

**VIRGIN ISLANDS PREVENTION (VIP)
STATE INCENTIVE GRANT (SIG)**

**SUMMARY OF FINDINGS
FROM THE
2006 VIRGIN ISLANDS
YOUTH RISK BEHAVIOR SURVEY**

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Introduction

In 2003 the Virgin Islands Territory received a US Center for Substance Abuse Prevention (CSAP) State Incentive Grant (SIG) program grant to develop and implement a comprehensive initiative to prevent substance abuse among youths ages 12 to 17. Activated in the spring of 2005, the VIP SIG is being administered by the Virgin Islands Department of Health, Division of Mental Health, Alcoholism, and Drug Dependency Services (DMHADDs, *the Division*), in cooperation with the Governor's Office and key Territory Departments and local agencies that are involved in substance abuse prevention. The primary tasks of the VIP SIG are to assess the prevention needs and resources of the Virgin Islands; to develop a strategic plan for prevention based on data from the needs assessment; to enhance the capacity of prevention stakeholders (including government agencies and local service providers) to implement evidence-based prevention strategies; and to evaluate those strategies. To assist with this project, the Division is contracting with the Chapel Hill Center of the Pacific Institute for Research and Evaluation (PIRE) to conduct the needs and resources assessments and the project evaluation. PIRE, in turn, is working with the University of the Virgin Islands (UVI) to assist with the needs and resources assessments and the evaluation.

One component of the SIG needs assessment was the 2006 Virgin Islands Youth Risk Behavior Survey (VI YRBS), a cross-sectional school-based survey designed to estimate the prevalence of risk behaviors as well as attitudes and assets associated with these behaviors among youths in grades 9-12 in the US Virgin Islands. This report summarizes findings from the 2006 VI YRBS. As a current, primary data source, this survey fills an important gap in our knowledge about the prevalence of various risk and protective behaviors among Virgin Islands youths. Risk behaviors can have adverse health effects and interfere with natural developmental and maturation processes during the critical period of adolescence, while protective personal, family, and social factors may lead to more positive decisions and/or buffer against these adverse effects. It is hoped that the information obtained from this and future surveys will help the Virgin Islands identify, track, and better understand important adolescent public health problems so that more effective programs and policies can be developed.

Methods

Survey Development

The 2006 VI YRBS contained items which were drawn from the biennial Centers for Disease Control and Prevention (CDC) YRBS and from CSAP's Substance Abuse Risk and Protective Factor (SARPF) Student Survey, also known as the Communities That Care (CTC) Survey. Although the CDC YRBS includes items assessing a variety of health behaviors (e.g., nutrition and exercise), we included only those items related to substance use because the VI YRBS survey is funded through the SPF SIG, which focuses on substance use prevention. By including items drawn directly from the CDC YRBS, the current survey is comparable to past (and potentially future) administrations of the CDC survey.

The VI YRBS survey consisted of 112 items on demographic characteristics (8), personal safety (14), bullying (2), suicidal feelings (4), substance use (23), sexual behavior (7), attitudes/perceptions regarding substances (12), and risk and protective behaviors and attitudes (42). Substance use items asked about use of alcohol, tobacco, and other drugs (ATODs), including marijuana, cocaine, heroin, hallucinogens, methamphetamine, steroids, and injectable drugs. Questions were asked about dosage and frequency of use, such as current (past 30 day) use, lifetime use, early onset (before age 13) use, daily or heavy (more than 10 cigarettes per day) cigarette use, exposure to secondhand smoke, and binge alcohol use (5 or more drinks on a single occasion). Risk factor scales included items assessing students' perceived substance availability, family antisocial behaviors and substance use, peer and parental attitudes favorable to substance use, number of friends who were substance users, antisocial behaviors, and carrying a handgun on school property. Other risks, such as sources for obtaining alcohol and the presence of a family member with a severe alcohol or drug problem, were also assessed. Protective factor scales included family-level factors (parental support, discipline, guidance, and clear family rules and expectations); individual-level factors (involvement in clubs/volunteering, positive attitudes towards school, and positive peer and adult role models and associations); and community-level factors (expectations of discipline via local law enforcement). The Virgin Islands SIG Prevention Advisory Council (PAC) and onsite evaluators reviewed the instrument for cultural appropriateness and made minor changes to item wording where necessary.

Survey Administration and Parent Notification

The VI YRBS was jointly administered by DMHADDs and the Virgin Islands Department of Education in May, 2006. These two agencies, PIRE, and UVI developed the sampling and logistics plans for administering the survey. The survey was administered in all classes to students in all public high schools (St. Croix Central High School, St. Croix Educational Complex, Charlotte Amalie High School, and Ivanna Eudora Kent High School) and to students in grades 9 – 12 in four of the largest private/parochial schools (Seventh Day Adventist, Country Day School, Good Hope School [all three on St. Croix], and St. John School of Gift Hill). (It should be noted that we are uncertain whether the current sample is directly comparable to CDC YRBS samples because the CDC utilizes a different sampling technique. However, because we attempted a census sample, and because the CDC must also obtain a near-census sample, the likelihood that the two samples would be comparable is very high.)

The survey and the survey administration process underwent initial review by the PIRE internal Institutional Review Board (IRB) in March, 2006. The Division mailed notification letters to the parents of each high school student, informing them of the nature of this voluntary survey and giving them the chance to have their child opt out. The schools sent the same letter home with each student. In addition, the Division placed ads in local newspapers informing parents of the survey and instructing them on how to decline their children's participation, if they wished. School teachers administered the surveys to homerooms classes. On the day of the survey, student assent was obtained directly from the student. The Division mailed completed surveys to PIRE, where they were scanned into a software program for cleaning and analysis.

Data Analysis

The sample subset for analysis included all surveys with valid age, race, and gender data. Analyses were performed separately on the public and private high school students in order to

provide more accurate comparisons to CDC normative data for the US mainland population and previous administrations of the YRBS in the Virgin Islands (the CDC survey is only conducted in public high schools). Sample weights (grade, race, gender-adjusted) were applied at the individual student level to the public high school subset by first determining the proportions of students in the survey sample by each grade, race, and gender combination (grade x race x gender cross-products). Next, the actual proportions of students by grade, race, and gender in the public high school population were obtained from NCES data for the most recent school year (2004-2005). Finally, weights were derived for each possible combination of grade, race, and gender as simply the ratio of the actual population grade-race-gender cross-product to the sample grade-race-gender cross-product. All public school subsample analyses were then weighted by this weight variable. Weights were not used to analyze private/parochial student data.

A note should be made regarding racial categorization of the sample. Race was assessed with a single survey item: "How do you describe yourself? (Select one or more responses)." Possible responses were American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino/Latina, Native Hawaiian or Other Pacific Islander, and White. This item thus resulted in multiple race combinations, which proved problematic. Since the comparator proportions for weighting the data were derived from the NCES database, which uses five mutually exclusive race categories (American Indian/Alaskan, Asian, Black, Hispanic, and White), we had to apply a decision rule which would convert the multiple race categories from our survey data (approximately 5% of the public school student sample) to similar mutually exclusive race categories. If a student indicated a race/ethnicity of American Indian or Alaska Native; Asian; Native Hawaiian or Other Pacific Islander; any combinations of these three race/ethnicities, he/she was designated as Other race. If a student indicated he/she was one of these three race/ethnicities plus White or Black, he/she was designated as Other race. If a student indicated he/she was Hispanic or any combination of Hispanic and another race/ethnicity, he/she was counted as Hispanic. If a student indicated he/she was both White and Black, he/she was counted as Black. And if a student did not provide a response to the question, he/she was designated Black on the assumption that he/she would most likely be the majority race/ethnicity of Black.

