



*A Portrait  
of Adolescent  
Health  
in the  
Caribbean*

**2000**

WHO Collaborating Centre on Adolescent  
Health, University of Minnesota

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## Preface

**W**hen PAHO's Adolescent Health Unit was created in 1992, we had practically no information regarding adolescent lifestyles, mental health or development indicators; most of the published data dealt with adolescent morbidity and mortality. Eight years later, our knowledge of adolescent health in Latin America and the Caribbean has grown dramatically, and this can be seen in ***A Portrait of Adolescent Health in the Caribbean***, a milestone in the study of the health and belief systems of adolescents in the region. The document not only covers epidemiological data of health behaviors and the multisectorial efforts made by governments, researchers and programmers in favor of adolescent development, but also highlights adolescent needs as stated by youth, as well as projects lead by adolescents themselves. Specialists at PAHO and the University of Minnesota worked together to produce this excellent document.

In 1997, PAHO's XL Directing Council called for Member States to advocate for the inclusion of adolescents and youth in the public and political agenda. Since then, we have defined a new conceptual framework based on prevention and promotion of human development, including what works and what doesn't in adolescent programming, and we have emphasized the importance of youth participation in health promotion strategies. Our program's seven lines of action aim to support the countries in developing policies, legislation and advocacy; plans, programs and services; human resources; social communication; networks and dissemination of information; research; and resource mobilization.

***A Portrait of Adolescent Health in the Caribbean*** summarizes our goals and lines of action in promoting adolescent health and well being. As an informational tool, it is designed to reach different levels of influence for example,

it can be used at the country level to create or reformulate adolescent health programs or policies that include mental health and human development; it will also be useful in developing research as an expression of adolescents' reality. The document emphasizes the need to create segregated data and acknowledge the effects of social context, gender and age differences between groups. But most importantly, this publication reminds us all to ask adolescents what they think about themselves, their lifestyles and relationships.

Dr. Matilde Maddaleno,  
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## Introduction

**T**he past two decades have been marked by significant changes in adolescent health in the countries of the Caribbean. The major causes of mortality and morbidity are, for the most part, no longer acute illness and infectious diseases. There has been a shift to social morbidities caused or contributed to by individual risk behaviors and also by environmental factors. Given the change, there is increasing recognition that effective interventions must address family and community as well as individual adolescents. It cannot be assumed, however, that individual or environmental factors associated with either risk or protection are the same across cultures and regions of the world. Differences in demographic patterns and poverty rates, for example, could very well affect the patterns of health risk behaviour.

Until recently, little comprehensive data has been available on youth health and its associated risk and protective factors in much of Latin America and the Caribbean, despite the fact that a large proportion of the region's population falls between 10 and 19 years of age. Much of the existing information is limited to descriptive rather than analytical studies, small or convenience samples, or a focus on single rather than multiple issues. In addition, much of the research has been conducted in only a few countries, preventing, until now, a regional portrait of youth health.

Such an understanding of youth health becomes increasingly important as nations around the world and governments in the Caribbean have focused more attention on the health of young people. In 1989, WHO Resolution 36 of the XLII World Health Assembly established a program area in adolescent health. Subsequently, the Convention on the Rights of the Child highlighted the essential ingredients for healthy development; and in 1992, Resolution IX of



PHOTO BY JOHN NOLTNER—MINNEAPOLIS, MINN

the Pan American Health Organization's IL Directing Council strongly urged countries of the Americas to give high priority to health needs of youth. These and other international agreements and policies formed the basis for comprehensive data gathering aimed at understanding the health status as well as risk and protective factors of youth in the member states of CARICOM [Caribbean Community and Common Market] in the Caribbean. Such information will ultimately be useful for monitoring trends over time, but for the present it will serve as an information source for designing and implementing effective programs to improve youth health aimed not only at risk reduction but at health promotion as well.

The present report is a synthesis of survey data from nine countries: Antigua, Bahamas, Barbados, British Virgin Islands, Dominica, Grenada, Guyana, Jamaica, and St. Lucia. It represents a collaborative effort of the Ministries of Health in these countries, the Pan American Health Organization, and the WHO Collaborating Centre in Adolescent Health at the University of Minnesota, U.S.A. ■

## Generalizability

Strengths:

- *Data collected from half of the English-speaking countries of the Caribbean;*
- *Youth across countries are fairly consistent in their responses; therefore, there probably is not a lot of added variance with cluster sampling.*

Limitations:

- *Some countries included private schools, others didn't;*
- *The survey did not include out-of-school youth;*
- *Absent students on the day of survey administration are more likely to be high risk than those who were present and completed the survey;*
- *No information is available on non-participants.*

## Who are the Adolescents?

**S**ample size for the nine participating countries ranges from 400 to 2,719 (Table 1). To adjust the samples so that they reflect the population distribution of the Caribbean, a statistical technique called “weighting” is used. The effect of weighting is to give larger countries a greater impact on the combined findings. It is notable, however, that there are few areas where weighting produced a greater than 5% difference in results for individual questions. Specifically, when compared with the unweighted sample, only four out of more than 200 questions had a difference (< 10%) between the weighted and unweighted samples. Many of these differences are likely explained in terms of age distribution of the sample used in the larger countries. All findings are reported as weighted results. Simply said, these findings apply to small and large countries alike.

**TABLE 1: Population and Sample Size**

Country	Population	Actual Final Sample
Antigua	64,000	2,158
Bahamas	279,000	1,787
Barbados	265,000	1,819
British Virgin Island	19,000	400
Dominica	75,000	2,719
Grenada	99,000	1,255
Guyana	724,000	1,396
Jamaica	2,500,000	2,635
St. Lucia	145,000	1,526



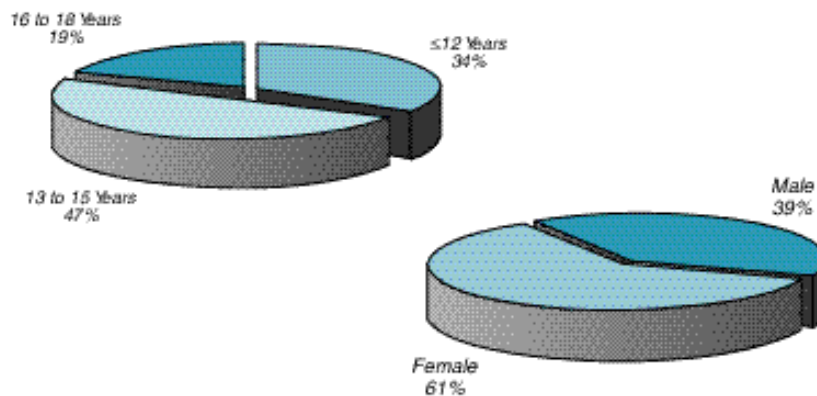
Over three-quarters of this school-based sample describe themselves as black of African heritage. The next largest group is East Indian, with small but significant groups identifying as Amer-Indian, white, Asian, or “other” (Table 2). A higher proportion of the survey respondents were female (Figure 1). All age groups are well represented, with about one-fifth of participants in the older age group (16-18) and nearly a third aged 12 and under. The difference in age distribution for males and females, although statistically significant, is not of practical importance (<3%). Nearly three-fourths of the sample (71.7%) report Christian faith affiliation, with 16% reporting no religious affiliation and the remainder Hindu, Moslem and other non-Christian religions. One issue faced by schools in many Caribbean countries is limited space for students beyond the primary years. Overall, only 23% of primary level students go on to high school. Consequently, what is presented here is the most optimistic picture of young people in the region. It is based on school-going youth who have more advantages than others. Those who are out of school are clearly doing worse. ■

“Overall, only 23% of primary level students will go on to high school. The consequences for the present survey is that what is presented here is the most optimistic picture of young people in the region.”

