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Childhood Sexual Violence Against Boys: A Study in 3 Countries

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Abstract

BACKGROUND AND OBJECTIVE—Globally, little evidence exists on sexual violence against boys. We sought to produce the first internationally comparable estimates of the magnitude, characteristics, risk factors, and consequences of sexual violence against boys in 3 diverse countries.

METHODS—We conducted nationally representative, multistage cluster Violence Against Children Surveys in Haiti, Kenya, and Cambodia among males aged 13 to 24 years. Differences between countries for boys experiencing sexual violence (including sexual touching, attempted

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sex, and forced/coerced sex) before age 18 years were examined by using χ^2 and logistic regression analyses.

RESULTS—In Haiti, Kenya, and Cambodia, respectively, 1459, 1456, and 1255 males completed surveys. The prevalence of experiencing any form of sexual violence ranged from 23.1% (95% confidence Interval [CI]: 20.0–26.2) in Haiti to 14.8% (95% CI: 12.0–17.7) in Kenya, and 5.6% (95% CI: 4.0–7.2) in Cambodia. The largest share of perpetrators in Haiti, Kenya, and Cambodia, respectively, were friends/neighbors (64.7%), romantic partners (37.2%), and relatives (37.0%). Most episodes occurred inside perpetrators' or victims' homes in Haiti (60.4%), contrasted with outside the home in Kenya (65.3%) and Cambodia (52.1%). The most common time period for violence in Haiti, Kenya, and Cambodia was the afternoon (55.0%), evening (41.3%), and morning (38.2%), respectively. Adverse health effects associated with violence were common, including increased odds of transactional sex, alcohol abuse, sexually transmitted infections, anxiety/depression, suicidal ideation/ attempts, and violent gender attitudes.

CONCLUSIONS—Differences were noted between countries in the prevalence, characteristics, and risk factors of sexual violence, yet associations with adverse health effects were pervasive. Prevention strategies tailored to individual locales are needed.

Media reports, awareness campaigns, and research articles have begun to shed light on the magnitude of sexual violence against girls and the urgent need to respond to these human rights violations.^{1–5} However, comparatively little is known about sexual violence experienced by boys (defined as males <18 years), particularly in low- and middle-income countries. Childhood violence exposure is associated with a myriad of immediate and long-term adverse health and socioeconomic effects. Indeed, adverse childhood experiences, including violence victimization, are associated with: subsequent poor mental health, such as depression and suicide; increased risk of infectious disease acquisition, such as HIV; and even the development of chronic diseases, such as diabetes and cardiovascular disease.^{6–11} Given the significant health consequences of violence exposure, increased attention to boys as victims of sexual violence is needed. However, the benefits of addressing sexual violence among boys may extend to the entire population. Previous sexual violence experienced by male children is associated with later violence perpetration against both females and males, and thus addressing sexual violence among boys can help break cycles of violence.^{12,13}

Accurately describing the magnitude, circumstances, and correlates of sexual violence against boys in low-income nations through internationally comparable estimates remains an unaddressed yet fundamental need in developing effective prevention and intervention strategies. Previous international studies on sexual violence that have included information on males have limitations in that they have focused on specific geographic regions¹⁴ or on subpopulations, such as school-attending children, that may not be fully representative of all males.^{15,16} A large World Health Organization school-based survey in 5 African nations found that 23.8% of boys <14 years had been physically forced to have sex, yet limited assessment of differences by country has thus far been possible.¹⁷ Another study of male violence perpetration/ victimization across several Asian nations was recently completed; however, males surveyed were much older (up to 49 years) than in child/ youth focused surveys.¹² Thus, the degree to which sexual violence against boys occurs in distinct nations of the world and differs globally is yet to be fully elucidated via a comparable methodology.

As a part of a multisectoral collaboration to improve the global surveillance of violence against children, the Centers for Disease Control and Prevention (CDC), the United Nations Children's Fund, the President's Emergency Plan for AIDS Relief, and a global private–public partnership called Together for Girls conducted nationally representative surveys of violence against children (including boys) in Haiti, Kenya, and Cambodia. Consequently, these surveys allow us to describe the magnitude, characteristics, risk factors, and associations with potential effects of sexual violence against boys. We hypothesized that we would detect differences in the magnitude and patterns of childhood sexual violence in these 3 culturally distinct and geographically diverse countries.

METHODS

Study Design and Participants

The Violence Against Children Survey (VACS), developed by CDC and host country partners to assess violence against children, was administered in Haiti, Kenya, and Cambodia among youth age 13 to 24 years. To produce nationally representative estimates in each of the 3 countries, a multistage, cluster sampling strategy was used. Sampling strategies were determined in consultation with host nation census and statistical bureaus. Both males and females were sampled in each country in a nationally representative fashion, although in separate enumeration areas (EA) to reduce the possibility of a perpetrator and a victim being interviewed in the same locale.