We used the US population as a standard for comparison on indicators where possible. Survey data for white students were not provided in the graphs by race/ethnicity because the number of white students in the sample was too low to generate reliable population estimates. Substance use indicators were organized by type (i.e., most commonly-used substances, followed by less commonly-used substances), and within type by more common use patterns (e.g., past 30-day use) and then less common but more dangerous use patterns (heavy use, binge use, daily use). Where possible, indicators were graphed using the same scale ranges (0 to 50 percent, for example) to allow for easier comparisons across indicators. However, in cases where prevalence rates were very low or very high, scales had to be adjusted to a more appropriate range to visualize small group differences or to accommodate the full range of data.

In survey research samples are drawn from a larger population of individuals because we are rarely able to survey all members of the population. Measurements of the sample characteristics are used to estimate the same characteristics in the population. Despite the best efforts of the researchers to capture large representative samples, sample data are never completely accurate

reflections of the population. The precision of our estimate is based on a number of factors, including the measurement techniques, the size of the sample, and the proportion of the population that demonstrates the characteristic being measured. Thus, depending on these factors, some estimates of the population are more precise than others. We express this level of precision, or the confidence we have that our estimate is the true value in the population from which the sample was drawn, as a confidence interval (CI). Wider CIs indicate lesser precision, and narrower CIs indicate greater precision. The true population is likely to lie anywhere between the low and high confidence limits.¹

For all the substance use graphs in this report, we include CIs (the vertical lines at the tops of the bars bounded by the low and high limits) to show how precise our estimates are. (The one exception is for data from the 2001 VI YRBS. Because the response rates were unacceptably low, CDC did not generate CIs. Thus, the 2001 data do not reflect the overall population—they simply reflect the sample from which they were drawn.)

In addition to showing how precise sample estimates are, CIs can be used to determine whether there are differences between groups. If the CIs for two groups (e.g., males and females) are overlapping, it generally means that there is no difference between the groups—even if the estimate itself appears to be different. If, on the other hand, the CIs do not overlap, or only overlap slightly, it means that the two groups are likely to be different from one another. The reader will note that because CIs depend in part on sample size and on the number of persons reporting the particular characteristic being measured, when the characteristic is rare (e.g., very low rates of use) or in subgroups with fewer members (e.g., Hispanic students), these CIs are very wide. Such data should be interpreted with caution because the estimates are clearly imprecise.

Most of the survey questions, including all of the CDC-derived questions, were dichotomized to yes/no responses (i.e., behavior present/absent), and then the proportion responding ‘yes’ was calculated. Simple weighted frequencies were computed on these survey items to allow generalization of results to the Virgin Islands public high school population. Confidence intervals on proportions were calculated using the Fleiss method (Fleiss, Levin, & Paik, 2003). For risk and protective factors scales and other continuous measures, weighted mean scale scores were computed. Trend lines were plotted to compare Virgin Islands and US mainland trends from 1993 to 2005/2006.² Subgroup analyses were performed by gender, grade, and race. All analyses were performed in SAS Version 9.1.3.

Results

Sample Demographics

After excluding nine duplicate surveys (data entry errors), there were 3303 student surveys returned, 2962 of which were from public school students. Assuming that all enrolled public high school students (n=4771) were available to take the survey, this number represented a public high school student response rate of 62%. There were 3251 student surveys with valid,

¹ In fact, our analyses allow us to say that we are 95% sure that the true population value lies between the CIs.

² Data from the 2006 VI YRBS were plotted as 2005 data on the trend graphs to make direct comparisons to the most recent available US data; the CDC YRBS survey is biennial and no data were available for 2006.

non-missing grade, sex, and race responses, 90% (n=2919) from students in the four public high schools and 10% (n=332) from students in the four private/parochial high schools. These students constituted the analysis dataset. Demographic characteristics of the overall student sample and subsamples are summarized in Table 1.

Table 1. Demographic Characteristics of the 2006 VI YRBS High School Survey Sample

| | Public Students in Analyses (n = 2,919) | Private Students in Analyses (n = 332) | | All Students in Analyses (n = 3,251) | All Students Surveyed (n = 3,303) |
|---------------------------------|--|---|--|--|---|
| Age, median years, (SD) | 16 (1.24) | 16 (1.18) | | 16 (1.23) | 16 (1.24) |
| range | 12 - 18 | 14 - 18 | | 12 - 18 | 12 - 18 |
| Sex, n (%) male | 1226 (42.0) | 159 (47.9) * | | 1,385 (42.6) | 1,402 (42.8) |
| Grade, n (%) | | | | | |
| 9 th | 1,010 (34.6) | 91 (27.4) * | | 1,101 (33.9) | 1,102 (33.6) |
| 10 th | 724 (24.8) | 90 (27.1) | | 814 (25.0) | 816 (24.9) |
| 11 th | 698 (23.9) | 92 (27.7) | | 790 (24.3) | 797 (24.3) |
| 12 th | 487 (16.7) | 59 (17.8) | | 546 (16.8) | 549 (16.7) |
| Race/ethnicity, n (%) | | | | | |
| African American | 2,438 (83.5) | 179 (53.9) *** | | 2,617 (80.5) | 2,652 (80.3) |
| Hispanic | 424 (14.5) | 51 (15.4) | | 475 (14.6) | 481 (14.6) |
| White | 19 (0.6) | 87 (26.2) | | 106 (3.3) | 110 (3.3) |
| Other | 38 (1.3) | 15 (4.5) | | 53 (1.6) | 60 (1.8) |
| Language | | | | | |
| English | 2,640 (91.6) | 314 (95.2) | | 2,954 (91.9) | 2,984 (91.7) |
| Spanish | 188 (6.5) | 11 (3.3) | | 199 (6.2) | 200 (6.2) |
| Patois | 24 (0.8) | 1 (0.3) | | 25 (0.8) | 27 (0.8) |
| Arabic | 7 (0.2) | 1 (0.3) | | 8 (0.2) | 12 (0.4) |
| Other | 24 (0.8) | 3 (0.9) | | 27 (0.8) | 30 (0.9) |
| Mother's education level | | | | | |
| Completed grade school or less | 108 (3.8) | 5 (1.5) *** | | 113 (3.5) | 114 (3.5) |
| Some high school | 350 (12.2) | 20 (6.1) | | 370 (11.6) | 375 (11.6) |
| Completed high school | 903 (31.5) | 51 (15.5) | | 954 (29.9) | 962 (29.8) |
| Some college | 359 (12.5) | 58 (17.6) | | 417 (13.1) | 424 (13.1) |
| Completed college | 508 (17.7) | 107 (32.5) | | 615 (19.3) | 621 (19.2) |
| Graduate or professional school | 170 (5.9) | 64 (19.4) | | 234 (7.3) | 239 (7.4) |
| Not sure | 465 (16.2) | 24 (7.3) | | 489 (15.3) | 498 (15.4) |
| Father's education Level | | | | | |
| Completed grade school or less | 144 (5.0) | 6 (1.8) * | | 150 (4.7) | 150 (4.7) |
| Some high school | 345 (12.1) | 23 (7.0) | | 368 (11.6) | 370 (11.5) |
| Completed high school | 819 (28.7) | 53 (16.2) | | 872 (27.4) | 880 (27.3) |
| Some college | 148 (5.2) | 53 (16.2) | | 201 (6.3) | 202 (6.3) |
| Completed college | 346 (12.1) | 73 (22.3) | | 419 (13.2) | 428 (13.3) |
| Graduate or professional school | 141 (5.0) | 74 (22.6) | | 215 (6.8) | 219 (6.8) |
| Not sure | 908 (31.8) | 46 (14.0) | | 954 (30.0) | 970 (30.1) |
| Sexual orientation | | | | | |
| Heterosexual | 2,756 (96.2) | 312 (94.6) *** | | 3,068 (96.1) | 3,101 (95.9) |
| Bisexual | 30 (1.0) | 13 (3.9) | | 43 (1.4) | 44 (1.4) |
| Gay or lesbian | 13 (0.4) | 0 (0.0) | | 13 (0.4) | 16 (0.5) |
| Not sure | 65 (2.3) | 5 (1.5) | | 70 (2.2) | 72 (2.2) |

