*$ ) mean:

$$T^* = \frac{\sum_{i=1}^k W_i T_i}{\sum_{i=1}^k W_i}$$

i.e., the sum of the products  $W_i T_i$  (effect size multiplied by weight) divided by the sum of the weights. The variance of the combined effect is the sum of the weights. The following is the 95 percent confidence interval for the combined effect:

$$\text{lower limit} = T_*^- - 1.96 * SE(T_*^-)$$

where standard error,  $SE$ , of the combined effect is the square root of the variance:  $SE(T_*^- = \sqrt{V})$ .

Next, to analyze whether there is a statistical difference between the effects of parenting on the two subgroups, Latin American countries versus Caribbean countries, a Q-test was used. The true difference between Latin American countries and Caribbean countries is estimated as follows: the difference between the mean values of the odds ratio (OR) for Latin America (LA) and the Caribbean (CAR) is:  $iff = MOR_{CAR} - MOR_{LA}$ ; where the 95 percent confidence interval is estimated by lower-level  $Diff^- = Diff - 1.96 * SE Diff$ , and the upper-level:

$$Diff^+ = Diff + 1.96 * SE Diff, \text{ where: } SE = \sqrt{V_{MOR_{CAR}} + V_{MOR_{LA}}}.$$

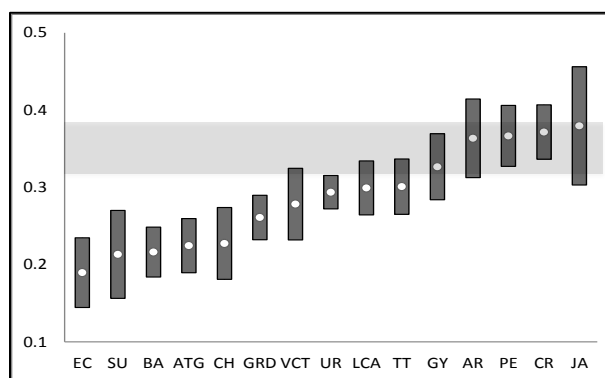
Figure 2 shows the prevalence of engaged parenting and the control variables across the 15 countries.<sup>5</sup> A number of features stand out. First, there is high variance in mean values between countries. Second, there is a marked difference in prevalence between the Caribbean and Latin America. Although skipping school is lower in the Caribbean, both suicidal thoughts and hunger are higher, and both friendships and engaged parents are lower.

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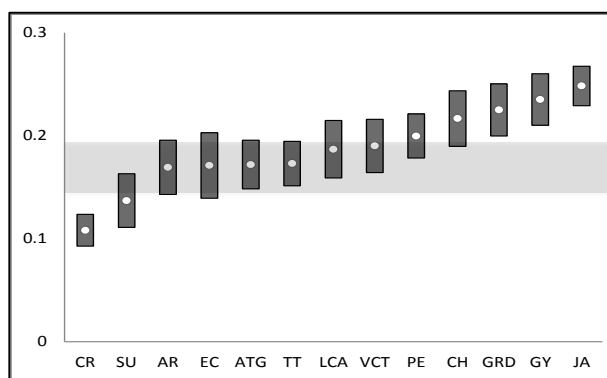
<sup>5</sup> For descriptive statistics of the control variables, see Table A3 in the annex.

**Figure 2. Prevalence of Risk and Protective Factors Among Teenagers in the Caribbean and Latin America**

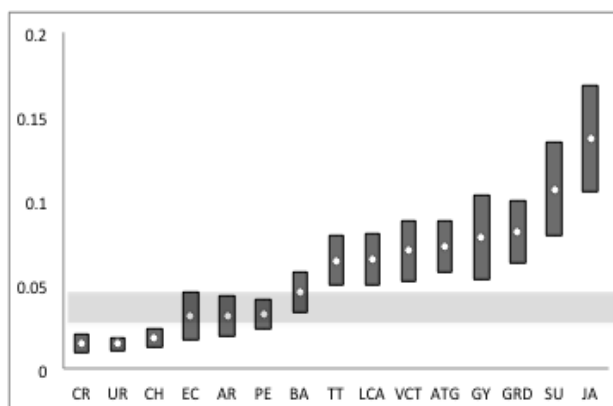
**Skipping School**



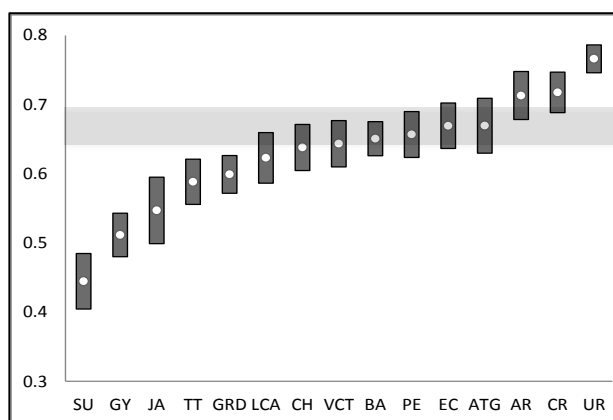
**Suicidal Thoughts**



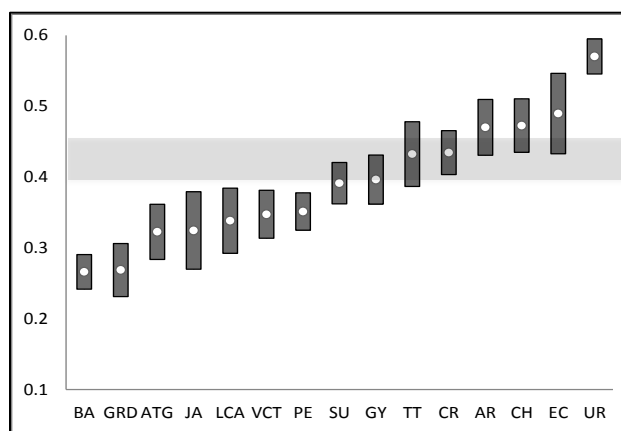
**Poverty (Hunger)**



**Social (Friendships)**



**Engaged Parenting**

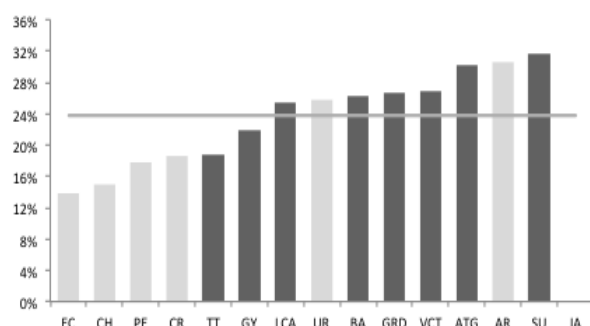


*Notes:* See country codes in Table 1. Grey areas represent the confidence interval for the pooled sample.

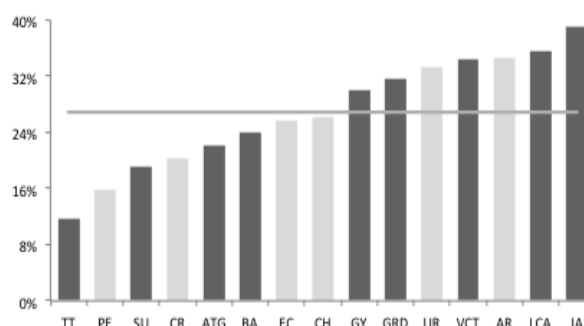
The prevalence of risk behaviors in the 15 countries is shown in Figure 3. The first feature to note is, again, the high variance between countries. Second, prevalence is often higher in the Caribbean compared with Latin America. Finally, we also observe a clustering of problem behaviors. Pooled data shows that 26 percent of all respondents across Latin America and the Caribbean have engaged in at least one risk behavior, 15 percent in two, and 8 percent in three.