The Kenya VACS was a 3-stage cluster survey conducted from October to December 2010 and used the National Sample Survey and Evaluation Program IV frame, which included an initial stratification by province. In the first stage, 238 clusters were selected with probability proportional to size and then randomly assigned to either female or male surveys using systematic sampling with a random start. A total of 134 clusters were assigned for male surveys. In the second stage, 35 households per cluster were selected by using equal probability systematic sampling. Finally, in the third stage, a single male respondent age 13 to 24 years was selected within each household using the Kish method.¹⁸

The Haiti VACS was conducted from April to June 2012. The population was initially stratified into internally displaced person camps and non-camp areas with further stratification on “Domaines” (government administrative departments) in the non-camp sample. For the non-camp sample, in the first stage of sampling, 177 geographical subdivisions based on the Haitian Institute of Statistics and Information's sampling frame were selected as EAs via probability proportional to size (PPS) sampling. For the internally displaced person sample, 11 camps were selected as EAs using PPS. Systematic sampling with a random start was used to assign 98 non-camp EAs and 6 camp EAs to male surveys. In the second stage, a cluster of 35 households was randomly chosen from each EA and, in the third stage, 1 male respondent age 13 to 24 years per household was then selected via the Kish method.

Finally, the Cambodia VACS was conducted from December 2012 to March 2013 and was based on the sampling frame provided by the Cambodian Department of Demographic Statistics, Censuses and Surveys. In the first stage, 225 villages were selected by using PPS

sampling, with 27% of sites allocated to urban areas. In the second stage, further geographical subdivisions within each village were chosen as EAs with 1 EA selected per village, yielding 225 EAs. Of these EAs, 119 were randomly selected for male surveys. In the third stage, 25 households were randomly selected from each EA by equal probability systematic sampling. Finally, in the fourth stage, 1 respondent per household was selected via the Kish method. Further details on the sampling frames and strategies of each survey are available from host country reports.^{19–21}

Procedures

Surveys assessed 4 major kinds of sexual violence. First, respondents reported on being touched against one's will in a sexual way. Secondly, participants indicated episodes of unwanted, attempted (but not completed) sex, in which a perpetrator tried to make the respondent have sex but did not succeed. Thirdly, participants recounted episodes of unwanted, completed sex, in which they were pressured or coerced (ie, threats, harassment, or tricking) to have sex. Finally, respondents reported episodes of physically forced sex. Sex was defined as: someone penetrating the respondent's anus with their penis, hands, fingers, mouth, or objects; someone penetrating the respondent's mouth with their penis; or someone attempting to put the respondent's penis into the perpetrator's mouth, anus, or vagina.

Each survey was pilot tested in-country before implementation and administered in local languages as appropriate. Survey questionnaires contained comparable wording of sexual violence as noted above. Questionnaires were conducted face-to-face by survey worker staff from host country survey agencies, with training provided by CDC technical experts. Male respondents were interviewed by male survey workers.

In addition to reporting on episodes of sexual violence, participants reported on the characteristics and circumstances of sexual violence, including perpetrator attributes, time, and location. Information on potential risk (eg, orphanhood, working for money) and protective (eg, strong social relationships) factors as well as adverse health and behavioral effects was also collected along with current gender attitudes. Risk and protective factors to be explored included items from various levels of the socio-ecological framework, such as societal (electricity, as a proxy for development), family (orphanhood), peer/social (friend/teacher relationships), and individual level (age, school status) items. Survey questions were closed-ended and are available in host country reports.^{19–21}

Respondents provided informed verbal consent for study participation according to World Health Organization guidelines on surveys regarding violence. For each country, survey workers had predefined plans to link respondents desiring care to social services. Ethical approval was provided by the CDC's institutional review board as well as host country review boards.

Statistical Analysis

The prevalence of experiencing various forms of sexual violence before age 18 years in each of the 3 countries was estimated along with 95% confidence intervals (CIs). SAS (version 9.3; SAS Institute, Inc, Cary, NC) and Stata (version 13.0; Stata Corp, College Station, TX)

were used for data management and analysis. All analyses take into account the complex survey designs and apply sample weights to achieve nationally representative estimates.

Additionally, characteristics of each participant's first episode of sexual violence were analyzed. When multiple forms of sexual violence occurred during the same year, information is reported on the most severe form that occurred. Individuals with missing information on experiencing sexual violence or the age at which they experienced sexual violence were excluded from the analysis. To evaluate potential differences between countries in prevalence and episode characteristics, we followed the general framework described by Scott and Rao^{22,23} for testing homogeneity of proportions. Although the SURVEYFREQ procedure in SAS does not directly provide such a test, the procedure can be conveniently applied to generate intermediate quantities needed to calculate the final test statistic.

Risk factors for experiencing sexual violence were explored by using unadjusted and adjusted logistic regression models using SAS's SURVEYLOGISTIC procedure. For risk factor analyses, exploratory bivariate analyses were initially conducted, and those risk factors significant at the 0.10 level, as well as age, were entered as terms in the final adjusted model. For analyses of the potential consequences of sexual violence, unadjusted models were bivariate analyses assessing the association of experiencing any sexual violence with each potential consequence. Adjusted models for potential consequences controlled for those risk factors found to be significantly associated with sexual violence ($P < .05$) as well as age.