Significant difference between public and private/parochial schools: *p<.05; **p<.01; ***p<.001. Note: for non-dichotomous characteristics, significance test is the Cochran-Mantel-Haenszel Statistic (based on table scores) for a difference in the distributions of students across categories.

The median age was 16 with a range of 12 to 18; 43% were males; 34% were 9th graders but only 17% were 12th graders; and 80% were African-American, 15% Hispanic, 3% White, and 2% classified as other race. The vast majority (91%) were English-speaking. Thirty percent of mothers and 27% of fathers had completed a high school education, and 19% of mothers and

13% of fathers had completed college, although twice the percentage of students (30.0%) reported being unsure of their father’s educational status versus their mother’s educational status (15.3%). Ninety-six percent of students reported a heterosexual orientation. Private/parochial school students, compared to public school students, were more likely to be male, upper classmen, non African-American, have mothers and fathers with more education, and report a bisexual orientation.

Looking at the public high school subset, 61% (n=2919) of the estimated 4771 Virgin Islands public high school students (NCES 2005-2006 estimated census) in the four targeted public high schools were surveyed. As indicated in Table 2, 2006 VIYRBS sample characteristics were fairly similar to those of two prior YRBS surveys in the Territory (2001 and 2003) and fairly representative of the 2005-2006 Virgin Islands public high schools population. Nevertheless, weighting allowed for correction of some slight differences, such as the 2006 VI YRBS over-sampling of females, 11th graders, whites, and other races and under-sampling of 12th graders.³ Caution is warranted when directly comparing demographic characteristics to prior CDC YRBS surveys because it is unclear from the description of its methodology whether the CDC employs valid sex, race, and grade data as an inclusion criterion during its data cleaning and editing processes (Brener et al., 2004). We employed this criterion to the 2006 YRBS survey sample because valid sex, race and grade data were needed in order to apply weights and because the analysis subsample is of primary interest in this report, i.e., the subsample whose data we compared to prior years’ CDC data in the trend figures of this report.

Table 2. Sex, Grade, and Race Composition of Recent CDC YRBS Public High School Survey Samples, the 2006 YRBS Public High School Survey Sample, and the Public High School Student Population

| | Male | Female | 9 th | 10 th | 11 th | 12 th | African Amer. | Hisp. | White | Other races | Multiple races |
|----------------|------|--------|-----------------|------------------|------------------|------------------|---------------|-------|-------|-------------|----------------|
| YRBS 2001 | 43.3 | 56.7 | 26.7 | 30.3 | 24.0 | 19.0 | 81.4 | 14.5 | 0.5 | 1.8 | 1.7 |
| YRBS 2003 | 43.3 | 56.1 | 33.7 | 29.3 | 20.6 | 15.8 | 79.4 | 16.5 | 0.4 | 1.9 | 1.0 |
| YRBS 2006* | 42.0 | 58.1 | 34.6 | 24.7 | 24.0 | 16.7 | 87.2 | 10.9 | 1.3 | 0.7 | NA |
| VI Public HS** | 47.0 | 53.0 | 37.7 | 22.3 | 20.0 | 20.0 | 87.0 | 11.8 | 0.6 | 0.5 | NA |

*Subset of public high school students with valid sex, race and grade data

**From NCES 2005-2006

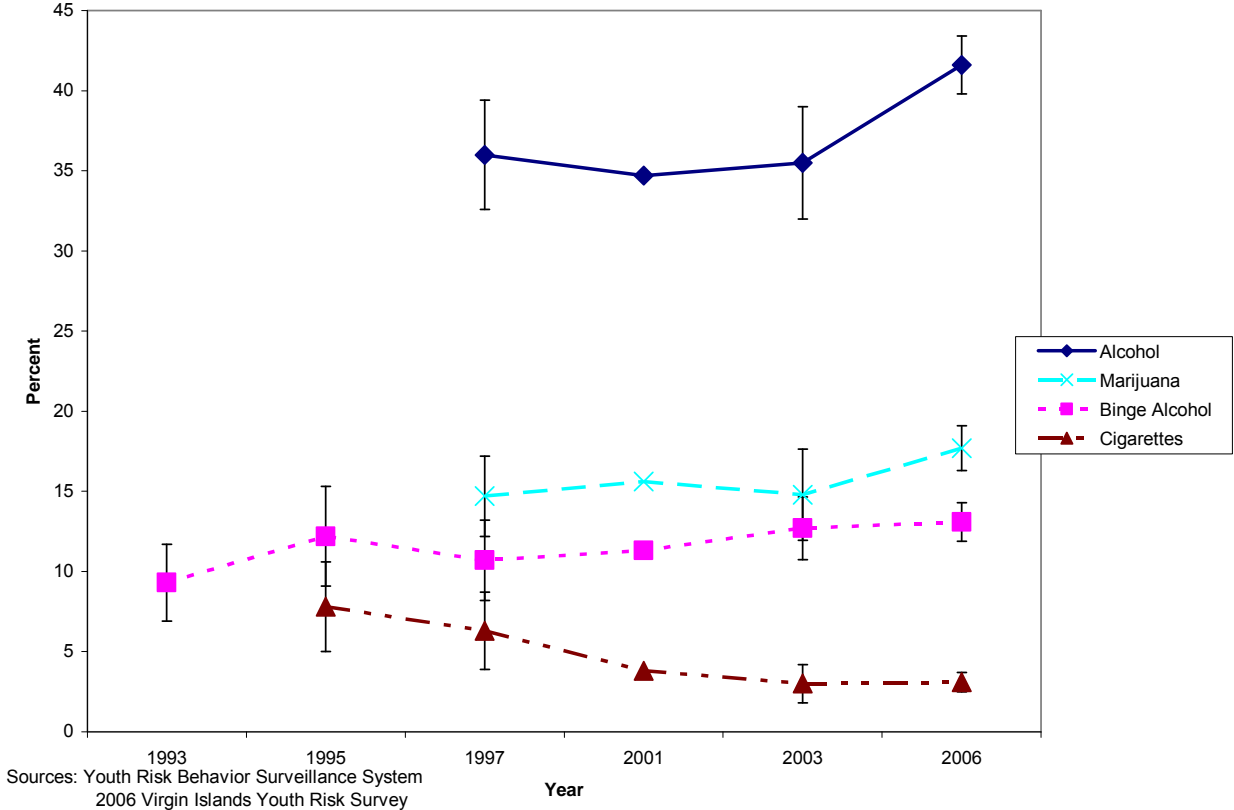
Numbers are percentages.