**Figure 3. Prevalence of Health Risk Behaviors Among Teenagers in the Caribbean and Latin America**

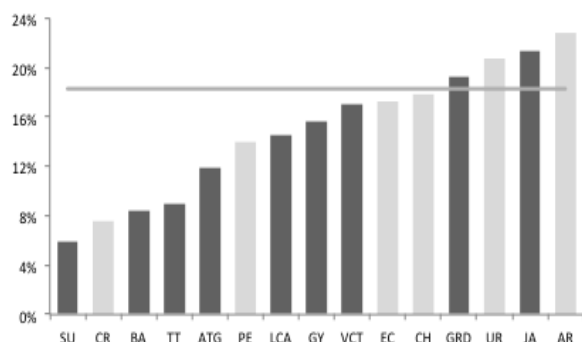
### Sexual Intercourse



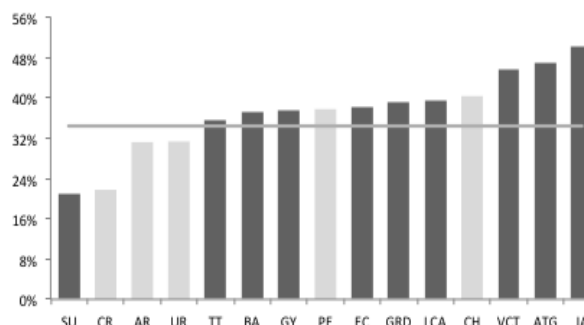
### Drinking



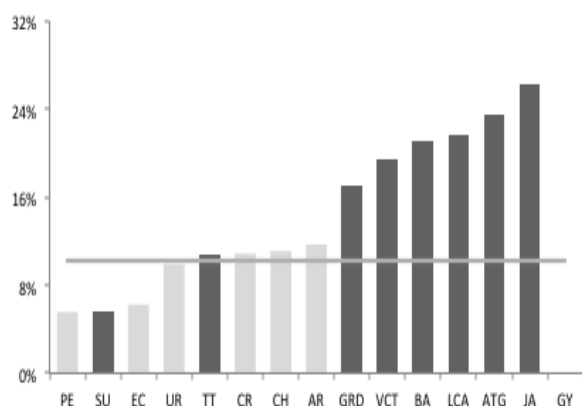
### Getting in Trouble



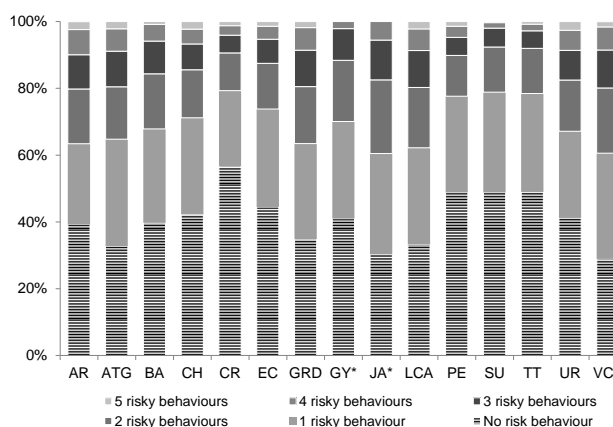
### Fighting



### Drug Use



### Clustering of Health Risk Behaviors

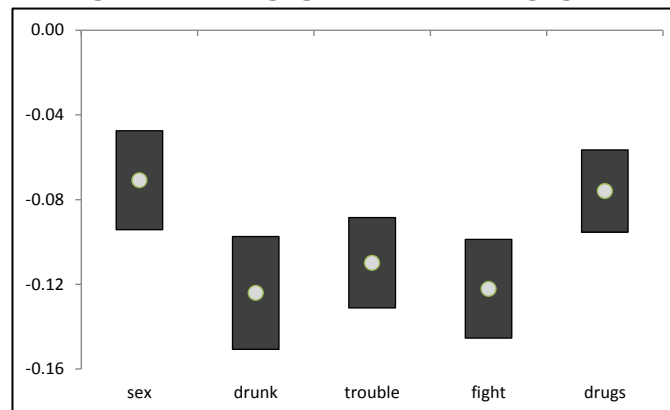


#### IV) RESULTS

The empirical results of the study are summarized in different forest plots, while the individual country-level regression results are presented in the annex (Tables A1 and A2).<sup>6</sup>

Before presenting the results of the statistical analysis, we briefly look at the prevalence of health risk behaviors among adolescents, separating those with engaged parents from those without. Using pooled data from all countries, Figure 4 examines the percentage point difference (and confidence intervals) between teenagers with and without engaged parents for each of the five problem behaviors. The percentage point difference is -7, -12, -10, -12, and -8 for having sexual intercourse, drinking, getting in trouble (as a result of drinking), fighting, and drug use, respectively. Thus, teenagers with engaged parents appear to have a lower prevalence of risky behavior.

**Figure 4. Percentage Point Differences in Health Risk Behavior of Teenagers with Engaged and Non-Engaged Parents**



This conclusion is confirmed by the statistical results given in Figures 5 to 9. In these figures, the names on the left of the plot are the countries studied, the black squares represent the ORs of the individual country results, and the horizontal lines are their 95 percent confidence intervals. The area of the black squares reflects the weight used in the meta-analysis. The solid vertical line corresponds to parenting having no effect (OR = 1.0). In other words, the line represents where the confidence interval includes 1 and the difference in the effect of engaged parenting is not significant at conventional levels ( $p > .05$ ). Where OR = 1, engaged parenting does not affect the odds of the outcome behaviors; if OR > 1, engaged parenting is associated with higher odds of the outcome; and if OR < 1, exposure to good parenting is associated with

<sup>6</sup> It is worth noting how risky behaviors are consistently more probable for older teenagers and for boys (see Age and the gender variables in the annex tables).

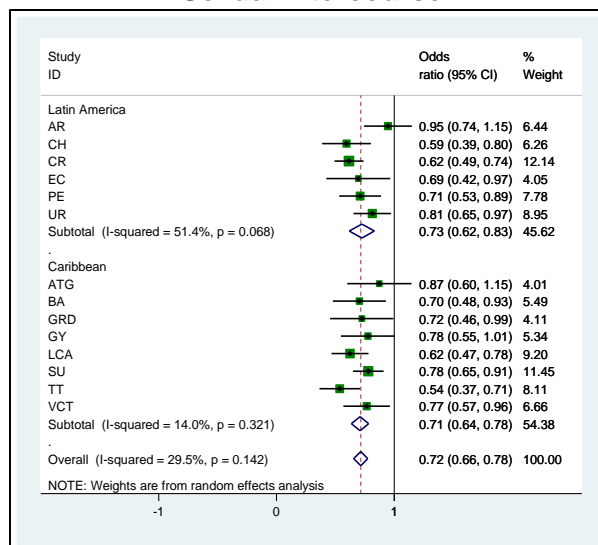


lower odds of the outcome. The OR is given in the right-hand side column, followed by the 95 percent confidence interval and the weight assigned to the country study in the overall estimate.