Researcher

FIGURE 1: Unweighted & Weighted Sample Size

Age and Gender of Participants



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## Findings

**W**hile this report identifies areas for concern about the health of Caribbean adolescents, most youth appear to be doing well. They consider themselves healthy (80.2%), they feel okay when they look in the mirror (88.4%). A majority say they have not had sexual intercourse (65.9%), they do not use alcohol or other drugs (89.4%), they like school (93.6%) and get along with their teachers (96.4%), and they feel that their parents and family members care about them.

Some adolescents, however, are engaged in behaviors that place them at higher risk of adverse health outcomes. This report focuses on both risk and protective factors in order to guide policy makers, i.e., those who develop programs for young people; and those who provide health education and social services to address areas where protection may be enhanced. ■



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## General Health

One in five adolescents state that their general health is poor or fair. Younger adolescents are more likely to report better health and, by age 16, one in six youth report fair to poor health status. In addition, almost 10% of young people (more boys than girls) report having a handicap, disability, or chronic illness that limits their activities. Headaches, physical development and sleep problems are the most common health concerns of young people in the Caribbean; a significant minority also report that they never exercise. As demonstrated in other studies, poor health is positively associated with risk factors such as abuse and parental problems and negatively associated with protective factors such as connectedness to family and community (Table 2). These relationships, however, are not extremely strong (odds ratios < 2.0).

**TABLE 2: Factors Associated with Poor Health**

Odds Ratios, where  $p < .01$  \*

	<i>Age Category</i>		
	<i>&lt;12</i>	<i>13-15</i>	<i>16-18</i>
<b>Risk</b>			
Rage	1.27	1.21	—
Abuse (physical or sexual)	1.47	1.17	1.23
Parent problem – mental health	1.56	—	—
Parent problem – violence	—	1.46	—
<b>Protective</b>			
Parent family connectedness	0.53	0.46	0.44
Other connectedness	0.78	0.79	—
Try hard in school	0.72	0.84	0.75
<b>Control</b>			
Gender	0.92	0.78	0.63

“Lack of sleep is a problem. We are up late working. There are a lot of expectations and stress and we have to get up at 5 AM for school.”

16 Year Old Male

\* Statistical significance was set at  $p < .01$  to indirectly take into account the likely effect of clustered sampling and to correct for the extraordinary sensitivity due to large sample size.

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**TABLE 3: General Health of Adolescents**

Percentages	Gender		Age Group			Total
	Female	Male	<12	13-15	16-18	
<b>General Health</b>						
Poor/Fair	20.5	18.7	13.1	15.8	18.6	19.8
Good/Excellent	79.5	81.3	86.9	84.2	81.4	80.2
<b>Disability</b>						
Limiting	8.7	10.5	9.4	9.2	8.9	9.2
<b>Exercise Hard <sup>1</sup></b>						
Never	26.5	21.7	30.4	23.2	17.3	24.6
1-2 x	36.2	26.3	26.7	33.8	38.2	32.2
3 or more x	37.3	52.0	42.8	43.0	44.5	43.1
<b>Started Menstruation</b>						
	67.5	___	26.1	83.4	97.6	67.5
<b>Reported Health Problems <sup>2</sup></b>						
Body developing too fast	16.3	16.4	18.1	17.0	11.5	16.3
Headache	16.7	11.1	14.5	14.4	14.8	14.5
Lack of sleep	14.2	13.6	16.4	13.2	11.9	14.0
Acne	13.6	9.5	8.7	13.0	15.4	12.0
Body not developing	11.8	12.3	2.6	12.7	9.7	12.0
Stomachaches	11.3	16.5	10.2	9.2	8.8	9.4
<b>Number of Problems Reported</b>						
None	49.8	55.0	52.4	51.5	51.8	51.8
1-2	39.4	35.1	35.2	38.3	40.5	37.7
3 or more	10.8	9.9	12.4	10.2	7.7	10.5

1. Exercise was defined as number of times per week you work, play or exercise hard enough to sweat and breath hard.

2. Health problem is a regular problem (more than once or twice a week). Categories: A lot vs. hardly ever or sometimes.

## Nutrition

About two-thirds of adolescents report feeling happy or okay with their weight, and an even higher percentage report feeling okay or happy with the way they look. Contrasted with this, two out of five report hardly ever eating breakfast. About one-sixth have used at least one weight loss method, with diet, exercise and laxatives most commonly mentioned. Perhaps this is one of the paradoxes of the teenage years, even when they are satisfied with the way they look, teens continue to focus on and worry about their development and their weight. Additionally, we see significant numbers of young people who display signs of disordered eating: laxative use, vomiting, water and diet pills, as means to control weight. While the adults among us may question these findings, teenagers tell us that they are consistent with discussions and observations around school. Further analysis was deemed appropriate due to the surprisingly limited male and female differences .

TABLE 4: Nutrition Health of Adolescents

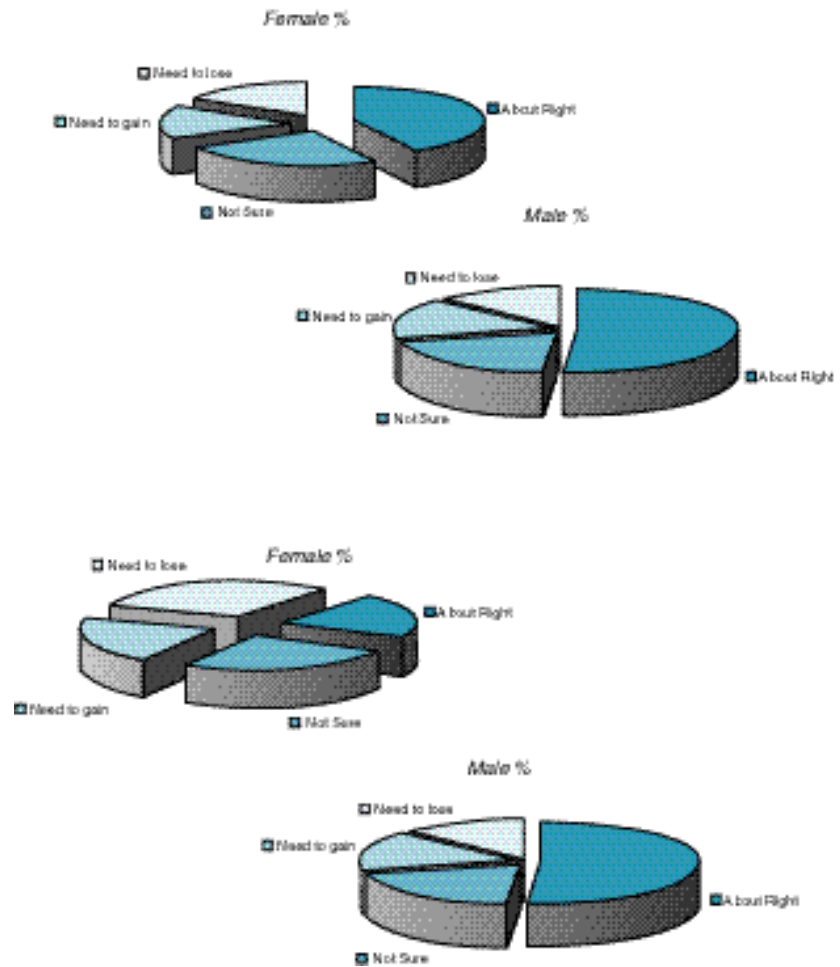
Percentages	<u>Gender</u>		<u>Age Group</u>			<u>Total</u>
	<u>Female</u>	<u>Male</u>	<u>&lt;12</u>	<u>13-15</u>	<u>16-18</u>	
<b>Body Satisfaction</b>						
Think body weight okay	67.7	71.6	73.3	66.8	67.9	69.2
Look in mirror, feel ok or happy	87.7	89.5	91.3	87.1	87.0	88.4
<b>Use of weight loss methods (ever)*</b>						
Diet or exercise	15.5	15.3	12.2	16.4	18.8	15.4
Laxatives	14.1	16.8	18.1	15.6	9.1	15.3
Vomiting	7.7	8.9	11.0	7.7	4.5	8.2
Diuretics	3.5	5.5	5.4	4.1	2.8	4.3
Diet pills	5.9	5.5	7.3	4.8	5.2	5.7
<b>Hungry because there is not enough food</b>						
Lack food a lot	8.3	9.1	11.3	7.7	6.2	8.6
Skip breakfast because not enough food	4.0	3.7	4.4	3.6	4.0	3.9