RESULTS

The final samples included 1459 Haitian males, 1456 Kenyan males, and 1255 Cambodian males, age 13 to 24 years who had completed the individual survey, for an overall response rate of 82.0%, 80.4%, and 89.9%, respectively. The percentage of males experiencing any form of sexual violence before age 18 years ranged from 23.1% in Haiti (95% CI: 20.0–26.2) to 14.8% in Kenya (12.0–17.7) to 5.6% in Cambodia (4.0–7.2) (Fig 1).

The prevalence of specific types of sexual violence (unwanted touching, unwanted attempted sex, pressured sex, and forced sex) mirrored this overall pattern, with Haiti exhibiting the highest prevalence, Kenya with mid-range estimates, and Cambodia with the lowest estimates. Differences between countries for all of the types of sexual violence were significant at the $P < .01$ level. For males in Haiti, the estimated prevalence of unwanted sex was 8.8% (95% CI: 6.9–10.7) while males in Kenya and Cambodia had prevalence estimates of 3.5% (95% CI: 2.1–4.8) and 0.3% (95% CI: 0.0–0.7), respectively.

To further explore differences between countries in sexual violence, descriptive details of the first episode of any sexual violence were compared (Table 1). Notable differences between countries existed for all characteristics. For example, with respect to perpetrators, family members or relatives accounted for 37.0% of perpetrators in Cambodia, yet accounted for only 10.7% and 1.5% of perpetrators in Kenya and Haiti, respectively.

Associations between various potential risk or protective factors and experiencing any form of child sexual violence were also explored (Table 2). In multivariate analyses, risk factors

significant at the .05 level for experiencing any sexual violence in Haiti included having to work for money and having a good relationship with teachers. In Kenya, the only significant predictor of experiencing sexual violence was whether the respondent ever had to work for money. Lastly, in Cambodia, no statistically significant predictors of sexual violence were identified among the risk factors examined.

Emotional and physical violence can often co-occur with sexual violence. Although not a major focus of this article, we calculated the prevalence of emotional violence (defined as being made to feel unwanted or ridiculed/humiliated) and physical violence (defined as being punched, kicked, whipped, beaten with an object, or being the threatened or actual victim of a knife or other weapon). Considering all countries collectively, among those individuals who had experienced sexual abuse, 43.6% reported a history of emotional violence compared with 23.6% reporting no experience of sexual violence (crude odds ratio [OR]: 2.5; 95% CI: 1.9–3.3; $P < .01$). Among those individuals who experienced sexual violence, 84.5% reported a history of physical violence compared with 67.8% who had not experienced sexual violence (crude OR: 2.6; 95% CI: 1.9–3.6; $P < .01$).

Whereas significant differences in prevalence, characteristics, and predictors of sexual violence were noted between the countries studied, the association of sexual violence with adverse health and behavioral factors were largely similar (Tables 3 and 4). For Haiti and Kenya, associations of sexual violence with risky sexual behavior, mental health issues, and poor gender attitudes were noted. Although analyses for Cambodia were limited because only a small number of individuals experienced sexual violence, percentages observed for Cambodia are generally consistent with the associations noted in Haiti and Kenya.

Pooled data from the 3 countries reveal highly significant associations for nearly all consequences studied. Males who had experienced previous sexual violence had an approximate fourfold increased odds of receiving money or goods for sex, compared with males who never experienced sexual violence. Males who experienced previous sexual violence had 50% higher odds (OR: 1.5; 95% CI: 1.0–2.0; $P = .03$) of believing that men need other women even if their relationship with their wife is fine. Beyond risky sexual behaviors, attitudes accepting violence as commonplace prevailed. For example, male respondents who suffered sexual violence had a significantly increased likelihood to believe that a man is justified in beating his wife if she argues with him (OR: 1.7; 95% CI: 1.3–2.3; $P < .01$).

In pooled analyses, the odds of experiencing depressive symptoms were 90% higher among those respondents who had experienced previous sexual violence, compared with their counterparts who had not. Greater than 10% of males who had experienced previous sexual violence had contemplated or attempted suicide, a significant increase relative to those who had not experienced sexual abuse (OR: 1.9; 95% CI: 1.3–3.0; $P < .01$).

DISCUSSION

Violence against boys is a significant but neglected public health problem. This study represents an initial attempt to develop systematic, comparable estimates of multiple forms

of childhood sexual violence against males using a consistent methodology across 3 countries. Rates of sexual violence against males, characteristics of episodes, and risk factors for victimization differed among countries, whereas adverse consequences were pervasive.