The overall effect from the meta-analysis, calculated as a weighted average of the individual ORs, and its confidence interval is represented as a diamond at the bottom of the chart. The center of the diamond represents the overall effect and the horizontal tips, the 95 percent confidence interval. If the diamond shape is on the left of the solid black line, then engaged parents reduce that particular antisocial behavior. If the diamond shape is on the right of the line, they do not. When a logistic regression is calculated, the regression coefficient ( $b_1$ ) is the estimated increase in the log odds of the *outcome per unit increase* in the value of the *exposure*, in our case to engaged parents. In other words, the exponential function of the regression coefficient ( $eb_1$ ) is the OR associated with a one-unit increase in the exposure.

In Figure 5, the overall effect (diamond shape) for sexual behavior has an OR of 0.72 (marginal effect is  $-0.05$ ) and is found on the left of the line, meaning that having engaged parents has a statistically significant correlation with reduced sexual behavior. However, at the individual country level, for Argentina and Antigua and Barbuda there was no significant correlation between good parenting and having sexual intercourse.

**Figure 5. Engaged Parenting and Teenage Sexual Intercourse**



**Figure 6. Engaged Parenting and Teenage Drinking**

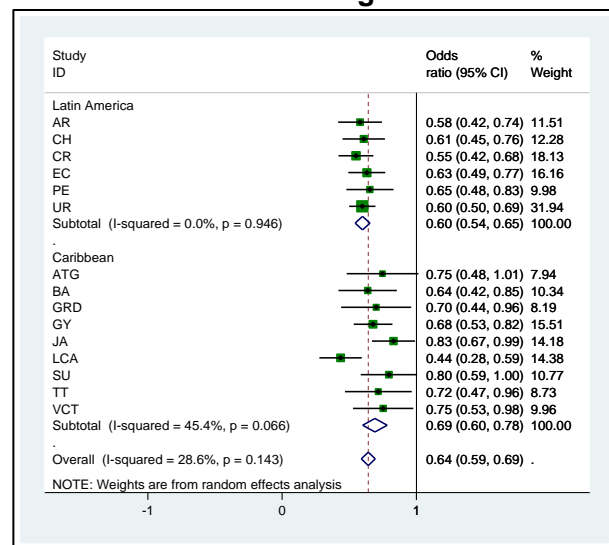
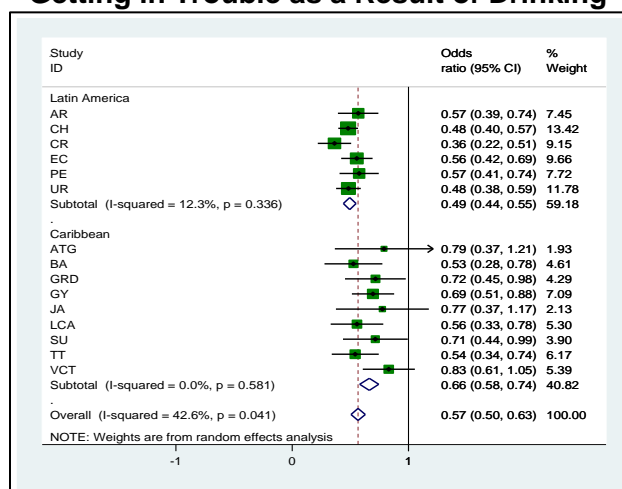


Figure 6 displays the overall effect of engaged parents on teens getting drunk. The OR for the overall effect across countries is 0.64 (marginal effect of  $-0.07$ ) and is statistically significant, meaning teenagers with engaged parents are less likely to get drunk. However, for the

individual country regressions for Antigua and Suriname, the association between engaged parents and drunkenness is statistically insignificant.

The effect of engaged parenting on getting into trouble with family and friends as a result of drinking is shown in Figure 7. The OR is 0.57 (marginal effect of  $-0.05$ ) and is statistically significant. However, the correlation is statistically insignificant for Antigua and Barbuda, Jamaica, and St. Vincent and the Grenadines.

**Figure 7. Engaged Parenting and Teens Getting in Trouble as a Result of Drinking**



**Figure 8. Engaged Parenting and Teens Getting in a Fight as a Result of Drinking**

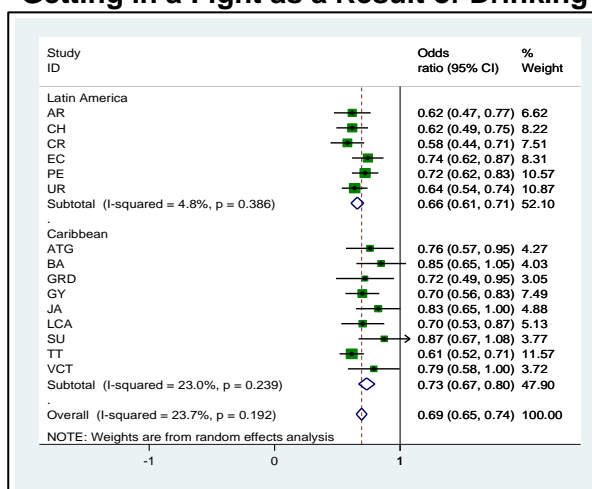
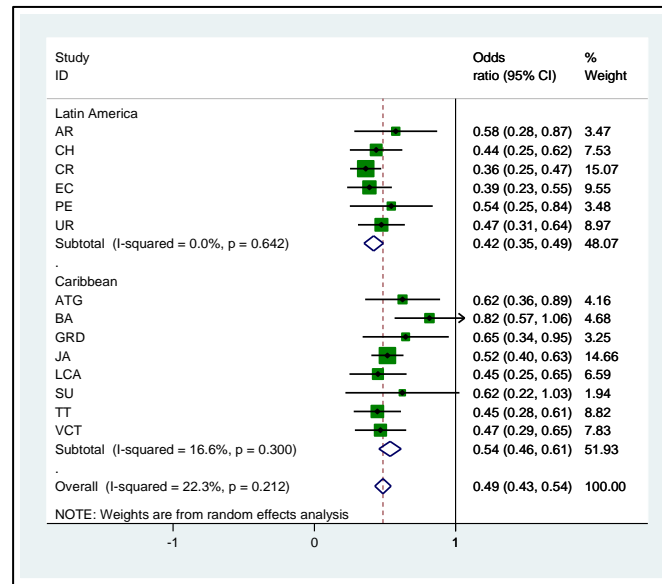


Figure 8 shows the correlation between fighting as a result of drinking and good parenting. Teens with engaged parents are less likely to fight as a result of drinking: the OR is 0.69 (marginal effect of  $-0.07$ ) and is statistically significant, although this does not hold for Barbados, Jamaica, Suriname, and St. Vincent and the Grenadines.

Figure 9 shows the association between good parenting and teen drug use. There is a statistically significant drug use reduction when parents are engaged: the OR is 0.49 (the marginal effect is  $-0.05$ ). However, no statistical effect was found in Barbados or Suriname.

**Figure 9. Engaged Parenting and Teenage Drug Use**



One feature that stands out is that for all behaviors studied, the reduction in risk behaviors associated with engaged parents is much smaller for teenagers in the Caribbean than in Latin America. The question arises whether they are statistically different and what the difference is in the effects between Latin America and the Caribbean. The diamonds in Figures 5 through 9, under the row titled “subtotal” for Latin America and the Caribbean, give the overall effect of engaged parenting for these two subgroups. The reduction effect (measured by the OR) for the Latin America (Caribbean) is 0.73 (0.71) for having sexual intercourse, 0.60 (0.69) for getting drunk, 0.49 (0.66) for getting in trouble from drinking, 0.66 (0.73) for fighting as a result of drinking, and 0.42 (0.54) for drug use. Respectively, the equivalent marginal effects are  $-0.04$  ( $-0.05$ ),  $-0.08$  ( $-0.06$ ),  $-0.07$  ( $-0.03$ ),  $-0.08$  ( $-0.06$ ),  $-0.04$  ( $-0.06$ ). Thus, the correlation between parental engagement and reduced health risk behaviors is weaker in the Caribbean than in Latin America, except related to sexual intercourse and drug use.