\*Do you do any of the following to lose weight or keep from gaining weight?  
a) take things that make you have bowel movements or diarrhea  
b) make yourself vomit or throw up  
c) take pills that make you pee a lot  
d) diet or exercise to lose weight  
e) exercise to lose weight

Similarities and differences between females and males emerged in their use of weight loss methods. Males are more likely than females to report feeling that their weight is about right (51% vs. 42%), and females are more likely to feel that they need to lose weight (17% vs. 13%), but these differences are not large. About 16% of males and females report feeling that they need to gain weight. Of those who think they need to lose weight, over half of females (58%) and males (56%) have used

**FIGURE 2: Weight Perception**

Responses those not using one or more weight loss methods



one or more weight loss methods. Of note, however, over a third of those who think they need to gain weight and over a third of those who think their weight is about right, as well as half of those who are not sure, have also used one or more weight loss methods. These findings suggest that either the students may not have understood the questions or that weight loss methods are used regardless of weight perception.

Use of weight loss methods was examined in relation to adolescents' perception of their bodies when they look in the mirror. For females, there was a statistically significant relationship between feeling unhappy with the way their bodies look and use of weight loss methods ( $p=.001$ ), whereas there was no association between unhappiness with one's appearance and use of weight loss methods for males. Males and females who feel okay vs. not feeling okay with their appearance are equally likely to use laxatives. Females unhappy with their appearance are slightly more likely to use vomiting, diuretics, or diet pills to control their weight than those who are happy with their appearance, but there is no difference for males. Additionally, there is greater use of diet and exercise among both males and females who are unhappy with the way their bodies look.

## Healthcare

Most adolescents (85.9%) say they have a place where they usually receive medical care. Only 36.2% have had a checkup in the last two years, however. Less than half have seen a dentist in the past two years. If they need contraception, students would go, first to physicians, then drug stores, then family planning clinics, and public health clinics. Males are consistently less likely to use health care services than females; and they are more likely to believe adults will not provide confidentiality.

However, when it comes to personal matters, many youth (both males and females) feel that often adults can not be trusted to maintain confidentiality, and this attitude extends to physicians, nurses, teachers, guidance counselors, peer counselors or parents. ■

“These are small societies [Caribbean countries] and any breach of confidentiality is high risk. Just coming to a clinic may lead to spreading stories. Therefore, there is really no one they can turn to.”  
 Health Professional

TABLE 5: Health Care Services

Percentages	Gender		Age Group			Total
	Female	Male	<12	13-15	16-18	
Where usually go for medical care						
Nowhere	8.5	14.2	13.3	14.9	13.4	14.1
Public clinic	23.2	23.5	26.9	21.6	21.4	23.3
Hospital	27.0	31.0	32.8	27.4	24.0	28.6
Private doctor	35.6	30.5	26.5	35.7	40.5	33.6
Healer	0.3	0.8	0.6	0.5	0.6	0.5
Clinic visits in last 2 years						
Medical clinic	36.3	36.1	29.7	38.5	41.2	36.2
Healer/herbalist	6.5	9.8	8.6	7.2	7.4	7.8
Hearing check	15.3	17.3	17.1	16.7	12.4	16.1
Eyes checked	28.1	26.9	25.9	29.4	26.0	27.6
Dental visit	42.1	40.0	35.9	43.2	45.4	41.3
Mental health services	11.0	12.3	8.5	12.4	14.2	11.5
Pelvic Exam (females)						
a) Last two years	9.9	—	—	—	—	9.9
b.) Sexually active (Ever had intercourse)	22.0	—	12.7	21.1	39.8	22.0
Perception of confidentiality						
Tell MD something personal, parents will find out	31.3	36.3	38.7	32.1	26.5	33.2
If discuss sex with teacher, others will find out	24.2	28.9	26.4	26.3	25.1	26.0
If tell problem to nurse, others will know	19.7	22.6	22.5	19.6	20.9	20.8
If tell peer counselor something personal, others will know	20.1	23.5	23.6	21.0	18.6	21.4
If tell guidance counselor I am having a problem, others will know	18.7	22.2	23.4	19.2	16.7	20.1
If tell parents, neighborhood will find out	12.1	17.1	17.0	13.3	9.6	14.0



## Risk Behaviors

**L**ike their peers elsewhere, teens in the Caribbean live in cultures that often celebrate the use of tobacco, alcohol and other substances. “Listen to the music,” one Caribbean teen says, “It’s the music and the words.”

### Tobacco, Alcohol and Other Substances

Few adolescents report smoking tobacco. This is consistent with other reports on the Caribbean. Alcohol is the most commonly used substance, followed by marijuana and steroids; however, the percent of school-going young people

**TABLE 6: Tobacco, Alcohol & Other Substances**

Percentages	<i>Gender</i>		<i>Age Group</i>			<i>Total</i>
	<i>Female</i>	<i>Male</i>	<i>&lt;12</i>	<i>13-15</i>	<i>16-18</i>	
Ever used:						
Cigarettes	8.7	14.6	5.9	12.6	16.4	11.1
Alcohol	40.0	54.1	34.4	48.3	58.4	45.5
Marijuana	4.1	8.6	3.4	5.8	10.0	5.9
Speed	3.8	4.9	4.3	4.6	3.3	4.2
Hallucinogens	1.8	3.0	2.5	2.3	1.6	2.2
Cocaine	0.8	2.0	1.2	1.1	1.7	1.2
Heroin	1.0	2.5	1.8	1.6	1.2	1.6
Injected drugs	1.3	2.1	2.0	1.6	0.7	1.6
Sedatives	1.1	2.9	1.8	2.1	0.9	1.8
Steroids	4.7	8.3	7.5	6.1	3.3	6.1
<b>Any substance ever</b>	<b>48.2</b>	<b>61.6</b>	<b>43.6</b>	<b>56.1</b>	<b>64.6</b>	<b>53.5</b>
Any problems related to:						
Drinking/drugs	19.9	25.3	23.8	21.8	19.3	22.1
Worry about own drinking/drug use	6.3	8.8	7.4	7.3	7.3	7.3
Youth who report 5+ drinks make it unsafe to drive*	19.8	22.2	23.4	19.4	18.8	20.7
Youth who report 4+ drinks atone time	2.7	8.6	2.9	4.8	8.9	5.0
Youth who report driving*after drinking/drug use	3.6	10.4	6.1	5.7	7.8	6.3
Ever ride* with some-13.2 one high on alcohol or drugs		18.5	9.6	15.7	23.8	15.3

\* A car, ride a bike, drive a boat or jet ski.