³ Data for white students are not provided in this report, however, because the number of white students in the sample was too low to generate reliable population estimates.

Substance Use Indicators for Public High School Students

Alcohol is the substance most commonly used by Virgin Island public high school students (41.6% in 2006), followed by marijuana (17.7% in 2006) (Figure 1). Since the last reporting period (2003), there appears to have been a significant rise in current alcohol use and a slight rise in marijuana use, both disconcerting trends. Smoking rates have remained less than 10% and have declined in 2006 to 3.1%. Binge drinking rates (binge drinking is defined as five or more drinks on a single occasion) have remained consistently between 10% and 15%.

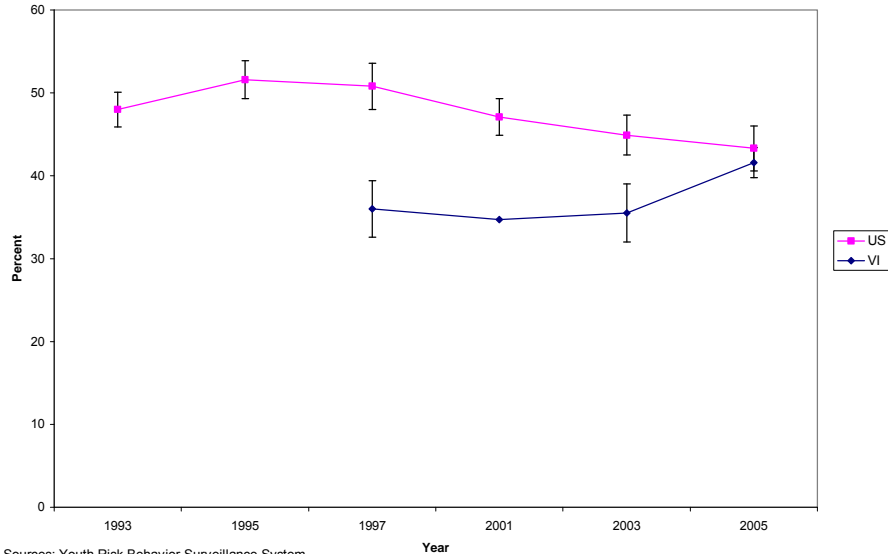
Figure 1. Current (Past 30-Day) Substance Use among Youths in Grades 9-12, Virgin Islands, 1993-2006



Alcohol

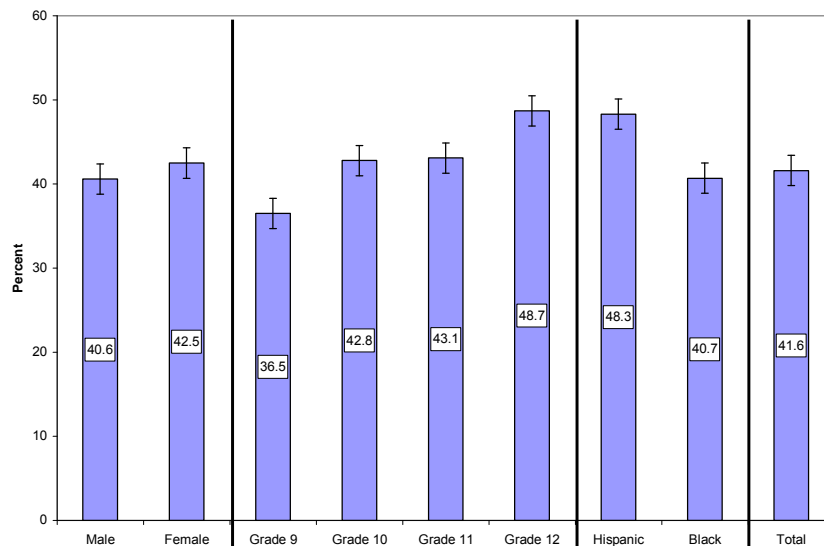
Figures 2 through 13 provide information about alcohol use among Virgin Islands public high school students. Current alcohol use among Virgin Islands public high school students appears to have risen sharply in recent years, with rates increasing from 35.5% in 2003 to 41.6% in 2006 (Figure 2). In fact, 2006 rates were equivalent to those on the US mainland. As shown in Figure 3, 12th graders (48.7%) and Hispanic students (48.3%) reported the highest rates of use.

Figure 2. Current (Past 30-Day) Alcohol Use among Youths in Grades 9-12, Virgin Islands and US, 1993-2005



Sources: Youth Risk Behavior Surveillance System
2006 Virgin Islands Youth Risk Survey

Figure 3. Current (Past 30-Day) Alcohol Use among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

Since the mid-1990's, Virgin Islands youth have been more likely than US youth to try alcohol before age 13, and the difference has been increasing over time as the rates of early use have decreased in the US (Figure 4). In 2006, 37.3% of Virgin Islands youth reported early use of alcohol, compared to 25.6% of US youth. As seen in Figure 5, males and 9th graders were most likely to report early alcohol use (40.4% and 43.8%, respectively). Ninth graders may be more likely to report early alcohol use because of a recall bias—that is, their memories of first use may be better than students who are older.

Figure 4. First Alcohol Use Before Age 13 among Youths in Grades 9-12, Virgin Islands and US, 1993-2005