### Limitations

This study has three major limitations. First, it relies upon self-reported data, which could introduce reporting bias (see Fan et al., 2006). However, adolescent reports of parental knowledge (rather than those reported by parents themselves) are often used in empirical studies. In many ways, youths’ responses about parental monitoring may be more accurate, as adolescents are a primary source of information for parents’ knowledge (Stattin and Kerr, 2000). In addition, adolescents’ behavior may be more influenced by their own perceptions of how

much their parents know than by their parents' perceptions or by the objective observations of others (i.e., reports from teachers, school counselors). A considerable amount of evidence suggests that data from self-reported questionnaires are largely valid, or at least relatively so compared with administrative (school or police) data.

Second, the study uses a considerably limited set of control variables. Parent-adolescent monitoring and interaction are conditional upon a diverse set of contextual factors (Beyers, Bates, Pettit and Dodge, 2003). Important factors include the extended family, family support, peers (particularly association with deviant peers), school, community, cultural, socioeconomic status, and geographical area. However, capturing many of these important contextual variables was not possible using the data collected through the GSHS.

Last, the results reveal a correlation between risk behaviors and engaged parenting, but it is not possible to prove causality.

## **V) DISCUSSION**

This paper investigates the prevalence of health risk behaviors among adolescents in 15 Latin American and Caribbean countries using the GSHS. We find, using logit regressions and meta-analysis, that having engaged parents is associated with a significant reduction in risk behaviors (sex, drinking, drug use, and fighting and getting in trouble after drinking). These findings are consistent with an existing body of international literature on the effects of home environments and parent-child relationships on problem behaviors. This paper is the first of its kind to examine the same problem behaviors and their relationship with parenting across such a large group of countries in the Latin America and Caribbean region.

This study also finds that problem behaviors and risk factors are generally higher in Caribbean than in Latin American countries, while protective factors (including engaged parenting) are lower. The migration of high numbers of parents in Caribbean countries to support their families could be one possible explanation for the low levels of engaged parenting. This causes a rupture in traditional family roles, and children left in the care of relatives, particularly elderly relatives, may be left under supervised.

Furthermore, not only are there fewer engaged parents in the Caribbean, but the association between parenting and reduced risk behaviors is also weaker than in Latin America. This could be a sign that other domains, such as peer and community, are somewhat more influential in

the Caribbean. It has been suggested by Katz and Fox (2010) that peer-individual risk factors are disproportionately more likely than other domains to be associated with gang membership in the Caribbean. Similarly, Maguire et al. (2011) find that community disorganization, specifically the availability of guns and drugs, is a significant risk factor for problem behaviors.

Nevertheless, engaged parenting is highly correlated with reduced problem behaviors in both regions. These findings have important implications for policy. Throughout the Caribbean and Latin America, intervention programs for youth are often implemented with little understanding of risk and protective factors. This paper highlights the importance of family as an area of focus for prevention programs. Our findings point to the need to include the parents in youth prevention programs. More specifically, the Caribbean could benefit from evidence-based programs to support parents or guardians in their role of supervising and monitoring their children as well as building strong relationships with them. Fortunately, there is no shortage of parenting program models—such as the Positive Parenting Programme (“Triple P”)<sup>7</sup>—which have been credited with reducing problem adolescent behaviors in a number of different countries and could be adapted for the Caribbean. Government-run national parenting programs are currently in place in a number of Caribbean countries, including The Bahamas, Jamaica, and Trinidad and Tobago. It is not clear to what extent these programs incorporate evidence-based and data-driven approaches, or how successful they have been. Future research should focus on evaluating such interventions so that they may be redesigned, strengthened, or scaled up.

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<sup>7</sup> The program was developed by the University of Queensland, is currently used in 25 countries, and has been shown to work across cultures, socioeconomic groups, and family structures. The body of evidence is the most extensive of any parenting program and comprises more than 250 published papers, including eight meta-analyses, 68 randomized clinical trials, 51 effectiveness and service-based evaluations, and 13 single-case studies.

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## Annex

**Table A1. Regression Results: Odds Ratios**

	Argentina					Antigua and Barbuda					Barbados					Chile					Costa Rica				
	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)
Age	2.034*** (0.16)	1.646*** (0.10)	1.387*** (0.09)	1.002 (0.06)	1.452*** (0.19)	1.526*** (0.19)	1.316** (0.15)	1.144 (0.15)	0.846* (0.08)	1.577*** (0.25)	1.973*** (0.16)	1.032 (0.08)	0.819* (0.09)	0.827** (0.06)	1.372*** (0.12)	1.892*** (0.18)	1.728*** (0.10)	1.562*** (0.07)	0.860** (0.06)	2.104*** (0.15)	2.292*** (0.25)	1.953*** (0.16)	1.644*** (0.18)	0.938 (0.05)	1.517*** (0.13)
Poverty (hunger)	1.215 (0.43)	1.318 (0.54)	1.912* (0.68)	2.724*** (0.89)	2.261** (0.80)	0.964 (0.26)	1.390 (0.33)	1.997** (0.67)	1.726** (0.44)	0.899 (0.27)	0.330*** (0.12)	1.323 (0.43)	0.784 (0.39)	1.321 (0.34)	1.237 (0.41)	1.190 (0.36)	1.176 (0.40)	1.685 (0.67)	1.161 (0.38)	0.312 (0.25)	0.706 (0.36)	1.415 (0.51)	2.113* (0.93)	1.171 (0.52)	0.797 (0.41)
Gender (male)	2.327*** (0.32)	1.411*** (0.16)	1.210 (0.18)	3.245*** (0.40)	1.903*** (0.36)	2.506*** (0.52)	1.461** (0.24)	1.586* (0.39)	1.945*** (0.37)	1.836** (0.44)	2.270*** (0.35)	1.732*** (0.24)	1.837** (0.44)	2.411*** (0.33)	1.996*** (0.26)	3.025*** (0.49)	1.251** (0.12)	1.052 (0.10)	3.724*** (0.55)	1.306 (0.28)	1.517*** (0.20)	1.186 (0.16)	1.574* (0.36)	4.235*** (0.51)	2.648*** (0.36)
Social (friends)	1.014 (0.14)	1.101 (0.14)	1.325* (0.21)	1.118 (0.15)	0.804 (0.20)	1.042 (0.17)	1.196 (0.22)	0.904 (0.27)	1.223 (0.16)	1.096 (0.21)	1.127 (0.16)	0.793* (0.09)	0.547*** (0.12)	0.850 (0.09)	0.785 (0.12)	0.852 (0.11)	0.982 (0.09)	0.891 (0.14)	1.126 (0.09)	1.031 (0.19)	1.020 (0.12)	1.078 (0.13)	0.886 (0.15)	0.904 (0.12)	1.752*** (0.31)
Skipping school	2.072*** (0.21)	2.659*** (0.34)	2.755*** (0.49)	1.606*** (0.24)	2.850*** (0.62)	2.031*** (0.37)	1.705*** (0.28)	2.394*** (0.53)	2.384*** (0.52)	2.549*** (0.50)	1.582*** (0.24)	1.970*** (0.29)	4.536*** (0.89)	1.626*** (0.23)	2.346*** (0.38)	1.558*** (0.19)	2.001*** (0.25)	1.870*** (0.23)	1.675*** (0.23)	2.421*** (0.41)	2.012*** (0.34)	2.093*** (0.24)	2.865*** (0.53)	1.602*** (0.17)	2.115*** (0.37)
Suicide thoughts	2.090*** (0.37)	2.587*** (0.44)	2.086*** (0.33)	1.670*** (0.29)	2.165*** (0.58)	2.060*** (0.29)	2.404*** (0.50)	1.892*** (0.41)	1.565*** (0.28)	2.475*** (0.43)	- (0.705)	- (0.637**)	- (0.526***)	- (0.849)	- (0.816)	2.303*** (0.43)	2.530*** (0.34)	2.341*** (0.29)	1.677*** (0.21)	1.942** (0.47)	1.880*** (0.25)	2.568*** (0.45)	3.080*** (0.69)	2.024*** (0.32)	2.302*** (0.56)
Parenting	0.947 (0.10)	0.579*** (0.08)	0.567*** (0.09)	0.619*** (0.07)	0.576** (0.15)	0.873 (0.14)	0.747 (0.14)	0.789 (0.22)	0.759** (0.10)	0.624** (0.14)	0.705** (0.11)	0.637** (0.11)	0.526*** (0.13)	0.849 (0.10)	0.816 (0.13)	0.595** (0.11)	0.607*** (0.08)	0.480*** (0.04)	0.619*** (0.06)	0.438*** (0.09)	0.616*** (0.06)	0.550*** (0.07)	0.363*** (0.07)	0.579*** (0.07)	0.363*** (0.06)
Obs	1,898	1,866	1,878	1,898	1,867	1,115	1,094	1,084	1,115	1,100	1,599	1,528	1,554	1,599	1,543	2,078	2,063	2,064	2,078	2,054	2,611	2,588	2,545	2,611	2,605