Results of the surveys indicate that sexual violence against males appears to differ between the countries studied. Indeed, differences between Haiti, Kenya, and Cambodia were of considerable magnitude and were statistically significant. The lowest rates of self-reported sexual violence victimization among males were detected in Cambodia. The degree to which Cambodia's rates may be underestimated because of unique cultural considerations or concerns about disclosure is unknown. Another study of adult males in Cambodia indicated a reported prevalence of child sexual abuse ranging from 10.5% to 30.2%, depending on the subpopulation studied, suggesting that our figures may be an underestimate.¹³ Nonetheless, cultural norms about sexual violence differ between countries, as can socially desirable response patterns. Previous studies have found heterogeneity in similar surveys in Asian nations.^{24–26} A definitive explanation for the particularly high rates of sexual violence among males in Haiti also remains to be determined. The Haitian survey was conducted after the country's large earthquake event, which weakened local rule-of-law and contributed to multiple vulnerabilities among the populace.²⁷ Interestingly, previous school-based studies in other African nations using self-administered questionnaires have revealed a higher prevalence of forced or pressured sex (typically >20%) than our study detected in Kenya; perhaps some individuals were reluctant to disclose abuse during face-to-face interviews.^{15,17} This underscores the need for continued thinking about strategies to maximize disclosure.

The differences detected in the characteristics of sexual violence between countries are also marked. Variabilities in perpetrator attributes, crime location, and timing of the violence were noted. Risk factors for sexual violence were also explored and were generally noted to differ between countries. Although strong social support has been cited as being protective of experiencing violence,²⁸ most respondents indicated high levels of familial and peer support, limiting the ability to detect differences between those who had experienced sexual violence and those who had not. Indeed, it is possible that the strongest risk factors for male sexual violence in the international context are distinct from those that we have postulated and further exploration is needed. Ultimately, the differences noted between countries suggest that preventive strategies may need to be uniquely tailored to be most effective.

Although differences in the prevalence and characteristics of sexual violence are apparent between the countries studied, the adverse health outcomes of sexual violence are strikingly similar. The adverse health factors we detected are consistent with previous, smaller studies on violence and child abuse.^{29–31}

The reported findings highlight the important role of violence prevention in the control of other major health problems globally. In our study, childhood sexual violence against males was associated with resultant high-risk sexual behaviors that are associated with HIV acquisition, such as transactional sex.³² Furthermore, with increased promiscuity within

marital relationships, males who have experienced sexual violence further contribute to HIV acquisition among females, who already bear the largest share of the HIV burden globally.³³

Violent attitudes toward females were prevalent among those males who had experienced childhood sexual violence, with issues including burning food, arguing, and refusing to have sex stated as being appropriate grounds for beating a woman. Noticeably, the acceptability of hitting women for various reasons was relatively high even among those participants who had not experienced sexual violence, suggesting that broad transformation of gender attitudes may be necessary and is an important area to explore for violence prevention.³⁴

Higher rates of depression and anxiety symptoms among male respondents exposed to violence point to an increased burden on mental health services, as well as lost productivity that could be prevented. Provision of mental health services in many countries is currently strained with limited providers and access to care³⁵; sexual violence needlessly heightens these shortages. Chronic diseases may also be expected to increase as a result of violence given the increase in tobacco or alcohol abuse noted in some countries among sexual violence victims.

Some limitations of this study should be noted. First, as with all survey data, information collected is subject to recall bias. Abuse that occurred as a very young child may not be recalled by participants. Additionally, because of the sensitive nature of the subject matter and varying cultural norms on sexuality, violence, and masculinity, respondents may have been reluctant to report sexual abuse and this could have been present differentially across nations. These biases would underestimate the true prevalence of sexual violence and even potentially affect differences observed between nations. Additionally, sociocultural norms may affect perceptions of what is considered to be sexual violence within the countries studied. In Cambodia, our ability to identify risk factors and consequences of sexual violence among males was limited because of the relatively small number of individuals reporting sexual violence in the survey data for that country. Point estimates based on small numbers can be unreliable; we have flagged such estimates in the tables and they should be interpreted with caution. In Haiti, the survey was conducted after the earthquake, which markedly increased population vulnerabilities; the consequences of this on sexual violence trends are unclear. Lastly, the temporal relationship between sexual violence and some of its predictors and consequences are not able to be determined from this study; thus, causal assertions are limited.

CONCLUSIONS

When the World Health Organization's World Report on Violence was published in 2002,³⁶ its focus was on sexual violence against females, noting the dearth of information about sexual violence against males. This study represents a cross-country investigation into a largely heretofore unexamined topic and provides essential estimates and characterizations of the burden of sexual violence victimization of boys. The findings provide a benchmark against which the progress of future public health efforts can be measured as well as contribute to hypothesis generation for such efforts. Furthermore, the marked differences detected between nations highlight a need for expanded evaluation in additional countries.

Fully understanding the degree to which intercountry variability exists in sexual violence and the risk factors for such violence is important for targeting global efforts to reduce sexual violence as well as developing locally appropriate strategies for its prevention.

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ABBREVIATIONS

CDC	Centers for Disease Control and Prevention
CI	confidence interval
EA	enumeration areas
PPS	probability proportional to size
VACS	Violence Against Children Surveys

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WHAT'S KNOWN ON THIS SUBJECT

Sexual violence against children is a major public health problem globally. However, little attention has been focused on sexual violence against boys. Differences between nations in the prevalence, characteristics, risk factors, and consequences of such violence remain to be elucidated.