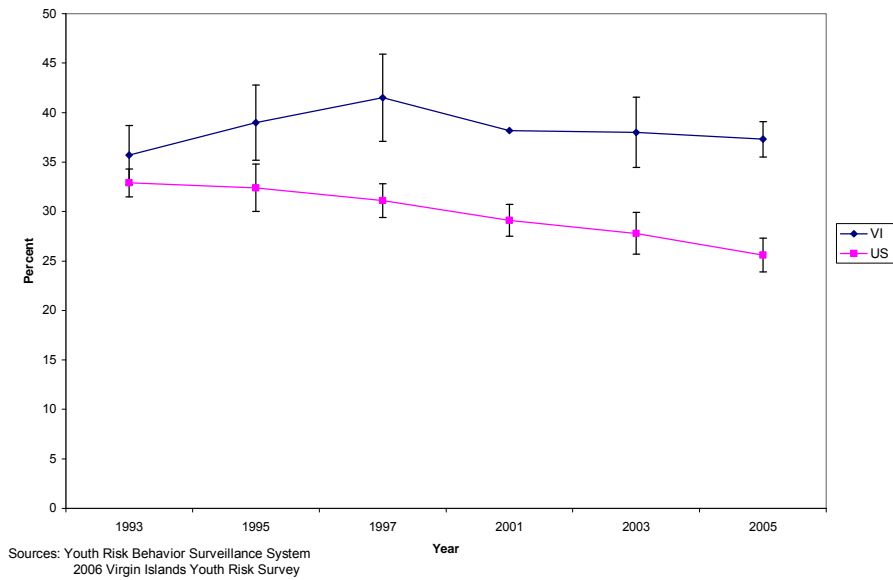
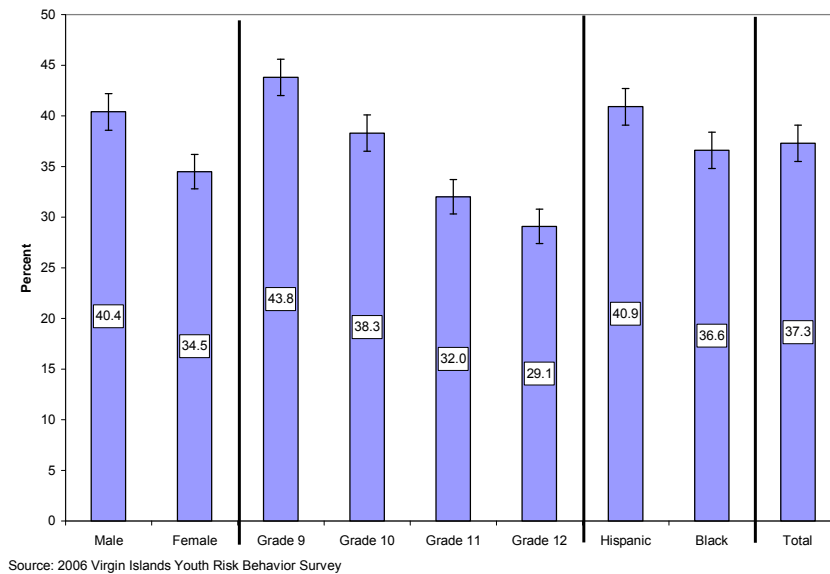


Figure 5. First Alcohol Use Before Age 13 among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006



Binge alcohol use rates have remained much lower among Virgin Islands public high school students compared to US students, although US rates have been steadily declining and Virgin Islands rates have been slightly increasing (Figure 6). In 2006, Virgin Islands binge rates were 13.1%, compared to US rates of 25.5%. As shown in Figure 7, binge drinking rates were higher among males (15.4%), 12th graders (18.1%), and Hispanic students (20.1%).

Figure 6. Binge Alcohol Use* among Youths in Grades 9-12, Virgin Islands and US, 1993-2005

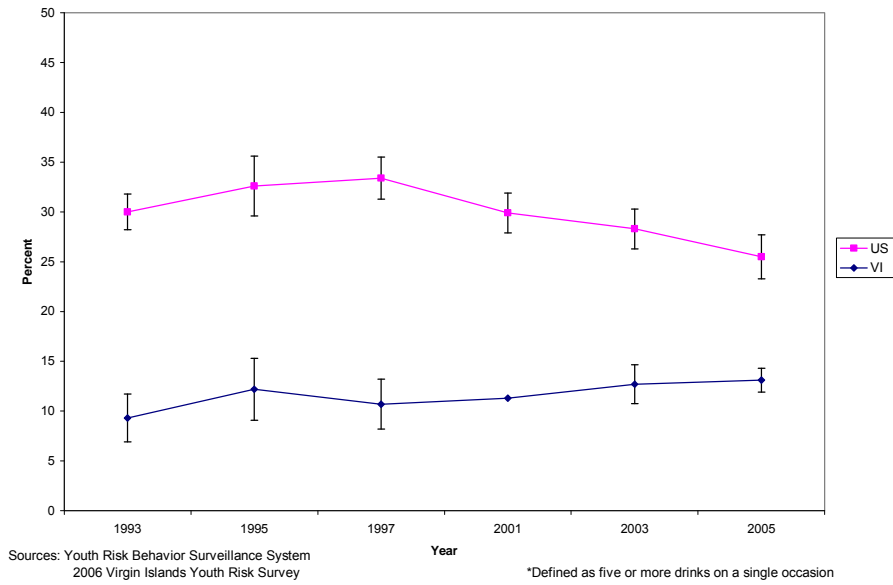
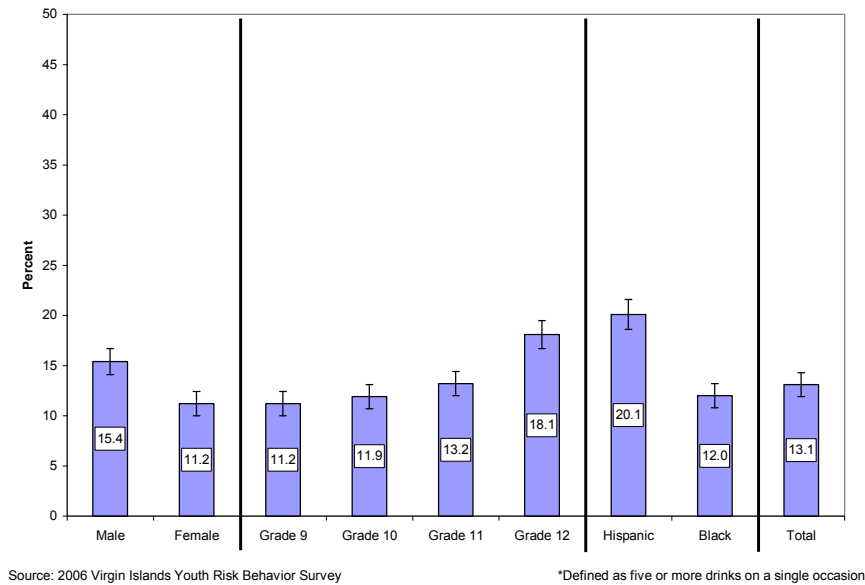


Figure 7. Binge Alcohol Use* among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006



Rates of public high school student drinking and driving appear to be declining in the US but increasing in the Virgin Islands, to the point where they were nearly identical (about 9%) in 2006 (Figure 8). As seen in Figure 9, rates of drinking and driving were higher among males (12.2%) and 12th graders (15.2%).