“**W**e live in cultures that celebrate drug use and getting high. Listen to the music - the feelings, getting along with friends, fitting in. It’s the music and the words.”  
16 Year Old Male

reporting use of any substance monthly or more often is relatively low. The low rate of marijuana useage is surprising; however, there may be a number of issues influence results. First, marijuana is illicit. Second, the sample that is drawn from a relatively young school-going population, and third, the survey question focused on smoking marijuana which some youth may drink as a tea.

While reported use is relatively low, a significant number of young people say that they have difficulty with alcohol or drugs. Over a fifth report experiencing problems related to drinking or drug use, common problems include loss of friends or the breakup of a relationship. Some adolescents come from homes where one or more parents have had problems with drinking (13.4%) or drugs (2.8%). Likewise, more than 7% of youth worry about their own drinking or drug use and nearly that many report usually drinking 4 or more drinks at one time (5.8%). A higher percentage (6.9%) report drinking alcohol and driving, and an even higher proportion (16.5%) report riding in a motorized vehicle with people who had been drinking.

**TABLE 7: Factors Associated with Substance Use**

Odds ratios, where p<.01\*

	<u>Age Group</u>		
	10-12	13-15	16-18
<b>Risk</b>			
Rage	—	1.24	1.63
Abuse (physical,sexual, or both)	1.59	1.40	—
Skip school	—	1.56	1.37
Parent mental health problems	2.13	2.40	2.15
Parent substance abuse	3.58	1.89	2.08
Parent violence	—	1.90	2.23
Friend family suicide	1.38	—	1.26
<b>Protective</b>			
Parent family connectedness <sup>§</sup>	0.67	0.78	—
<b>Other connectedness</b>			
Religious beliefs <sup>§§</sup>	0.86	0.86	—
Attend religious services	—	0.87	0.86
Control Gender (female=0, male=1)	1.21	1.38	2.26

\* An odds ratio of more than 1 is associated with more drug use while a ratio less than 1 is associated with lower substance use.

§ Parent/family connectedness and other connectedness r=0.40 to 0.50 across age groups.

§§ Religious beliefs and attending religious services r= .30 across age groups.

## Sexual Behavior

Most young people (65.9%) state they have not had sexual intercourse. Among those, the five most commonly cited reasons for abstinence were: wanting to wait until married, wanting to wait until older, not wanting to risk pregnancy, fear of disease, and not being emotionally ready. Given these responses, postponing intercourse appears to be a conscious choice.

Of the one third of adolescents who have had intercourse, almost half report that their first sexual intercourse was forced. Over half of sexually active boys and about a quarter of females state that the age of first intercourse was ten years old or younger; and almost two-thirds had intercourse before the age of 13. Males were about three times more likely than females to have had five or more sexual partners. Only a quarter of these young people always use some form of birth control, and only slightly more worry about getting pregnant or causing a pregnancy (an event that has occurred among 10% of youths). Most young people are not worried about getting AIDS.

Approximately equal percentages of males and females

TABLE 8: Sexual Behavior

Percentages	Gender		Age Group			Total
	Female	Male	<12	13-15	16-18	
Ever had sexual intercourse*	22.2	51.9	22.0	34.6	51.6	34.1
First intercourse forced ** (Yes or Somewhat)	47.6	31.9	42.8	37.9	36.5	38.3
Age of first intercourse:						
<10 years	23.5	54.8				42.8
11-12	16.4	23.2				20.6
13-15	44.7	19.3				28.9
16+	15.3	2.7				7.6
Number of sex partners**						
1-2	72.8	35.7	55.4	46.0	51.3	49.2
3-4	14.0	24.9	20.6	22.1	19.3	20.9
5+	13.2	39.5	24.0	31.9	29.4	29.8

“In my school it [homosexuality] is talked about. It’s not so hidden. When you party it’s even more known. There is a trend where it’s kind of acceptable. There is an openness.”

19 Year Old Female

\* Percent of total  
 \*\* Percent of those who have had intercourse.

report a history of same-sex sexual experience and attraction. Same sex attraction and behavior is not much discussed in the Caribbean; however, young people tell us that it is becoming

**TABLE 9: Sexual Attraction**

Percentages

	<u>Gender</u>		<u>Age Group</u>			Total
	Female	Male	<12	13-15	16-18	
<b>Sexual Attraction</b>						
Only same sex	4.5	5.5	6.8	4.6	2.7	4.9
Equal both sexes	5.0	4.3	6.0	4.8	2.6	4.8
Only opposite	44.7	56.8	27.0	53.5	76.0	49.4
Not sure	13.3	11.7	20.4	10.2	6.5	12.7
Don't understand question	32.5	21.7	39.7	26.9	12.2	28.2

**TABLE 10: Factors Associated with Sexual Debut**

Odds Ratios, where  $p < .01$  \*

	<u>Age Group</u>		
	10-12	13-15	16-18
<b>Risk</b>			
Age	1.70	1.47	1.80
Abuse (physical, sexual, or both)	1.68	1.45	1.46
Skip school	1.47	1.51	1.59
Parent mental health problems	—	1.46	—
Parent substance abuse	3.28	—	—
<b>Protective</b>			
Parent family connectedness	0.62	0.76	—
Attend religious services	—	0.92	0.87
Try hard in school	—	0.88	—
Religious beliefs	1.13	0.90	—
<b>Control</b>			
Gender (female=0, male=1)	4.39	3.17	2.50



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more evident in adolescent social circles. Additionally, sexual tourism may attract young men into same sex relationships for economic reasons rather than sexual orientation.

**TABLE 11: HIV/AIDS Concerns**

Percentages	<u>Gender</u>		<u>Age Group</u>			Total
	Female	Male	<12	13-15	16-18	
Worry about AIDS	37.2	41.1	28.7	40.4	52.5	38.7
Worry a lot about AIDS	27.7	26.4	29.4	21.6	28.6	36.1

**TABLE 12: Contraception and Pregnancy**

Percentages	<u>Gender</u>		<u>Age Group</u>			Total
	Female	Male	<12	13-15	16-18	
Always use birth control	30.0	24.0	17.8	24.8	34.2	26.3
Have been or have caused pregnancy	7.0	11.6	7.5	11.7	7.6	9.6
Worry about getting/ causing pregnancy (somewhat/a lot)	28.7	32.8	21.3	32.3	42.1	30.3
Worry a lot about getting/making pregnant	19.1	19.4	15.1	20.3	24.1	19.2
If contraception were needed, where would you go:						
Physician	38.0	42.3	45.4	39.4	29.6	39.7
Public health clinic	13.5	16.7	17.0	13.0	15.4	14.8
Family planning clinic	20.4	9.6	15.0	16.1	18.6	16.1
Youth clinic	8.8	7.1	9.1	8.6	5.3	8.1
Pharmacy	15.2	19.5	11.1	18.5	23.4	16.9
Public bathroom	1.5	1.1	1.5	1.5	0.7	1.3
Mini-mart, grocery store, supermarket	2.6	3.8	0.8	3.1	7.0	3.1

“Most young people are not worried about getting AIDS.”

Researcher

\* Statistical significance was set at p<.01 to indirectly take into account the likely effect of clustered sampling and to correct for the extraordinary sensitivity due to large sample size.

“ At parties you see it [weapons]—swords, guns, knives. Of course guns are always around. Kids shooting them in the air. They see it at a party and bring it into the school.”

15 Year Old Female

## Violence and Antisocial Behavior

Many of the young people surveyed report a history of violence in their lives. About 18% state that they have been physically abused, most by an adult in their home; and one in ten continue to worry about being physically abused. In addition, one in ten report sexual abuse, most frequently by adults outside of the home or by other teens, but many also report sexual abuse by adults in the home and by siblings. About one in eight report being worried about being sexually abused.