WHAT THIS STUDY ADDS

Important differences in prevalence, characteristics, and risk factors of sexual violence were noted between countries from 3 distinct regions of the world. Locally tailored prevention strategies are needed to help prevent the adverse health effects of childhood sexual violence.

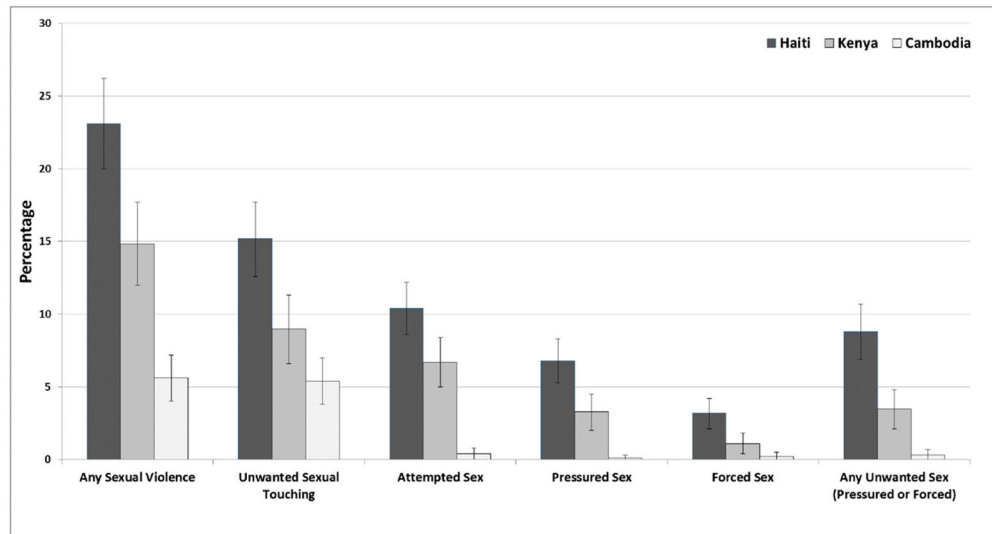


FIGURE 1.

Proportion of males age 13 to 24 years experiencing sexual violence before age 18 years in Haiti, Kenya, and Cambodia. Estimates for forced sex for Kenya and attempted, pressured, forced, and unwanted sex for Cambodia have a relative SE >30%. Estimates based on small numbers should be interpreted with caution.

TABLE 1

Characteristics of First Reported Episode of Sexual Violence Among Those Males Experiencing Any Sexual Violence Before Age 18 Years: Haiti, Kenya, and Cambodia

Characteristic	Haiti (n = 327)	Kenya (n = 197)	Cambodia (n = 69)	<i>p</i> ^a
Age at first episode				<.001
Age 10 years	18.0 (11.5–24.5)	13.7 (7.4–20.0)	59.1 (43.2–75.0)	
>1 perpetrator	10.6 (5.9–15.3)	15.7 (9.0–22.3)	24.5 (11.4–37.7)	.05
Perpetrator				<.001 ^b
Romantic partner	23.3 (17.6–29.0)	37.2 (26.8–47.5)	4.0 (0.0–8.8) ^c	
Family member/relative	1.5 (0.0–3.2) ^c	10.7 (4.5–17.0)	37.0 (23.5–50.5)	
Friend/acquaintance/neighbor	64.7 (57.3–72.1)	38.2 (27.7–48.7)	54.2 (40.7–67.8)	
Stranger	8.7 (4.4–13.0)	11.7 (6.1–17.4)	0	
Other	1.7 (0.0–4.2) ^c	2.1 (0.2–4.1) ^c	4.7 (0.0–11.8) ^c	
Location				<.001
Victim's home	34.7 (27.5–41.8)	26.9 (17.3–36.4)	41.9 (29.0–54.8)	
Perpetrator's home	25.7 (19.9–31.4)	7.7 (2.6–12.9) ^c	6.1 (0.0–12.6) ^c	
Other residence/business	5.4 (2.3–8.5)	9.5 (3.0–16.1) ^c	11.6 (2.2–21.0) ^b	
Outdoors	26.9 (18.7–35.0)	18.2 (12.1–24.4)	21.8 (11.1–32.5)	
Public event/party	0.7 (0.0–1.4) ^c	13.6 (8.4–18.8)	4.3 (0.0–10.2) ^c	
School	6.2 (1.3–11.0) ^c	22.3 (14.6–30.1)	11.7 (4.0–19.4) ^c	
Other	0.5 (0.0–1.3) ^c	1.7 (0.0–4.1) ^c	2.7 (0.0–5.9) ^c	
Time of day ^d				<.001
Morning	26.2 (19.8–32.6)	10.2 (3.9–16.6) ^c	38.2 (24.9–51.4)	
Afternoon	55.0 (48.5–61.6)	33.0 (23.1–42.9)	31.9 (15.0–48.8)	
Evening	18.5 (13.2–23.7)	41.3 (31.0–51.5)	23.3 (10.2–36.3)	
Late at night	0.3 (0.0–0.8) ^c	15.5 (8.1–22.8)	6.7 (0.0–14.4) ^c	
Age of perpetrator				<.001
Younger	19.1 (13.6–24.5)	8.7 (3.9–13.5)	2.5 (0.0–6.0) ^c	
Same	18.5 (12.0–25.1)	47.3 (37.9–56.7)	25.9 (15.4–36.4)	
Older	62.4 (55.2–69.6)	44.0 (34.2–53.7)	71.6 (61.0–82.2)	
Victim told someone about any abuse	38.9 (33.2–44.7)	28.1 (20.5–35.7)	13.6 (5.4–21.8) ^c	.001

Numbers represent % (95% CI) unless otherwise noted.