Figure 8. Driving After Drinking among Youths in Grades 9-12, Virgin Islands and US, 1993-2005

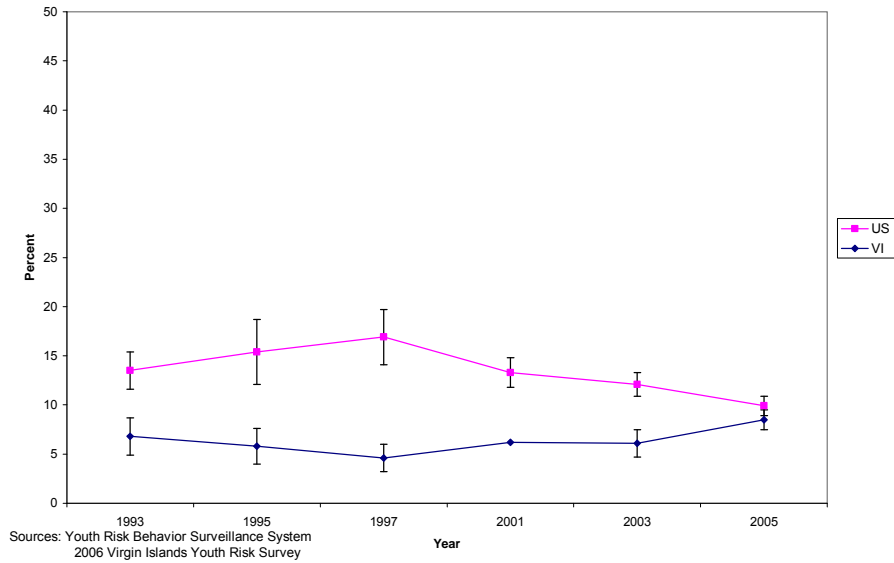
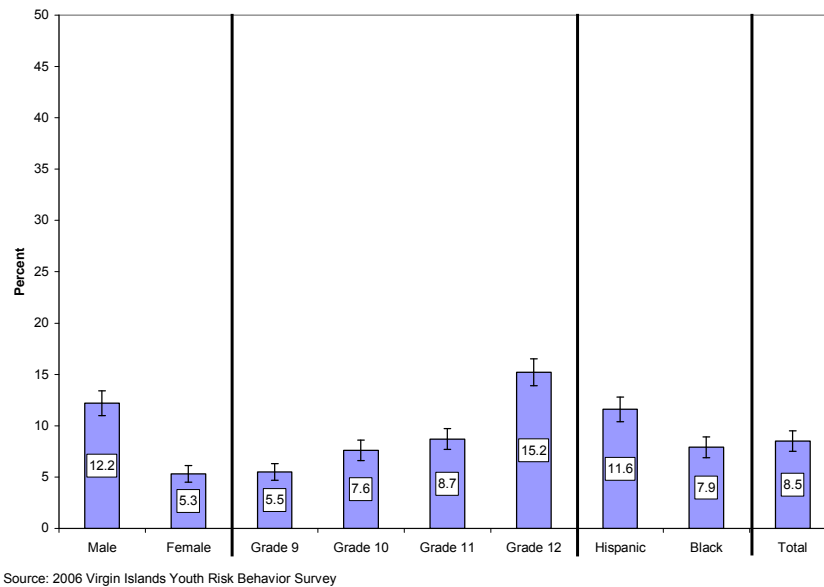


Figure 9. Driving After Drinking among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006



Rates of public high school students being a passenger in a car with a drinking driver were lower in the Virgin Islands and showed a declining trend in the both the US and the Virgin Islands (Figure 10). In 2006, 20.6% of Virgin Islands youth rode in a car with a drinking driver compared to 28.5% of US youth. As shown in Figure 11, rates were higher among males (23.1%), 12th graders (24.4%), and Hispanic students (26.5%).

Figure 10. Riding in a Car with a Drinking Driver among Youths in Grades 9-12, Virgin Islands and US, 1993-2005

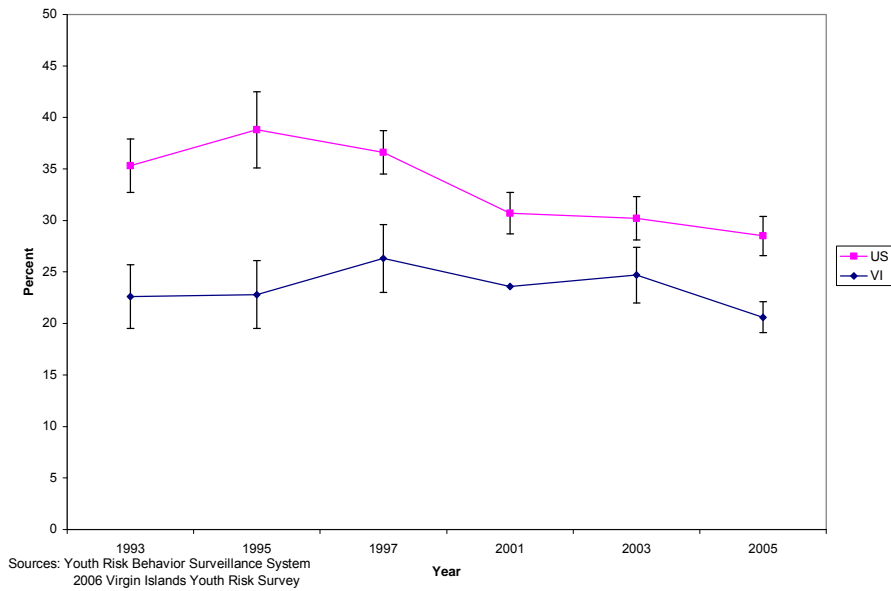
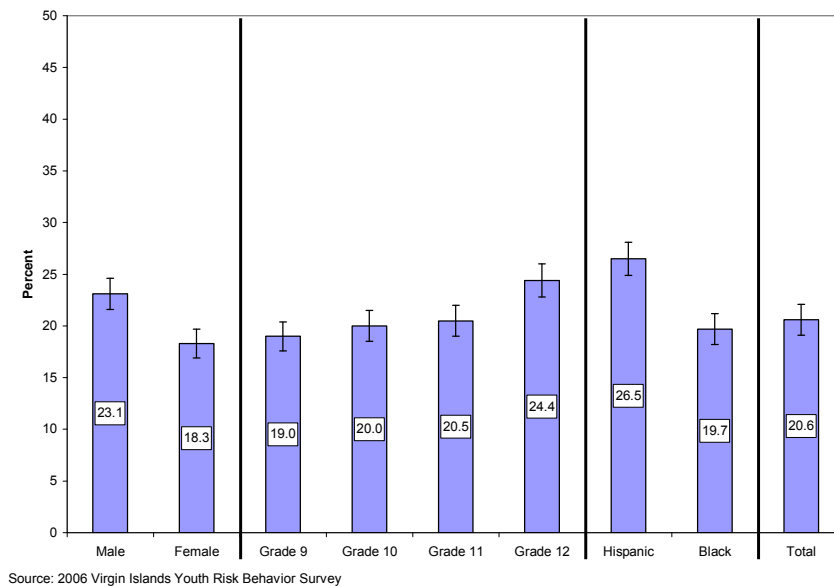
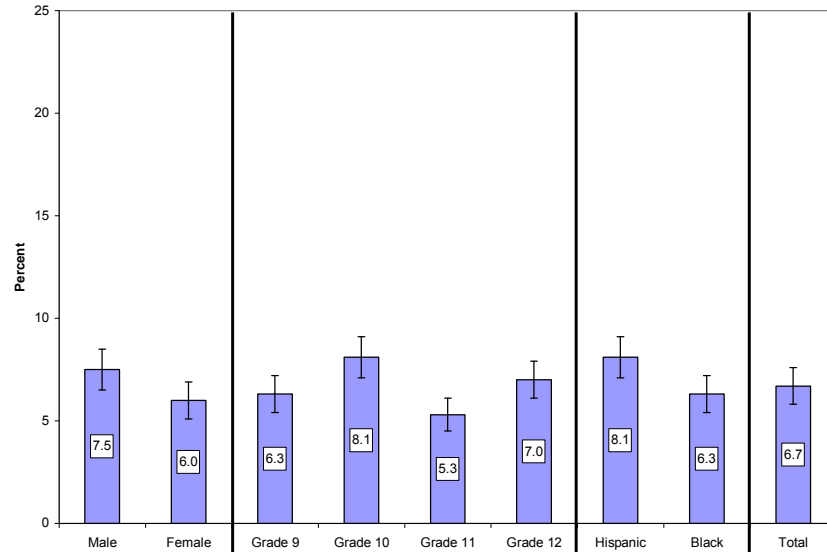


Figure 11. Riding in a Car with a Drinking Driver among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006



Rates of current alcohol use on school property were relatively low (less than 10%) among all subgroups with overlapping confidence bands, although males, 10th graders, and Hispanic students reported higher rates of this behavior (Figure 12).