Theft and damage to property are not uncommon. Stealing from parents or other family members is the most common type of theft, followed by shoplifting. Theft from family is almost as common among females as males; but males are about twice as likely to report other forms of stealing and property damage.

TABLE 13: Theft/Property Damage

Percentages	<u>Gender</u>		<u>Age Group</u>			Total
	Female	Male	<12	13-15	16-18	
Took something from store without paying	8.9	15.2	7.3	13.3	12.5	11.3
Stole from parents/family	22.9	26.4	18.5	27.0	28.2	24.3
Entered house/building to steal something	2.1	4.3	2.3	3.3	3.0	2.9
Deliberately damaged others' property.	13.9	22.9	11.6	19.9	21.8	17.5

Weapons were carried to school in the previous 30 days by one-fifth of the males; and nearly as many have been in a fight using weapons. One-tenth of the boys and half that many girls report that they have at some time been knocked unconscious in a fight, with similar numbers reporting that they have been stabbed or shot. Gang membership is high, with one in five boys and one in eight girls saying that, at some time, they have belonged to a gang.

For some adolescents, the thread of violence is woven deeply in their experience of themselves and their world. Two out of five report that they sometimes, or most of the time, think about hurting or killing someone else, with 4.9% reporting that they almost always think about hurting or killing others. About one in eight have tried to kill themselves, with no appreciable differences between males and females or different age groups. More than one-fifth have

**TABLE 14: Interpersonal Violence**

Percentages	<u>Gender</u>		<u>Age Group</u>			<i>Total</i>
	<i>Female</i>	<i>Male</i>	<i>&lt;12</i>	<i>13-15</i>	<i>16-18</i>	
Been in a fight where weapons* were used	6.4	16.7	6.6	12.3	12.6	10.5
Carried weapon* to school (last 30 days)	7.3	20.1	6.6	14.5	17.7	12.2
Carried weapon* at times other than school (last 30 days)	13.2	31.5	11.8	23.8	27.6	20.4
Ever belonged to gang	12.9	21.8	14.2	18.4	15.1	16.5
Ever knocked unconscious from violence	5.2	10.1	8.6	7.6	3.1	7.1
Ever been stabbed or shot						
One time	3.1	6.7	4.0	5.2	3.7	4.5
Two times	0.9	2.4	1.8	1.4	0.9	1.5
Three or more times	0.6	1.4	1.0	0.9	0.7	0.9

\*A weapon is a gun, knife, razor, bat and/or chains.

**TABLE 15: Rage**

Percentages	<u>Gender</u>		<u>Age Group</u>			<i>Total</i>
	<i>Female</i>	<i>Male</i>	<i>&lt;12</i>	<i>13-15</i>	<i>16-18</i>	
Think about hurting/killing someone						
Some of the time	34.1	41.3	23.0	39.0	25.5	35.2
Almost always	4.3	5.9	27.0	5.0	24.9	4.9

2000

**I**n my own neighborhood I know 12, 13, 14 year olds who own guns. They shoot them off as a symbol of their manhood.”

16 Year Old Female



a family member or friend who has tried to kill themselves. Strikingly, one in six of these young people think they will not live to the age of 25.■

TABLE 16: Factors Associated with Violence Toward Others

Odds ratios, where  $p < .01$ \*

	Age Groups			
	10-12	13-15	16-18	
<b>Risk</b>				
Rage	2.44	2.53	3.23	
Abuse (physical,sexual, or both)	1.45	1.44	—	
Skip school	2.36	1.76	1.56	
Parent mental health problems	—	—	1.73	
Parent violence	1.73	1.38	—	
Friend or family suicide	1.78	1.32	—	
<b>Protective</b>				
Parent/family connectedness	0.69	0.83	—	
Religious beliefs	—	0.92	—	
Attend religious services	—	—	0.84	
Control gender	2.37	2.96	3.03	
	$R^2 =$	.15	.14	.07

\* Statistical significance was set at  $p < .01$  to indirectly take into account the likely effect of clustered sampling and to correct for the extraordinary sensitivity due to large sample size.



## Emotional Well-being

**A**lthough most respondents see themselves as generally happy, one in six see themselves as generally sad, angry or irritable. Half have felt so down that they wondered if anything was worthwhile. One in six feel that their friends care very little about them.

Many of the young people surveyed report a history of abuse in their lives. About a sixth state that they have been physically abused, most of those by an adult in their home, and one in ten state they worry about being physically abused. One tenth report sexual abuse, most frequently by adults outside of the home or other teens, but many report abuse by adults in the home and siblings. About one in eight report being worried about being sexually abused. A small

**TABLE 17: Emotional Concerns**

Percentages

	<i>Gender</i>		<i>Age Group</i>			<i>Total</i>
	<i>Female</i>	<i>Male</i>	<i>&lt;12</i>	<i>13-15</i>	<i>16-18</i>	
<b>Affect</b>						
Generally happy	84.0	82.6	86.1	82.5	81.0	83.4
Generally sad, angry, irritable	16.0	17.4	13.9	17.5	19.0	16.6
<b>Abuse<sup>S</sup></b>						
Worry about being physically abused	12.2	10.3	10.5	11.6	13.2	11.5
Worry about being sexually abused	15.1	10.0	12.2	13.7	13.4	13.1
Ever physically abused	15.1	16.9	14.8	16.0	17.8	15.9
Ever sexually abused	10.5	9.1	9.3	10.3	10.1	9.9
<b>Suicide</b>						
I will not live to age 25	15.0	14.4	19.8	13.9	8.1	14.8
Ever attempted suicide	12.8	11.0	10.8	12.7	12.9	12.1
Family or friend tried to kill self	23.5	19.9	16.9	23.2	28.6	22.1

<sup>S</sup>Abuse:None, Physical or Sexual, Both

proportion of young people (4.9%) report a history of both physical and sexual abuse, while about one in six (15.2) report a history of either one or the other. Gender differences were negligible ( $p=.77$ ).■

TABLE 18: Association Between Abuse & Behavior §

Percentages	No Abuse	Physical Abuse	Sexual Abuse	Both Types
Depression (felt down enough to be bothered)	72.8	22.0	13.4	7.11
Rage (some or almost all of the time)	73.9	20.7	12.5	6.2
Suicide attempt	61.4	30.8	21.4	11.7
Ever had intercourse	72.8	20.6	14.3	6.5
Three+ health problems	69.5	24.0	19.9	12.1

§Proportion of participants reporting factor and also reporting no abuse or abuse.

TABLE 19: Association Between Parental Problems & Behavior §§

Percentages	Violence	Drinking	Drugs	Health
Depression 50.4% of subjects	11.4	15.9	3.4	9.7
Rage 40.1% of subjects	11.6	13.6	3.4	8.5
Suicide attempt 12.0% of subjects	15.9	21.7	5.4	13.5
Ever had intercourse 34.1% of subjects	11.4	15.4	4.2	9.7
3+ health problems 10.3% of subjects	12.4	15.7	4.2	10.6

§§Proportion of participants reporting factor and also reporting parental problems with violence, alcohol, drugs or mental health issues.