^a χ^2 test for significant differences in the distribution of responses across countries for each major characteristic.

^b Tests only between Kenya and Haiti because Cambodia has a cell with 0 episodes.

^c Relative SE >30%, estimates based on small numbers should be interpreted with caution.

^d For Haiti, data only available for the first event for those having 1 episode of violence and the most recent event for those having >1 or an unknown number of episodes of violence.

TABLE 2
Risk or Protective Factors Associated With Any Sexual Violence Against Male Children in Haiti, Kenya, and Cambodia

	N	Never Experienced Sexual Violence	Risk Factor Prevalence (%)		Crude OR (95% CI)	P	Adjusted OR (95% CI)	P
			Experienced Sexual Violence	Risk Factor Prevalence (%)				
Haiti								
Female head of household	1360	47.2	54.3	1.3 (1.0–1.8)	.08	1.4 (1.0–1.9)	.08	
Respondent has ever had to work for money	1362	39.1	55.1	1.9 (1.4–2.7)	<.001	2.0 (1.4–2.9)	<.001	
Orphan (1 parents died before 18)	1319	21.2	26.4	1.3 (1.0–1.9)	.09	1.4 (1.0–1.9)	.08	
Respondent feels he can talk to his family	1342	93.1	91.3	0.8 (0.4–1.5)	.44			
Currently attending school	1364	74.5	74.3	1.0 (0.7–1.4)	.97			
Respondent feels/felt close to other students	1319	91.7	91.1	0.9 (0.5–1.7)	.81			
Respondent feels teachers care(d) about him	1317	90.1	81.2	0.5 (0.2–1.0)	.04	0.4 (0.2–0.9)	.03	
Respondent has friends he can talk to	1348	87.2	89.7	1.3 (0.8–2.2)	.35			
Household has electricity	1359	45.0	38.8	0.8 (0.5–1.1)	.18			
Age (y; mean)	1365	17.9	17.9	1.0 (0.9–1.1)	.98	1.0 (0.9–1.0)	.17	
Kenya								
Female head of household	1412	43.1	41.4	0.9 (0.6–1.4)	.71			
Respondent has ever had to work for money	1400	47.1	61.3	1.8 (1.2–2.7)	<.01	1.8 (1.2–2.8)	<.01	
Orphan (1 parents died before 18)	1368	21.8	29.7	1.5 (0.9–2.4)	.09	1.4 (0.9–2.3)	.15	
Respondent feels he can talk to his family	1419	90.9	82.8	0.5 (0.3–0.9)	.03	0.6 (0.3–1.5)	.28	
Currently attending school	1401	61.0	53.3	0.7 (0.5–1.0)	.06	0.9 (0.5–1.4)	.53	
Respondent feels/felt close to other students	1390	96.0	98.3	2.4 (0.7–7.9)	.15			
Respondent feels teachers care(d) about him	1392	93.3	93.0	0.9 (0.5–1.9)	.88			
Respondent has friends he can talk to	1410	93.7	88.5	0.5 (0.3–1.0)	.06	0.6 (0.3–1.2)	.15	
Household has electricity	1370	21.3	24.8	1.2 (0.8–1.9)	.38			
Age (y; mean)	1419	17.7	18.3	1.1 (1.0–1.1)	.03	1.0 (0.9–1.1)	.88	
Cambodia								
Female head of household	1222	19.4	16.3	0.8 (0.4–1.5)	.51			
Respondent has ever had to work for money	1231	53.2	52.7	1.0 (0.6–1.7)	.94			
Orphan (1 parents died before 18)	1227	10.2	7.9 ^b	0.8 (0.3–1.6)	.47			

	<i>N</i>	Never Experienced Sexual Violence	Experienced Sexual Violence	Crude OR (95% CI)	<i>P</i>	Adjusted OR (95% CI)	<i>P</i>
		Risk Factor Prevalence (%)					
Relationship with mother (close or very close)	1222	97.6	100.0	c	c		
Relationship with father (close or very close)	1214	90.8	93.8	1.5 (0.6–3.7)	.34		
Currently attending school	1233	53.0	58.4	1.2 (0.8–2.1)	.40		
Respondent feels close to other students ^d	668	92.5	98.3	4.6 (0.6–33.8)	.13		
Respondent has friends he can talk to	1229	72.7	75.1	1.1 (0.6–2.2)	.71		
Household has electricity	1221	48.6	56.3	1.4 (0.7–2.5)	.32		
Age (<i>y</i> ; mean)	1233	17.9	18.2	1.0 (1.0–1.1)	.42		

In this exploratory analysis, potential risk factors were considered to be female-headed household, respondent having to work for money, and orphanhood. Potential protective factors included attending school, strong relationships with family/peers/teachers, and presence of electricity. Potential responses on relationship items are slightly different between Cambodia and Kenya/Haiti. Adjusted regression models control for all risk factors significant at the $P < .10$ level in bivariate analyses.