	Ecuador					Grenada					Guyana					Jamaica					St. Lucia				
	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)
Age	1.572*** (0.10)	1.593*** (0.07)	1.283*** (0.07)	1.118* (0.06)	1.450*** (0.13)	1.555*** (0.10)	1.340*** (0.07)	1.194** (0.08)	1.006 (0.05)	1.584*** (0.16)	1.671*** (0.13)	1.160** (0.06)	1.097 (0.06)	0.864** (0.05)	-	- (0.11)	1.044 (0.12)	0.838 (0.11)	0.909 (0.11)	1.033 (0.11)	1.545*** (0.10)	1.152** (0.06)	1.065 (0.07)	0.793*** (0.04)	1.339*** (0.10)
Poverty (hunger)	0.721 (0.26)	0.997 (0.23)	1.365 (0.53)	0.968 (0.23)	2.741*** (0.55)	0.999 (0.25)	1.407** (0.23)	1.444 (0.38)	0.951 (0.19)	1.217 (0.30)	0.746 (0.18)	0.936 (0.15)	1.659*** (0.27)	1.962*** (0.37)	-	- (0.31)	1.802*** (0.69)	2.908*** (0.27)	1.793*** (0.72)	1.999* (0.72)	1.339 (0.36)	1.166 (0.35)	1.738 (0.57)	0.814 (0.18)	1.180 (0.36)
Gender (male)	3.305*** (0.72)	1.490*** (0.16)	1.180 (0.12)	4.431*** (0.74)	1.552*** (0.23)	2.704*** (0.39)	1.908*** (0.24)	1.726*** (0.29)	2.879*** (0.45)	3.293*** (0.52)	2.858*** (0.39)	1.596*** (0.16)	1.485** (0.26)	2.863*** (0.30)	-	- (0.32)	2.048*** (0.27)	2.141*** (0.45)	2.048*** (0.28)	1.542** (0.28)	2.591*** (0.50)	1.730*** (0.26)	1.121 (0.16)	2.172*** (0.35)	2.383*** (0.39)
Social (friends)	1.518** (0.26)	1.457*** (0.16)	1.159 (0.12)	1.337** (0.15)	1.498* (0.29)	1.609*** (0.23)	1.142 (0.16)	1.114 (0.27)	0.975 (0.14)	0.711** (0.10)	1.202* (0.13)	1.135 (0.12)	0.991 (0.14)	1.093 (0.08)	-	- (0.23)	0.821 (0.11)	0.535** (0.11)	0.858 (0.08)	0.848 (0.12)	0.919 (0.17)	0.836 (0.15)	0.838 (0.21)	1.112 (0.15)	1.015 (0.21)
Skipping school	2.150*** (0.37)	2.542*** (0.40)	3.159*** (0.37)	1.984*** (0.31)	2.791*** (0.76)	1.239 (0.16)	2.004*** (0.28)	2.405*** (0.33)	1.586** (0.27)	2.206*** (0.39)	1.477*** (0.17)	1.696*** (0.19)	2.202*** (0.39)	1.771*** (0.22)	-	- (0.21)	1.756*** (0.31)	2.018*** (0.35)	1.755** (0.35)	1.313*** (0.11)	1.826*** (0.32)	2.719*** (0.48)	2.462*** (0.44)	2.163*** (0.31)	2.492*** (0.37)
Suicide thoughts	2.034*** (0.30)	2.296*** (0.28)	2.798*** (0.41)	1.543*** (0.22)	1.590* (0.35)	1.594*** (0.23)	1.824*** (0.30)	1.666*** (0.32)	1.312* (0.18)	2.085*** (0.42)	1.561*** (0.19)	1.914*** (0.21)	2.281*** (0.34)	1.496*** (0.15)	-	- (1.00)	2.273* (0.25)	1.340 (0.27)	1.335 (0.23)	1.815*** (0.23)	1.458* (0.27)	1.809*** (0.26)	1.706** (0.38)	1.329* (0.21)	1.949*** (0.33)
Parenting	0.695* (0.14)	0.630*** (0.07)	0.556*** (0.07)	0.743*** (0.06)	0.391*** (0.08)	0.725* (0.14)	0.700* (0.13)	0.715* (0.13)	0.720* (0.12)	0.647* (0.16)	0.776 (0.12)	0.677*** (0.07)	0.695*** (0.09)	0.699*** (0.07)	-	- (0.08)	0.829* (0.20)	0.774 (0.20)	0.826 (0.09)	0.518*** (0.06)	0.624*** (0.08)	0.435*** (0.08)	0.556*** (0.12)	0.702*** (0.09)	0.450*** (0.10)
Obs	2,149	2,139	2,137	2,149	2,140	1,411	1,382	1,384	1,411	1,385	2,288	2,177	2,202	2,288	-	-	1,413	1,413	1,475	1,446	1,226	1,205	1,220	1,226	1,196