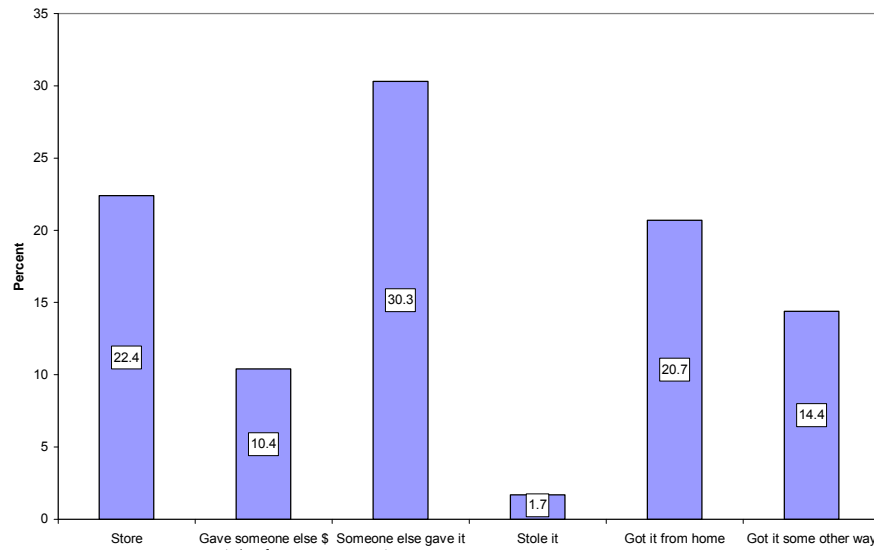
Figure 12. Current (Past 30-Day) Alcohol Use on School Property among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

Finally, we asked students where they obtain alcohol. As shown in Figure 13, students who drank alcohol in the last 30 days were most likely to obtain it from someone else who gave it to them (30%), a store (22%), or from home (21%).

Figure 13. Sources for Obtaining Alcohol among Current Users, Youths in Grades 9-12, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

Tobacco

Figures 14 through 23 provide information about tobacco use among Virgin Islands public high school students. Figure 14 shows that current cigarette use among Virgin Islands public high school students has been much lower than US youth since at least 1995. In 2006, 3.1% of Virgin Islands youth used cigarettes, compared to 23.0% of US youth. Use rates were higher among Hispanic students and lower among 11th graders, although these rates were all less than 7% (Figure 15).

Figure 14. Current (Past 30-Day) Cigarette Use among Youths in Grades 9-12, Virgin Islands and US, 1993-2005

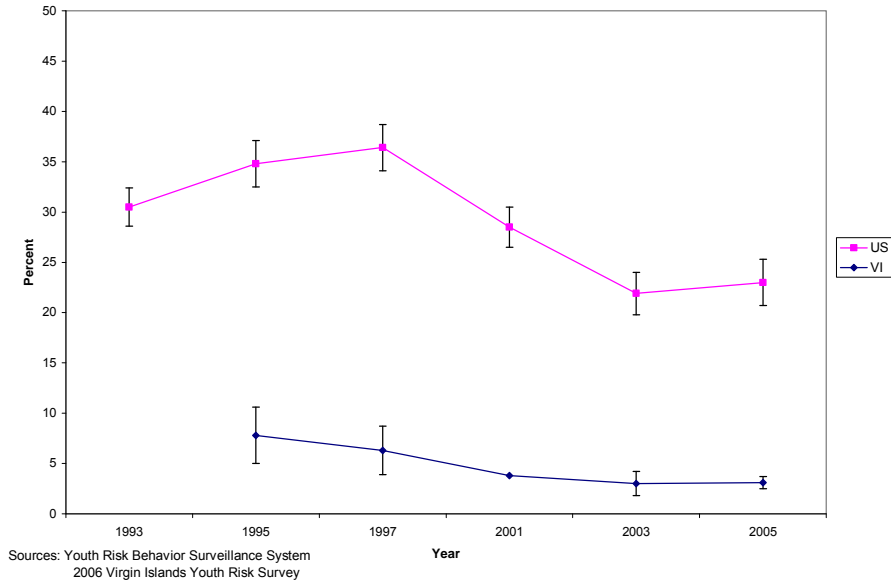
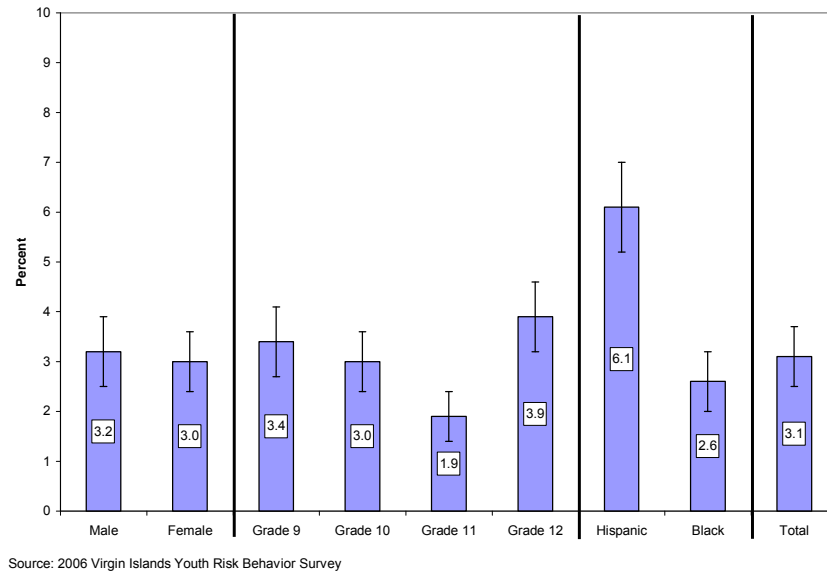


Figure 15. Current Cigarette Use among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006



Unlike the situation with alcohol use, Virgin Islands public high school students consistently reported lower rates of first using cigarettes before age 13, compared to US mainland students (Figure 16). In 2006, 6.0% of Virgin Islands youth reported early cigarette use, compared to 16.0% of US youth. Early use appears to be declining in both the Virgin Islands and US. As shown in Figure 17, early cigarette use rates were highest among Hispanic students (10.8%).