^aNumber of respondents answering each question about risk factors and sexual violence history.

^bRelative SE >30%. estimates based on small numbers should be interpreted with caution.

^cUnable to be calculated as 1 cell contains 100%.

^dThis question only asked of presently attending students in Cambodia.

TABLE 3
Health, Behavioral, and Attitudinal Factors Associated With Experiencing Sexual Violence Before Age 18 Years in Haiti, Kenya, and Cambodia

	N ^a	Never Experienced Sexual Violence	Experienced Sexual Violence	Crude OR (95% CI)	P	Adjusted ^b OR (95% CI)	P
Haiti							
Received money, food, gifts, or favors for sex, past 12 mo	1358	1.9	7.0	4.0 (1.7-9.0)	<.01	3.3 (1.5-7.6)	<.01
Alcohol abuse, past 30 d	1326	9.4	17.4	2.0 (1.3-3.3)	<.01	1.8 (1.1-3.0)	.01
Tobacco abuse, past 30 d	1363	3.9	8.5	2.3 (1.1-4.6)	.02	2.1 (0.9-4.8)	.08
Penile discharge or sore, ever	1358	15.5	24.3	1.8 (1.2-2.6)	<.01	1.5 (1.0-2.3)	.05
Anxiety, past 30 d	1341	31.2	43.8	1.7 (1.2-2.5)	<.01	1.7 (1.1-2.6)	.01
Depression, past 30 d	1321	26.2	39.3	1.8 (1.4-2.4)	<.001	1.8 (1.3-2.4)	<.001
Suicidal ideation or attempt	1364	7.6	9.8	1.3 (0.8-2.2)	.31	1.4 (0.8-2.5)	.27
Gender attitudes							
A man needs other women even if things with wife are fine	1260	32.9	42.9	1.5 (1.0-2.3)	.04	1.5 (1.0-2.3)	.04
A woman should tolerate violence to keep family together	1270	15.1	19.3	1.3 (0.9-2.0)	.15	1.2 (0.8-1.9)	.33
A man is justified in hitting/beating his wife:							
If she goes out without telling him	1310	18.7	24.2	1.4 (1.0-2.0)	.08	1.3 (0.9-2.0)	.15
If she neglects the children	1312	21.3	28.9	1.5 (1.0-2.2)	.03	1.4 (0.9-2.1)	.12
If she argues with him	1303	12.9	24.9	2.2 (1.5-3.4)	<.001	2.4 (1.6-3.7)	<.001
If she refuses to have sex with him	1277	8.7	20.4	2.7 (1.7-4.3)	<.001	2.6 (1.6-4.1)	<.001
If she burns the food	1326	9.4	11.0	1.2 (0.7-2.0)	.49	1.1 (0.7-1.9)	.68
Kenya							
Received money, food, gifts, or favors for sex, past 12 mo	1411	0.9 ^c	2.8 ^c	3.2 (1.1-9.4)	.04	2.6 (0.8-8.2)	.10
Alcohol abuse, past 30 d	1404	7.1	14.1	2.1 (1.0-4.4)	.04	1.9 (0.9-3.8)	.08
Tobacco abuse, past 30 d	1418	4.6	9.6 ^c	2.2 (1.0-4.9)	.05	2.0 (0.9-4.8)	.10
Penile discharge or sore, past 12 mo	1410	4.3	7.7 ^c	1.9 (0.8-4.6)	.18	1.8 (0.7-4.4)	.20
Anxiety, past 30 d	1415	49.2	60.9	1.6 (1.1-2.4)	.02	1.5 (1.0-2.3)	.05
Depression, past 30 d	1415	49.0	64.2	1.9 (1.3-2.8)	<.01	1.8 (1.2-2.7)	<.01
Suicidal ideation or attempt	1414	6.4	11.4	1.9 (1.1-3.4)	.03	1.7 (0.9-3.0)	.09