	Peru					Suriname					Trinidad and Tobago					Uruguay					St. Vincent and Grenadines				
	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)
Age	1.446*** (0.10)	1.464*** (0.10)	1.330*** (0.08)	0.958 (0.04)	1.253** (0.12)	2.244*** (0.16)	1.371*** (0.12)	1.099 (0.12)	0.931 (0.04)	1.484*** (0.17)	1.755*** (0.13)	1.645*** (0.08)	1.326*** (0.10)	1.003 (0.03)	1.589*** (0.10)	1.941*** (0.08)	1.674*** (0.08)	1.428*** (0.06)	0.906** (0.04)	1.623*** (0.11)	1.413*** (0.10)	1.269*** (0.06)	1.090 (0.06)	0.831** (0.07)	1.477*** (0.14)
Poverty (hunger)	0.988 (0.24)	1.122 (0.35)	1.208 (0.41)	1.296 (0.32)	1.182 (0.50)	0.770** (0.08)	1.026 (0.19)	1.481 (0.36)	1.275 (0.21)	1.191 (0.26)	0.866 (0.21)	1.247 (0.40)	1.397 (0.35)	1.520** (0.28)	1.088 (0.42)	0.876 (0.30)	1.345 (0.47)	2.490*** (0.81)	1.665 (0.53)	1.054 (0.36)	0.929 (0.24)	1.407 (0.29)	1.597 (0.49)	0.863 (0.21)	1.094 (0.30)
Gender (male)	3.554*** (0.51)	2.129*** (0.38)	1.884*** (0.24)	4.242*** (0.50)	2.946*** (0.69)	1.938*** (0.26)	2.401*** (0.41)	2.257** (0.76)	3.171*** (0.34)	2.102** (0.57)	2.229*** (0.38)	1.970*** (0.43)	1.516 (0.39)	2.672*** (0.36)	2.471*** (0.52)	2.323*** (0.19)	1.099 (0.11)	1.383** (0.17)	3.687*** (0.41)	1.420* (0.28)	5.293*** (0.77)	1.582*** (0.21)	1.370** (0.21)	2.270*** (0.26)	2.515*** (0.43)
Social (friends)	1.219* (0.13)	1.570*** (0.23)	1.250 (0.18)	1.486*** (0.17)	1.331 (0.28)	0.746** (0.09)	0.989 (0.13)	0.675 (0.20)	0.811 (0.11)	0.675 (0.19)	1.187 (0.16)	1.015 (0.14)	0.799** (0.08)	1.090 (0.10)	0.996 (0.06)	0.893 (0.11)	1.194 (0.15)	1.174 (0.16)	0.768*** (0.08)	0.914 (0.17)	1.212 (0.25)	0.987 (0.16)	1.307 (0.24)	1.201 (0.14)	1.089 (0.18)
Skipping school	1.775*** (0.23)	2.004*** (0.23)	2.494*** (0.30)	1.632*** (0.16)	1.635** (0.31)	1.838*** (0.25)	2.479*** (0.54)	2.722*** (0.53)	1.781*** (0.19)	2.608*** (0.52)	0.873 (0.14)	1.283* (0.18)	1.350 (0.27)	0.995 (0.10)	1.094 (0.18)	2.151*** (0.25)	2.025*** (0.19)	1.822*** (0.18)	1.901*** (0.17)	2.784*** (0.35)	1.762*** (0.30)	1.865*** (0.21)	2.571*** (0.42)	2.171*** (0.31)	1.793** (0.43)
Suicide thoughts	2.273*** (0.32)	2.893*** (0.42)	2.557*** (0.35)	1.633*** (0.15)	2.740*** (0.59)	1.772*** (0.27)	2.267*** (0.28)	2.740*** (0.75)	2.031*** (0.28)	1.169 (0.41)	2.394*** (0.40)	1.315** (0.15)	2.355*** (0.51)	1.790*** (0.11)	2.947*** (0.50)	- (0.814**)	- (0.597***)	- (0.483***)	- (0.638***)	- (0.475***)	1.950*** (0.40)	1.706*** (0.25)	1.658** (0.34)	1.743*** (0.25)	1.985*** (0.42)
Parenting	0.711** (0.09)	0.653*** (0.09)	0.575*** (0.09)	0.721*** (0.05)	0.545** (0.15)	0.780** (0.07)	0.795 (0.11)	0.714 (0.14)	0.873 (0.10)	0.623 (0.21)	0.537*** (0.09)	0.716* (0.13)	0.542*** (0.10)	0.614*** (0.05)	0.446*** (0.09)	0.814** (0.08)	0.597*** (0.05)	0.483*** (0.05)	0.638*** (0.05)	0.475*** (0.08)	0.766* (0.10)	0.752* (0.11)	0.830 (0.11)	0.790* (0.11)	0.469*** (0.09)
Obs	2,832	2,804	2,687	2,832	2,758	1,641	1,587	1,573	1,641	1,631	2,680	2,564	2,600	2,680	2,568	3,373	3,328	3,363	3,373	3,325	1,240	1,202	1,221	1,240	1,188

Notes: Estimated standard errors, reported in parentheses, are clustered at the classroom level. Significance at the one, five, and 10 percent levels is indicated by \*\*\*, \*\*, and \*, respectively.

Table A2. Regression Results: Marginal Effects

	Argentina					Antigua and Barbuda					Barbados					Chile					Costa Rica				
	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)
Age	0.139*** (0.01)	0.108*** (0.01)	0.051*** (0.01)	0.000 (0.01)	0.028*** (0.01)	0.084*** (0.02)	0.045** (0.02)	0.012 (0.01)	-0.042* (0.02)	0.072*** (0.03)	0.122*** (0.02)	0.006 (0.01)	-0.012* (0.01)	-0.044** (0.02)	0.049*** (0.01)	0.062*** (0.01)	0.096*** (0.01)	0.056*** (0.01)	-0.036** (0.02)	0.048*** (0.01)	0.096*** (0.01)	0.089*** (0.01)	0.021*** (0.01)	-0.010 (0.01)	0.028*** (0.01)
Poverty (hunger)	0.040 (0.07)	0.062 (0.10)	0.119 (0.08)	0.235*** (0.08)	0.085 (0.05)	-0.007 (0.05)	0.058 (0.04)	0.080* (0.05)	0.136** (0.06)	-0.016 (0.05)	-0.147*** (0.03)	0.053 (0.06)	-0.013 (0.02)	0.066 (0.06)	0.035 (0.06)	0.018 (0.03)	0.030 (0.07)	0.077 (0.07)	0.036 (0.08)	-0.048** (0.02)	-0.036 (0.05)	0.052 (0.06)	0.044 (0.03)	0.025 (0.07)	-0.014 (0.03)
Gender (male)	0.166*** (0.03)	0.074*** (0.02)	0.030 (0.02)	0.241*** (0.02)	0.050*** (0.01)	0.180*** (0.04)	0.062** (0.03)	0.042* (0.02)	0.163*** (0.05)	0.096*** (0.04)	0.147*** (0.03)	0.097*** (0.02)	0.037** (0.02)	0.201*** (0.03)	0.108*** (0.02)	0.108*** (0.02)	0.039** (0.01)	0.006 (0.01)	0.303*** (0.03)	0.017 (0.01)	0.048*** (0.02)	0.023 (0.02)	0.019* (0.01)	0.215*** (0.02)	0.066*** (0.01)
Social (friends)	0.003 (0.03)	0.021 (0.03)	0.042* (0.02)	0.023 (0.03)	-0.017 (0.02)	0.008 (0.03)	0.029 (0.03)	-0.009 (0.03)	0.050 (0.03)	0.014 (0.03)	0.021 (0.03)	-0.042* (0.02)	-0.039** (0.02)	-0.038 (0.02)	-0.039 (0.02)	-0.016 (0.01)	-0.003 (0.02)	-0.014 (0.02)	0.028 (0.02)	0.002 (0.01)	0.002 (0.01)	0.010 (0.02)	-0.005 (0.01)	-0.015 (0.02)	0.034*** (0.01)
Skipping school	0.149*** (0.02)	0.218*** (0.03)	0.171*** (0.03)	0.100*** (0.03)	0.091*** (0.03)	0.151*** (0.04)	0.095*** (0.03)	0.097*** (0.03)	0.214*** (0.05)	0.171*** (0.04)	0.088*** (0.03)	0.132*** (0.03)	0.136*** (0.02)	0.116*** (0.03)	0.153*** (0.03)	0.047*** (0.02)	0.134*** (0.03)	0.088*** (0.02)	0.125*** (0.03)	0.072*** (0.02)	0.087*** (0.02)	0.105*** (0.02)	0.051*** (0.01)	0.073*** (0.02)	0.055*** (0.01)
Suicide thoughts	0.159*** (0.04)	0.222*** (0.04)	0.131*** (0.03)	0.112*** (0.04)	0.073** (0.03)	0.157*** (0.03)	0.167*** (0.05)	0.069** (0.03)	0.111** (0.04)	0.169*** (0.03)	- (0.03)	- (0.05)	- (0.03)	- (0.04)	- (0.03)	0.097*** (0.02)	0.185*** (0.03)	0.125*** (0.02)	0.126*** (0.03)	0.051** (0.02)	0.087*** (0.02)	0.159*** (0.04)	0.072*** (0.02)	0.123*** (0.03)	0.074*** (0.03)
Parenting	-0.011 (0.02)	-0.117*** (0.03)	-0.088*** (0.02)	-0.098*** (0.02)	-0.042** (0.02)	-0.027 (0.03)	-0.046* (0.03)	-0.021 (0.02)	-0.068** (0.03)	-0.071** (0.03)	-0.060** (0.03)	-0.075*** (0.03)	-0.034*** (0.01)	-0.038 (0.03)	-0.031 (0.02)	-0.050** (0.02)	-0.087*** (0.03)	-0.091*** (0.02)	-0.113*** (0.03)	-0.054*** (0.02)	-0.055*** (0.02)	-0.078*** (0.04)	-0.041*** (0.02)	-0.080*** (0.03)	-0.066*** (0.01)
Obs	1,898	1,866	1,878	1,898	1,867	1,115	1,094	1,084	1,115	1,100	1,599	1,528	1,554	1,599	1,543	2,078	2,063	2,064	2,078	2,054	2,611	2,588	2,545	2,611	2,605