**TABLE 20: Factors Associated with Suicide Risk**

Odds Ratios, where p<.01 *	<u>Age Group</u>		
	10-12	13-15	16-18
<b>Risk</b>			
Rage	2.46	1.97	1.54
Abuse <sup>§§§</sup>	1.68	1.82	1.91
Friend/family suicide	2.16	1.96	1.81
Parent problem – substance use	2.33	—	—
Parent problem – violence	—	1.47	—
<b>Protective</b>			
Parent family connectedness	0.37	0.42	0.32
Other connectedness	—	—	1.63
<b>Control</b>			
Gender (female=0, male=1)	0.87	0.71	0.71
R <sup>2</sup> =	.16	.13	.12

§§§ Abuse: None, Physical or Sexual, Both

**TABLE 21: Factors Associated with Rage**

Odds Ratios, where p<.01 *	<u>Age Group</u>		
	10-12	13-15	16-18
<b>Risk</b>			
Abuse (physical,sexual, or both)	1.53	1.40	1.27
Worry about drugs/violence in community	1.12	1.08	1.05
Lack food	—	—	1.21
Parent problem - Violence	—	1.81	1.78
Friend family suicide	1.67	1.48	1.33
<b>Protective</b>			
Parent family connectedness	0.44	0.48	0.51
Other connectedness	—	0.77	—
Religious beliefs	—	0.91	0.78
Attend religious services	1.12	—	—
<b>Control</b>			
Gender	1.49	1.21	1.62
R <sup>2</sup> =	.07	.06	.06

\* Statistical significance was set at p<.01 to indirectly take into account the likely effect of clustered sampling and to correct for the extraordinary sensitivity due to large sample size.

## Family

**N**early one in five students of both genders and all age groups worry a lot about their parents leaving them; and nearly the same percent report wanting to run away from home sometimes or a lot of the time (4.5% actually did run away in the last year). Parents' drinking or drug use is a concern for about 10%.

Living situations vary for adolescents. About half live with both of their parents, and one-third live with their mother only. About 10% report that one or both of their parents are either dead or they don't know if they are alive. Although most adolescent feel cared about by their mothers (91.9%) and fathers (86%), a greater proportion do not feel they can talk to them about problems. Crowding is a significant concern for a number of young people with 29% reporting 2-4 people sleep in a room and an additional 3.4% indicate more than 5 people sleep together. ■



PHOTO BY JOHN NOLTNER—MINNEAPOLIS, MN

**TABLE 22: Family Relationships**

Percentages	<u>Gender</u>		<u>Age Group</u>			Total
	Female	Male	<12	13-15	16-18	
<b>Living Situation</b>						
Live with 2 parents	48.4	47.3	46.6	49.4	47.3	48.0
Live with mom only	33.8	34.0	34.7	34.0	32.1	33.9
Live with dad only	6.8	9.1	8.6	7.6	6.5	7.7
Live with other adult relatives	21.9	19.9	18.4	22.2	22.9	21.1
Live with other youth	17.4	17.4	12.0	18.7	23.2	17.4
Live alone	1.5	3.1	2.5	1.6	2.3	2.1
<b>Family Caring</b>						
Mom cares very little about you	7.5	9.0	9.7	8.0	5.4	8.1
Dad cares very little	13.2	15.1	12.1	14.2	17.1	14.0
Other family members care little	10.8	11.6	11.5	11.0	10.8	11.1
Can tell mom about problems very little	24.1	22.9	18.3	26.8	25.4	23.6
Can tell dad about problems very little	34.7	27.7	24.4	35.4	37.4	31.8
People in family understand very little	23.5	20.2	16.2	24.3	27.5	22.2
Family pays attention to me very little	11.7	12.6	10.8	12.3	13.51	12.1
Want to run away from home some/a lot	17.7	18.2	16.9	19.4	16.3	17.9
Past year ran away from home	37.3	52.0	42.8	43.0	44.5	43.1
<b>Family Problems:</b>						
In past 5 yrs one or both parents had...						
Problems due to drinking	12.8	14.1	11.4	13.4	16.6	13.3
Problems due to violence	8.4	9.7	9.1	8.6	9.4	8.9
Problems due to drugs	2.4	3.5	3.5	2.4	2.9	2.9
Mental health problems	7.7	8.4	8.6	8.3	6.2	8.0
<b>Family Worries</b>						
Worry about parents' drinking/drugs	9.9	11.3	10.8	10.1	11.4	10.5
Worry about parents leaving me	20.0	19.4	20.3	19.2	20.0	19.8
Worry about violence in the home	12.5	1.24	13.2	12.3	11.5	12.4

## School

**M**ost adolescents who attend school do not work at all. And, only 2.3% report working 20 or more hours per week. With high unemployment through much of the Caribbean, part-time work is not very available to young people. Almost all state they like school, get along with their teachers and feel their teachers care about them. Very few (5.4%) report consistent trouble getting their homework done, but over a quarter say that keeping up is hard because they have trouble reading. Almost one in three report cheating on a test and one-fifth skipped school without an excuse in the past year. ■



PHOTO BY JOHN NOLTNER—MINNEAPOLIS, MN

TABLE 23: Work and School

Percentages	<u>Gender</u>		<u>Age Group</u>			Total
	Female	Male	<12	13-15	16-18	
<b>Work and School</b>						
<b>Work hours per week during school year</b>						
0	91.3	82.9	87.4	88.1	89.1	87.9
1-9	5.9	10.9	8.3	7.8	7.0	7.8
10-20	1.2	3.1	1.9	2.0	1.9	2.0
20+	1.6	3.2	2.4	2.1	2.1	2.3
<b>School Environment</b>						
Like school – Yes	94.6	92.0	96.2	93.6	90.7	93.6
Get along with teachers	96.9	95.7	94.9	97.2	97.7	96.4
Teacher has gotten to know you well	80.8	80.6	86.3	78.8	75.7	80.8
Feel teachers do not care	86.1	83.4	86.9	84.0	84.3	85.0
<b>Learning Issues and Counseling</b>						
Trouble getting homework done (always)	4.9	6.1	7.8	4.2	4.0	5.4
Keeping up is hard because of trouble reading (yes or sometimes)	24.6	34.8	34.2	29.1	18.6	28.8
In classes for learning/behavior problems	15.8	22.0	22.0	17.3	13.6	18.3
Do not try hard at schoolwork	3.3	6.4	5.5	3.8	4.1	4.5
Plan to finish high school (yes)	87.5	82.5	78.9	87.0	93.6	85.5
Worry about passing common entrance/CXC exams	60.2	53.2	53.6	56.6	66.6	57.4
<b>Other</b>						
In past year, skipped school w/o excuse	16.9	22.7	11.2	19.8	32.4	19.2
Over 1 hr to get to school	18.1	16.8	18.6	17.3	16.7	17.6
In organized activities after school	56.9	62.0	55.9	57.4	66.1	58.6

## Community

**T**he majority of adolescents do not indicate that they are worried about the overall conditions in their community. Nearly one in three, however, worry about community violence. About a quarter worry about drinking or drug use in the community and approximately the same proportion say they would be happy to move to another neighborhood. Less than one in four say that adults in their neighborhood care about them and only one in seven feel their priest or minister cares about them. The overriding community concerns are the personal worries young people have with relation to their future. With high unemployment in the community, school performance and employment opportunities are two of the primary issues of concern for both male and female adolescents. ■