	N ^a	Never Experienced Sexual Violence (%)	Experienced Sexual Violence	Crude OR (95% CI)	P	Adjusted ^b OR (95% CI)	P
Gender attitudes							
A man needs other women even if things with wife are fine	1309	34.5	53.5	2.2 (1.3–3.6)	<.01	2.0 (1.2–3.3)	<.01
A woman should tolerate violence to keep family together	1373	40.9	55.3	1.8 (1.2–2.6)	<.01	1.8 (1.2–2.5)	<.01
A man is justified in hitting/beating his wife:							
If she goes out without telling him	1388	24.7	35.5	1.7 (1.1–2.6)	.03	1.6 (1.0–2.6)	.05
If she neglects the children	1392	41.9	52.6	1.5 (1.1–2.2)	.02	1.5 (1.1–2.2)	.02
If she argues with him	1386	26.5	38.9	1.8 (1.2–2.6)	<.01	1.8 (1.2–2.6)	<.01
If she refuses to have sex with him	1331	21.1	26.2	1.3 (0.8–2.2)	.26	1.3 (0.8–2.1)	.35
If she makes bad food	1390	17.4	27.1	1.8 (1.1–2.8)	.01	1.7 (1.1–2.7)	.03
Cambodia							
Received money, food, gifts, or favors for sex, past 12 mo	1231	0.5 ^c	1.7 ^c	—	—	—	—
Alcohol abuse, past 30 d	1181	59.7	61.6	—	—	—	—
Tobacco abuse, past 30 d	1233	20.9	24.6	—	—	—	—
Penile discharge or sore, ever	1222	7.4	23.3	—	—	—	—
Anxiety, past 30 d	1229	26.1	34.0	—	—	—	—
Depression, past 30 d	1225	19.1	22.3	—	—	—	—
Suicidal ideation or attempt	1233	1.6 ^c	5.3 ^c	—	—	—	—
Gender attitudes							
A man needs other women even if things with wife are fine	1095	66.1	78.6	—	—	—	—
A woman should tolerate violence to keep family together	1167	75.4	74.3	—	—	—	—
A man is justified in hitting/beating his wife:							
If she goes out without telling him	1209	9.6	6.2 ^c	—	—	—	—
If she neglects the children	1206	18.9	19.6	—	—	—	—
If she argues with him	1198	17.8	17.7 ^c	—	—	—	—
If she refuses to have sex with him	1095	13.6	25.2	—	—	—	—
If she makes bad food	1204	4.6	4.6 ^c	—	—	—	—

In Kenya, penile discharge or sore only ascertained for preceding 12 mo. Anxiety defined as feeling nervous; depression defined as feeling so sad/unhappy or depressed that nothing could cheer you up. Regression analyses not performed for Cambodia alone because of small numbers and these empty cells are indicated with a dash.

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Number of respondents answering each question about consequences and sexual violence history.
 Kenya: adjusted for age and ever having to work for money; Haiti: adjusted for ever having to work for money, having caring teachers, and age.
 Relative SE >30%, estimates based on small numbers should be interpreted with caution.

TABLE 4

Health, Behavioral, and Attitudinal Factors Associated With Experiencing Sexual Violence Before Age 18 Years in Haiti, Kenya, and Cambodia Combined

	N ^a	Prevalence of Factor (%)		Crude OR (95% CI)	P	Adjusted ^b OR (95% CI)	P
		Never Experienced Sexual Violence	Experienced Sexual Violence				
Haiti, Kenya, Cambodia combined							
Received money, food, gifts, or favors for sex, past 12 mo	4000	0.9	3.8	4.2 (2.1–8.2)	<.001	3.7 (1.9–7.5)	<.001
Alcohol abuse, past 30 d	3911	20.7	19.5	0.9 (0.6–1.4)	.70	0.8 (0.6–1.2)	.31
Tobacco abuse, past 30 d	4014	8.7	10.8	1.3 (0.8–2.0)	.34	1.1 (0.7–1.9)	.58
Penile discharge or sore	3990	6.7	13.5	2.2 (1.4–3.3)	<.001	2.1 (1.4–3.2)	<.001
Anxiety, past 30 d	3985	40.7	53.9	1.7 (1.3–2.2)	.001	1.6 (1.2–2.2)	<.001
Depression, past 30 d	3961	38.1	53.9	1.9 (1.5–2.5)	<.001	1.9 (1.4–2.4)	<.001
Suicidal ideation or attempt	4011	5.3	10.4	2.1 (1.3–3.2)	.001	1.9 (1.3–3.0)	<.01
Gender attitudes							
A man needs other women even if things with wife are fine	3664	42.4	52.9	1.5 (1.1–2.1)	.01	1.5 (1.0–2.0)	.03
A woman should tolerate violence to keep family together	3810	46.2	47.7	1.1 (0.8–1.4)	.66	1.0 (0.8–1.4)	.77
A man is justified in hitting/beating his wife:							
If she goes out without telling him	3907	19.9	29.8	1.7 (1.2–2.4)	<.01	1.7 (1.2–2.3)	<.01
If she neglects the children	3910	33.1	43.3	1.5 (1.2–2.0)	<.01	1.5 (1.2–2.0)	<.01
If she argues with him	3887	22.3	33.2	1.7 (1.3–2.3)	.001	1.7 (1.3–2.3)	.001
If she refuses to have sex with him	3703	17.5	24.6	1.5 (1.1–2.2)	.02	1.5 (1.0–2.1)	.03
If she makes bad food/burns the food	3920	13.0	20.7	1.8 (1.2–2.5)	<.01	1.7 (1.2–2.5)	<.01

In Kenya, penile discharge or sore only ascertained for preceding 12 mo. Anxiety defined as feeling nervous; depression defined as feeling so sad/unhappy or depressed that nothing could cheer you up.

^aNumber of respondents answering each question about consequences and sexual violence history.

^bCombined model is adjusted for ever having to work for money and age.