	Ecuador					Grenada					Guyana					Jamaica					St. Lucia				
	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)
Age	0.040*** (0.01)	0.080*** (0.01)	0.030*** (0.01)	0.026** (0.01)	0.013*** (0.00)	0.078*** (0.01)	0.060*** (0.01)	0.025** (0.01)	0.001 (0.01)	0.049*** (0.01)	0.078*** (0.01)	0.030** (0.01)	0.011 (0.01)	-0.033** (0.01)	- (0.01)	- (0.02)	0.010 (0.02)	-0.025 (0.02)	-0.024 (0.03)	0.006 (0.02)	0.075*** (0.01)	0.031** (0.01)	0.007 (0.01)	-0.055*** (0.01)	0.042*** (0.01)
Poverty (hunger)	-0.025 (0.03)	-0.001 (0.04)	0.041 (0.06)	-0.008 (0.05)	0.057*** (0.02)	-0.000 (0.04)	0.074** (0.04)	0.057 (0.05)	-0.012 (0.05)	0.022 (0.03)	-0.041 (0.03)	-0.013 (0.03)	0.067*** (0.02)	0.163*** (0.05)	- (0.05)	- (0.04)	0.141*** (0.05)	0.190*** (0.05)	0.144*** (0.04)	0.137 (0.08)	0.053 (0.05)	0.035 (0.07)	0.071 (0.05)	-0.047 (0.05)	0.025 (0.05)
Gender (male)	0.107*** (0.02)	0.068*** (0.02)	0.020 (0.01)	0.329*** (0.03)	0.016** (0.01)	0.180*** (0.03)	0.133*** (0.03)	0.078*** (0.03)	0.246*** (0.04)	0.135*** (0.02)	0.161*** (0.02)	0.095*** (0.02)	0.045** (0.02)	0.237*** (0.02)	- (0.02)	- (0.03)	0.163*** (0.01)	0.107*** (0.01)	0.177*** (0.05)	0.075** (0.03)	0.167*** (0.03)	0.122*** (0.03)	0.012 (0.02)	0.183*** (0.04)	0.128*** (0.02)
Social (friends)	0.035** (0.01)	0.062*** (0.02)	0.017 (0.01)	0.066** (0.03)	0.014* (0.01)	0.081*** (0.02)	0.027 (0.03)	0.015 (0.03)	-0.006 (0.03)	-0.037** (0.02)	0.028* (0.02)	0.026 (0.02)	-0.001 (0.02)	0.020 (0.02)	- (0.02)	- (0.07)	-0.045 (0.03)	-0.090** (0.03)	-0.038 (0.05)	-0.029 (0.01)	-0.015 (0.03)	-0.040 (0.04)	-0.019 (0.03)	0.025 (0.03)	0.002 (0.03)
Skipping school	0.082*** (0.02)	0.185*** (0.03)	0.177*** (0.02)	0.164*** (0.04)	0.051** (0.02)	0.039 (0.02)	0.151*** (0.03)	0.140*** (0.02)	0.110** (0.04)	0.097*** (0.02)	0.062*** (0.02)	0.112*** (0.02)	0.101*** (0.02)	0.133*** (0.03)	- (0.03)	- (0.03)	0.131*** (0.03)	0.105*** (0.03)	0.140** (0.05)	0.048*** (0.01)	0.110*** (0.03)	0.231*** (0.04)	0.112*** (0.02)	0.186*** (0.03)	0.147*** (0.03)
Suicide thoughts	0.076*** (0.02)	0.163*** (0.03)	0.155*** (0.02)	0.103*** (0.03)	0.019* (0.01)	0.088*** (0.03)	0.130*** (0.04)	0.078** (0.03)	0.065* (0.03)	0.090*** (0.03)	0.073*** (0.02)	0.141*** (0.02)	0.111*** (0.02)	0.095*** (0.02)	- (0.02)	- (0.10)	0.196* (0.03)	0.043 (0.03)	0.072 (0.05)	0.112*** (0.02)	0.069* (0.04)	0.138*** (0.03)	0.065** (0.03)	0.068* (0.03)	0.109*** (0.04)
Parenting	-0.032 (0.02)	-0.079*** (0.02)	-0.070*** (0.02)	-0.068*** (0.02)	-0.034*** (0.01)	-0.054* (0.03)	-0.070** (0.04)	-0.045* (0.02)	-0.075** (0.04)	-0.043* (0.02)	-0.038* (0.02)	-0.078*** (0.02)	-0.041*** (0.01)	-0.081*** (0.02)	- (0.02)	- (0.02)	-0.043* (0.03)	-0.035 (0.03)	-0.048 (0.03)	-0.108*** (0.02)	-0.077*** (0.02)	-0.174*** (0.04)	-0.059*** (0.02)	-0.082*** (0.03)	-0.105*** (0.03)
Obs	2,149	2,139	2,137	2,149	2,140	1,411	1,382	1,384	1,411	1,385	2,288	2,177	2,202	2,288	-	-	1,413	1,413	1,475	1,446	1,226	1,205	1,220	1,226	1,196