**TABLE 24: Concerns within the Community**

Percentages

	<u>Gender</u>		<u>Age Group</u>			<i>Total</i>
	<i>Female</i>	<i>Male</i>	<i>&lt;12</i>	<i>13-15</i>	<i>16-18</i>	
<b>Personal</b>						
Getting a job	42.8	40.6	35.4	43.0	50.9	41.9
Passing the common entrance/ CXC exams	60.2	53.2	53.6	56.6	66.6	57.4
<b>Neighborhood</b>						
Violence in community	32.3	28.2	28.8	30.4	35.0	30.7
Drinking/drugs in neighborhood	23.6	21.4	19.8	23.0	27.4	22.8
Happy to move to another neighborhood	27.5	24.9	28.6	26.0	23.6	26.4
Being treated unfairly (race, religion)	13.8	13.3	11.8	13.7	16.5	13.6
Past 3 months, never attended religious services	25.0	29.6	30.3	26.1	21.9	26.8
<b>Consider self religious/spiritual</b>						
Not at all	17.1	22.1	24.9	18.3	10.9	19.2
Somewhat/a lot	48.0	44.9	47.4	46.6	46.3	46.8
Don't know	34.9	33.0	27.7	35.1	42.9	34.1
Priest or Minister cares	15.4	17.1	16.1	16.8	14.4	16.1

## Conclusion

**W**hen we looked at the health of youth in the Caribbean overall, we see a mixed picture. Clearly, the majority of young people are doing well: four out of five are healthy and are generally happy. Nearly 9 out of 10 are satisfied with their appearance. Most feel that their mother and father care about them and seven out of eight young people see home as a safe place. Half of all young people report no health problems at all. Few teenagers say they smoke cigarettes; and the overall use of drugs is relatively low. Few have stolen things that did not belong to them; and nearly half—even older teens—say that they have not had sexual intercourse.

While most young people are doing well, there are some significant problems that young people in the Caribbean tell us they are facing. One in 10 young people tell us they have a disability or chronic illness, and an equal percent report three or more health problems. While only 12% are not satisfied with their weight, many of those young people use extreme weight loss methods: vomiting, laxatives, and diet pills. And while most young people are generally happy, one in nine have attempted suicide and more than 20% tell us that they have a friend or relative who has tried to kill themselves. Nearly one in seven young people say that they have been physically abused; and one in 10 (nearly equal for boys and girls) have been sexually abused. One in six young people say they would like to run away from home. Less than 50% live in a two parent household.

Among youth who are sexually active, fewer than three in ten regularly use contraception. In a region where AIDS/HIV is endemic, most young people tell us that it is not a worry. Violence appears to be a growing problem, with 20% of boys saying they bring weapons to school and nearly one in three report carrying weapons at other times. One in



three girls and over 40% of boys say, “that they think about hurting or killing someone some of the time”. Twenty-five percent of young males report problems related to drinking.

It is indeed a mixed picture of youth health in the Caribbean and this research represents the first step in addressing the multiple issues facing youth. It is important to share this information with policy makers, legislators, teachers, and parents in order to advocate for the investment in youth. Some of us will throw up our hands convinced nothing can be done—but from Tobago to the Bahamas there are many examples that the opposite is true. A lot can be done; and a lot of strategies work. Evidence suggests that successful strategies treat youth holistically, start at an early age, offer youth a variety of growth and development opportunities that are appropriate to their age and experience, and stick with youth over an extended amount of time. Strategies must be built upon a framework that recognizes the links between healthy behavior and the broader context of family, community, society, and culture.

In order to address adolescent health in a holistic manner, we need policies, legislation, programs and services that address the root causes of adolescent health problems: education, unemployment, family conflict. Efforts should aim to ensure high quality health services for youth; improve adolescent environments through schools, community and family; promote healthy development through positive media images and messages; and advocate for legislation that promotes adolescent health, education, and employment. Most importantly, we must ensure the participation of youth and the commitment of parents, teachers and communities in these efforts.

The issues that our young people face are complex; they require all of our involvement. The health care sector cannot do it alone; rather, we need a comprehensive, intersectoral approach where those who focus on underlying causes and where those in the health sector work together with those in education, jobs, and social services. Youth need opportunities to become involved in their communities. Together we can assure that every young person in the Caribbean has a healthy adolescence and a bright future. ■



## Methods

**T**his cross-sectional study of adolescent health in the Caribbean has been designed to provide a complete and accurate assessment of the health status, problems and concerns of adolescents, as part of an assessment of needs and priorities for youth-oriented programs at the community as well as national level.

### Instrument Development

In 1995, an international group met at the University of Minnesota to review previously used surveys of adolescent risk and protective factors. The Minnesota Adolescent Health Survey was the starting point for instrument development, but other surveys such as the Youth Risk Behavior Survey youth survey, a British Columbia and the Puerto Rico version of the Minnesota survey were also reviewed and a draft instrument was developed.

Maternal and Child Health representatives from 19 Caribbean nations reviewed the draft instrument at a meeting in Tobago. Subsequently, preliminary questions were pilot-tested in Barbados, St. Lucia, and Antigua (n=105). The draft instrument was revised based on this pilot testing. The group decided to construct one core survey instrument to be used in all participating countries in order to lessen the overall costs and to help ensure comparable results in order to form a basis for policy and program planning across the region. Recognizing that such a core survey may not address the unique issues of individual countries, country-specific questions could be added at the end of the core survey. A revised questionnaire was circulated for comment by the Tobago meeting participants. The survey instrument was piloted and critiqued by more than 50 young people from three countries. A follow-up meeting was held in Barbados to finalize the instrument prior to printing and distribution. The time from conceptualization to instrument finalization was approximately one year.

The final core survey contained 87 forced choice questions with a total of 246 possible individual responses. Questions addressed the following areas: school performance, school connectedness, alcohol and other drug use, sexual and reproductive history, physical and sexual abuse, moral

behavior (honesty), violence, mental health and suicide, religiosity, family characteristics, relationships with others, general health, health care and nutrition/body image. Only English and Dutch language versions of the survey were produced.

### Sampling

The study was conducted in schools because large numbers of youth are readily accessible in these settings and because most adolescents attend school. Through random sampling of school classrooms, a representative sample of youth 10 to 18 years of age and attending school was obtained in each participating country. From lists of schools and their enrollments by form (grade) in each country, the number of participants needed in each form was estimated in order to ensure that moderate differences would be detectable with statistical accuracy.

Sampling procedures were carried out by representatives of the Ministries of Health in each country. A total number of participants in each country were determined in order to ensure reasonable power to detect differences between countries and between sub-samples within countries. It was then determined how many classrooms of 30 students each, on average, were needed in order to obtain the desired number of participants distributed across grades. A 20 percent over-sampling allowed for student absences and attrition due to incomplete surveys. Classrooms were selected randomly from a list of all schools in the country to obtain the desired sample. All students in a selected classroom were invited to participate. Therefore, the sample represents a randomized cluster sample of students age 10 to 18 from about half of the English-speaking Caribbean countries. In practice, there was some variation in sampling procedures between countries.

Of the nineteen CARICOM countries, 9 countries submitted data for analysis. Because these countries vary greatly in population size, similar size samples were drawn in each country to obtain better representation of possible differences between countries in the overall results. With proportional sampling, the results would have been dominated by Jamaica.

## Data Collection

Each participating country took responsibility for training its data survey administrators with the support of the CPC office. Data collectors were chosen mainly from departments within the ministries of health and/or education. Each survey administrator was given complete instructions and a list of assigned schools. Letters introducing the survey were sent to the selected schools by the Ministry of Education and the Survey Coordinator in each country. Teachers were asked to introduce the survey to their class several days prior to data collection. On the day of the survey, the survey administrators again gave a standard introduction to each selected class. Students were informed of the purpose and content of the survey, that they could choose to participate or not, that they could skip questions they did not want to answer, and that non-participation would not affect their grades in the class. Teachers were instructed to stay at the front of the class and avoid circulating during data collection to reinforce confidentiality. In addition, students were seated as far as possible from each other. Survey administrators were instructed to return completed forms to the Coordinator and include for each class the name of the school, form (grade), number of students enrolled, parental refusals, student absences, student refusals, number of questionnaires distributed, and number of questionnaires completed.

## Consent

Consent followed the standards of the community, which meant that passive rather than active parental consent procedures were used. Parents were notified in advance of the study which, at times took the form of a mailed letter, but more often students were given information in school and asked to take it home.

## Confidentiality and Anonymity

No personal identifiers were used on the questionnaires thus, there was no way to link specific students with completed questionnaires. Administrators were instructed not to read completed surveys nor allow anyone else to do so. Completed surveys were delivered to the Country Coordinator for processing immediately after site completion.

## Data Management

Completed surveys from all participating countries were originally to be sent to a central data entry firm however, many countries managed their own data entry. A code book provided to the data entry firm and to each country allowed for consistency across data entry groups. After keying all surveys from each country, data entry companies were to return a computer diskette containing the data file in ASCII format to PAHO, which was then forwarded to the University of Minnesota WHO Collaborating Centre for data cleaning and analysis. In general, data entry proceeded according to plan, but one major error was identified during data cleaning. The data entry firm completing most of the data entry did not follow the code book instructions to leave missing responses blank, but instead coded missing responses as zero in some countries. Since, in the Bahamas, zero was a meaningful response for over a dozen items (zero="none" or "never"), it was impossible to separate out the missing responses for those questions. Suspect surveys (where 40% or more of the 160 non-branching items were missing or where there was a

TABLE 25: Unweighted & Weighted Sample Size

By Country

Country	Actual Useable Sample	Percent of Total	Weighted Percent of Total
Antigua	2,158	13.7	1.5
Bahamas	1,787	11.4	5.6
Barbados	1,819	11.6	6.5
British Virgin Island	400	2.5	0.4
Dominica	2,719	17.3	1.9
Grenada	1,255	8.0	2.4
Guyana	1,396	8.9	17.6
Jamaica	2,635	16.8	60.7
St. Lucia	1,526	9.7	3.5
TOTAL	15,695	100	100

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pattern of improbable responses) were omitted from the sample to be analyzed. Eight of the 9 countries used the form as produced, and one country made some revisions, adding additional questions and changing others.

### Data Analysis

Where changes were not substantive, for example changing the order of responses, results were included in the 9-country analysis. Where the meaning of questions was altered, however, those questions for that country were not included in overall analysis.

The main objective of the present report is to describe the prevalence of a number of risk and protective factors among adolescents in the Caribbean, to identify predictors of risk, to identify those factors that minimize harm, and to discuss the implications of the findings. The intent here is not to compare results among countries; rather, with half of the English speaking Caribbean participating, the goal was to provide a regional portrait.

A major analytic issue was that observations within countries were likely to be positively correlated, meaning that individuals within a country were likely to be more similar to each other than to those in different countries. There is a statistical way to adjust for the group effect, which is important, so you don't attribute to an individual things that really have nothing to do with him or her. This is done through intraclass correlation (ICC) which is defined as the proportion of total variance attributable to the group rather than the individual.

Descriptive analyses were conducted for all variables of interest. Data on prevalence rates for each outcome are described as the proportion of students affected. Prevalence is reported by age group and by gender in order to better understand who is most affected within the sample. Rates are presented as proportions.

Unadjusted rates of outcomes are reported and compared by age and gender. Those affected and not affected are compared using standard bivariate statistics such as chi square analysis. Multivariable



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analysis were also conducted to determine factors associated with outcomes of interest. Numeric independent variables such as age and grade level were examined as both continuous and categorical variables for assessing nonlinearity and characterizing prevalence by subgroups.

Statistical significance was set at  $p < .01$  to indirectly take into account the likely effect of clustered sampling and to correct for the extraordinary sensitivity due to large sample size. This results in wider confidence intervals. Multivariable analyses lose approximately one-third of the sample in each age group because only surveys where youth answered all items in the models are included.

### Participation

To ensure the validity of the results, each individual survey was subjected to a series of computer checks for completeness and accuracy. In keeping with standard practice, surveys where more than one-third of the items were left blank were deleted from the sample entirely. This practice is based on the assumption that the reason for skipping a large number of questions (inattention, discomfort or difficulties in comprehension) makes answers to the remaining questions untrustworthy. A total of 13% of the weighted sample was deleted due to incompleteness. While this is higher than the norm for surveys that have been done elsewhere, it is not surprising given that nearly one-third of the sample were very young.

Surveys were also checked for invalid responses (e.g., answering that you frequently used bindro, a fake drug) and inconsistent responses (e.g., marking that you never drank alcohol on one item, and then marking that you have driven a car while drunk on another item). Since some of these inconsistent and invalid responses were simple errors, surveys were deleted from the sample only if they reached a threshold of questionable responses (four inconsistent responses and/or two or more clearly invalid responses). Altogether, only 2% of the sample were deleted for this reason. This is very similar to the norm for statewide and national surveys in the United States. ■

## Accuracy and completeness of data

The length of the survey was problematic for some young people. Individual cases were removed from analysis if over 65 of the 160 non-branching items were missing. In addition, some cases were removed due to inconsistency of responses. Overall, 13% of participants were removed from the final dataset, 2.3% because the validity of their responses was suspect and 10.7% due to missing data. Through multiple pilot testing, we were able to achieve a reading level appropriate to most participants. Additionally, through asking the same question multiple ways, we were able to check for consistency of responses. Finally, through techniques such as asking about bogus (e.g., made up) drugs, we were able to identify and delete from the final sample those who wanted to present a false picture of their behaviour.

### Outcome Variables

There were five outcome variables. Three were based on single items in the survey: general health; ever had sexual intercourse; and ever attempted suicide. Two outcomes were composed of multiple items, which improves the validity and reliability of measurement. These were violence (4 items, Cronbach's alpha reliability = .79) and problems due to use of alcohol or drugs (10 items, Cronbach's alpha reliability = .80).



## Control Variables

**Gender:** There were consistently more females than males in each of the countries surveyed (3:2 ratio). Overall, this reflects the greater proportion of girls going on to secondary schools. Boys are more likely to stay in post-primary<sup>3</sup> or drop out.

Although it was originally intended that data be analyzed in such a way that students in public and private schools could be compared, few countries differentiated between them. Additionally, in some settings such differentiation may be relatively meaningless. At least one country included 29 out-of-school youth; a number sufficiently small as not to skew either national or regional results.

There were 9 main predictor variables. Six were based on single variables: how hard the young person tries at their schoolwork; attendance at religious services; thinking about hurting or killing someone; parents' problems with violence; parents having mental health problems; and having family or friends who attempted suicide. Three predictors included multiple items: connection to parents and family (Cronbach's alpha reliability = .80)<sup>4</sup>; physical and sexual abuse (Cronbach's alpha reliability = .76)<sup>5</sup>; and substance abuse of parents. ■

3. Post-primary — all ages, comprehensive, or technical schooling (e.g., not traditional high school).

4. Connection to parents and family scale items include: feels parents care; can tell parents about problems; feels other family members care; feels people in family understand; family pays attention to you.

5. Abuse scale items include: history of physical abuse and history of sexual abuse. The combined variable has the strongest relationship to the outcomes, indicating that a history of both types of abuse is worse than a history of one or the other. Treating the 2 abuse items separately is statistically problematic. Because these two abuse items are correlated with each other at  $r = .32$  and because they are only weakly correlated with the outcomes ( $r = .10$ ), it only takes one of them to predict problem behaviors and which one could be a matter of chance fluctuations in which one is "most strongly" correlated with the outcome (for example .101 vs. .102).

6. Substance abuse of parents items include: parents have a drinking problem and parents have a drug problem.

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