	Peru					Suriname					Trinidad and Tobago					Uruguay					St. Vincent and Grenadines				
	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)	Sex (1)	Drunk (2)	Trouble (3)	Fight (4)	Drugs (5)
Age	0.045*** (0.01)	0.042*** (0.01)	0.028*** (0.01)	-0.010 (0.01)	0.009** (0.00)	0.155*** (0.01)	0.042*** (0.01)	0.004 (0.00)	-0.011 (0.01)	0.014*** (0.00)	0.068*** (0.01)	0.042*** (0.01)	0.018*** (0.01)	0.001 (0.01)	0.029*** (0.00)	0.110*** (0.01)	0.110*** (0.01)	0.053*** (0.01)	-0.020** (0.01)	0.031*** (0.00)	0.060*** (0.01)	0.052*** (0.01)	0.011 (0.01)	-0.046** (0.02)	0.050*** (0.01)
Poverty (hunger)	-0.002 (0.03)	0.013 (0.04)	0.020 (0.04)	0.061 (0.06)	0.007 (0.02)	-0.047** (0.02)	0.003 (0.02)	0.019 (0.01)	0.039 (0.03)	0.007 (0.01)	-0.017 (0.03)	0.020 (0.03)	0.025 (0.02)	0.099** (0.05)	0.006 (0.03)	-0.021 (0.05)	0.066 (0.08)	0.173** (0.07)	0.115 (0.08)	0.003 (0.02)	-0.013 (0.04)	0.078 (0.05)	0.068 (0.05)	-0.036 (0.06)	0.012 (0.04)
Gender (male)	0.158*** (0.02)	0.084*** (0.02)	0.063*** (0.01)	0.320*** (0.02)	0.043*** (0.01)	0.127*** (0.03)	0.119*** (0.03)	0.035** (0.01)	0.177*** (0.02)	0.028** (0.01)	0.098*** (0.02)	0.058*** (0.02)	0.027 (0.02)	0.219*** (0.03)	0.059*** (0.02)	0.143*** (0.02)	0.020 (0.02)	0.049** (0.02)	0.271*** (0.02)	0.023* (0.01)	0.297*** (0.02)	0.100*** (0.03)	0.040** (0.02)	0.200*** (0.03)	0.121*** (0.02)
Social (friends)	0.024* (0.01)	0.047*** (0.01)	0.021 (0.01)	0.089*** (0.03)	0.010 (0.01)	-0.056** (0.02)	-0.001 (0.02)	-0.016 (0.01)	-0.032 (0.02)	-0.014 (0.01)	0.020 (0.02)	0.001 (0.01)	-0.015** (0.01)	0.019 (0.02)	-0.000 (0.00)	-0.019 (0.02)	0.037 (0.03)	0.023 (0.02)	-0.056** (0.02)	-0.006 (0.01)	0.033 (0.04)	-0.003 (0.03)	0.033 (0.02)	0.045 (0.03)	0.011 (0.02)
Skipping school	0.075*** (0.02)	0.083*** (0.01)	0.101*** (0.01)	0.114*** (0.02)	0.020** (0.01)	0.126*** (0.03)	0.144*** (0.04)	0.055*** (0.02)	0.097*** (0.02)	0.046*** (0.01)	-0.016 (0.02)	0.022* (0.01)	0.021 (0.01)	-0.001 (0.02)	0.006 (0.01)	0.139*** (0.02)	0.157*** (0.02)	0.096*** (0.02)	0.139*** (0.02)	0.081*** (0.01)	0.106*** (0.03)	0.141*** (0.03)	0.139*** (0.03)	0.191*** (0.03)	0.081** (0.04)
Suicide thoughts	0.120*** (0.02)	0.149*** (0.02)	0.116*** (0.02)	0.116*** (0.02)	0.052*** (0.01)	0.120*** (0.03)	0.133*** (0.03)	0.060*** (0.02)	0.125*** (0.03)	0.006 (0.01)	0.129*** (0.03)	0.025** (0.01)	0.072*** (0.02)	0.137*** (0.01)	0.095*** (0.02)	- (0.03)	- (0.01)	- (0.02)	- (0.01)	- (0.02)	0.130*** (0.04)	0.122*** (0.03)	0.072** (0.03)	0.138*** (0.03)	0.101*** (0.03)
Parenting	-0.041*** (0.01)	-0.045*** (0.01)	-0.052*** (0.01)	-0.074*** (0.02)	-0.022*** (0.01)	-0.047** (0.02)	-0.030 (0.02)	-0.014 (0.01)	-0.020 (0.02)	-0.016 (0.01)	-0.073*** (0.02)	-0.028* (0.01)	-0.039*** (0.01)	-0.108*** (0.02)	-0.050*** (0.01)	-0.035* (0.02)	-0.111*** (0.02)	-0.112*** (0.02)	-0.094*** (0.02)	-0.051*** (0.01)	-0.046** (0.02)	-0.061* (0.03)	-0.023 (0.02)	-0.058* (0.03)	-0.090*** (0.02)
Obs	2,832	2,804	2,687	2,832	2,758	1,641	1,587	1,573	1,641	1,631	2,680	2,564	2,600	2,680	2,568	3,373	3,328	3,363	3,373	3,325	1,240	1,202	1,221	1,240	1,188

Notes: Estimated standard errors, reported in parentheses, are clustered at the classroom level. Significance at the one, five, and 10 percent levels is indicated by \*\*\*, \*\*, and \*, respectively.

**Table A3. Descriptive Statistics: Control Variables**

	age		hunger		male		friends		skip		suicide	
	Mean	Std.Dev.	Mean	Std.Dev.	Mean	Std.Dev.	Mean	Std.Dev.	Mean	Std.Dev.	Mean	Std.Dev.
Argentina	14.582	1.104	0.031	0.174	0.480	0.500	0.713	0.452	0.363	0.481	0.169	0.375
Antigua and Barbuda	13.958	0.917	0.073	0.260	0.515	0.500	0.670	0.471	0.224	0.417	0.172	0.378
Barbados	14.241	0.954	0.046	0.209	0.494	0.500	0.651	0.477	0.216	0.412	.	.
Chile	13.763	1.095	0.018	0.134	0.511	0.500	0.638	0.481	0.227	0.419	0.217	0.412
Costa Rica	14.298	1.090	0.014	0.119	0.504	0.500	0.718	0.450	0.372	0.483	0.108	0.311
Ecuador	13.426	1.428	0.031	0.173	0.515	0.500	0.669	0.471	0.190	0.392	0.171	0.377
Grenada	14.074	1.325	0.081	0.273	0.449	0.498	0.599	0.490	0.261	0.439	0.225	0.418
Guyana	14.321	1.064	0.078	0.268	0.485	0.500	0.512	0.500	0.327	0.469	0.235	0.424
Jamaica	14.698	1.169	0.137	0.344	0.514	0.500	0.547	0.498	0.379	0.485	0.248	0.432
St. Lucia	14.053	1.299	0.065	0.246	0.451	0.498	0.623	0.485	0.299	0.458	0.187	0.390
Peru	14.402	1.051	0.032	0.176	0.506	0.500	0.657	0.475	0.367	0.482	0.200	0.400
Suriname	14.731	1.260	0.106	0.309	0.493	0.500	0.445	0.497	0.213	0.410	0.137	0.344
Trinidad and Tobago	13.734	1.353	0.064	0.245	0.492	0.500	0.588	0.492	0.301	0.459	0.173	0.378
Uruguay	14.187	1.275	0.014	0.120	0.452	0.498	0.766	0.423	0.294	0.455	.	.
St. Vincent and Grenadines	13.661	1.195	0.070	0.255	0.473	0.499	0.643	0.479	0.278	0.448	0.190	0.393
<b>All countries</b>	<b>14.392</b>	<b>1.143</b>	<b>0.035</b>	<b>0.183</b>	<b>0.493</b>	<b>0.500</b>	<b>0.678</b>	<b>0.467</b>	<b>0.345</b>	<b>0.475</b>	<b>0.183</b>	<b>0.387</b>

Source: Authors' calculations using GSHS data

Figure A1. Parenting Skills