Figure 16. First Cigarette Use Before Age 13 among Youths in Grades 9-12, Virgin Islands and US, 1993-2005

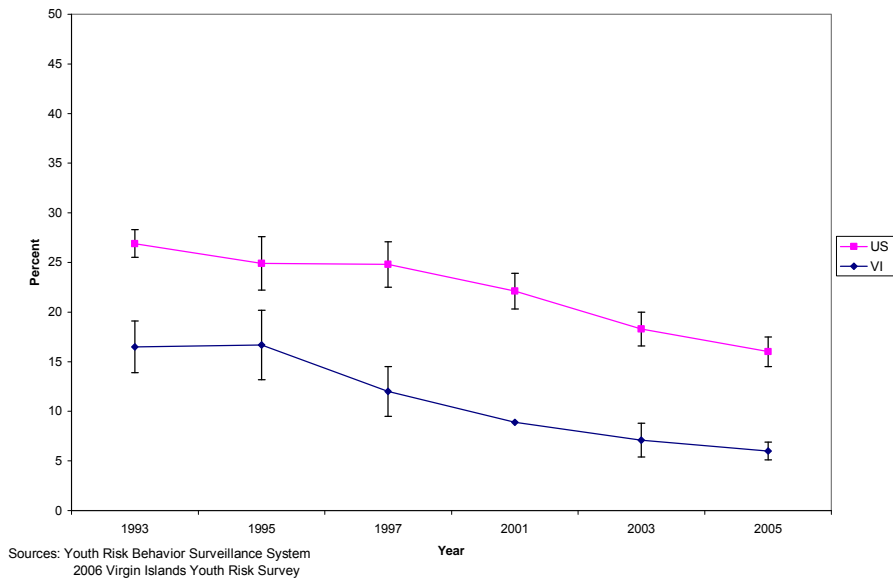
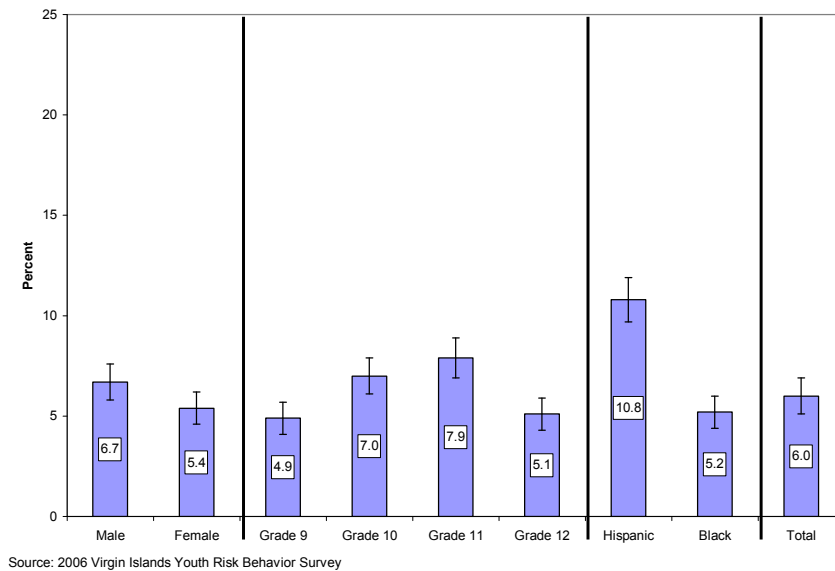


Figure 17. First Cigarette Use Before Age 13 among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006



Daily cigarette use (smoked on at least 20 of the past 30 days), an indicator of nicotine addiction, was very rare among Virgin Islands public high school students, compared to US public high school students (Figure 18). Because there were extremely low rates (less than 1%) and wide, overlapping confidence bands for this indicator, no subgroups could be identified as having higher daily use rates (Figure 19).

Figure 18. Daily Cigarette Use (on at least 20 days during the month) among Youths in Grades 9-12, Virgin Islands and US, 1993-2005

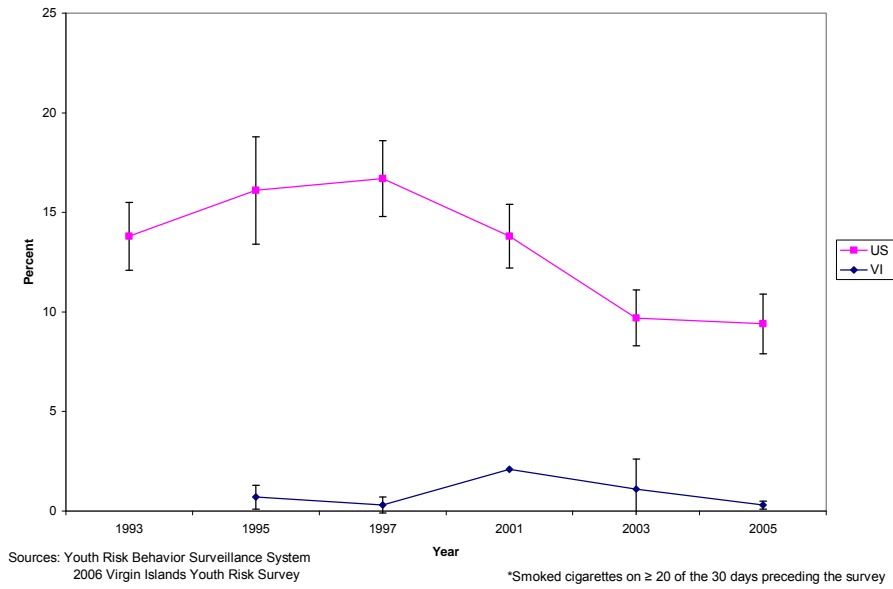


Figure 19. Daily Cigarette Use (on at least 20 days during the month) among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006

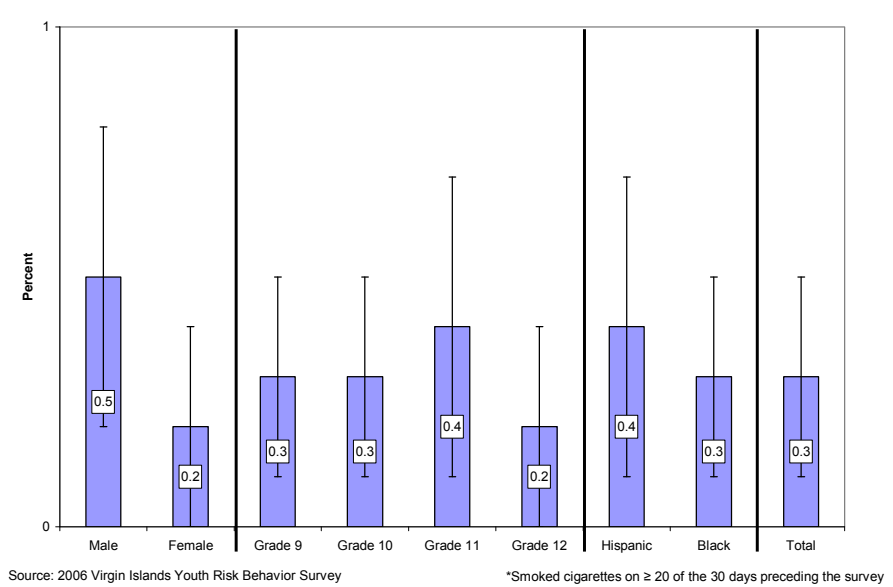
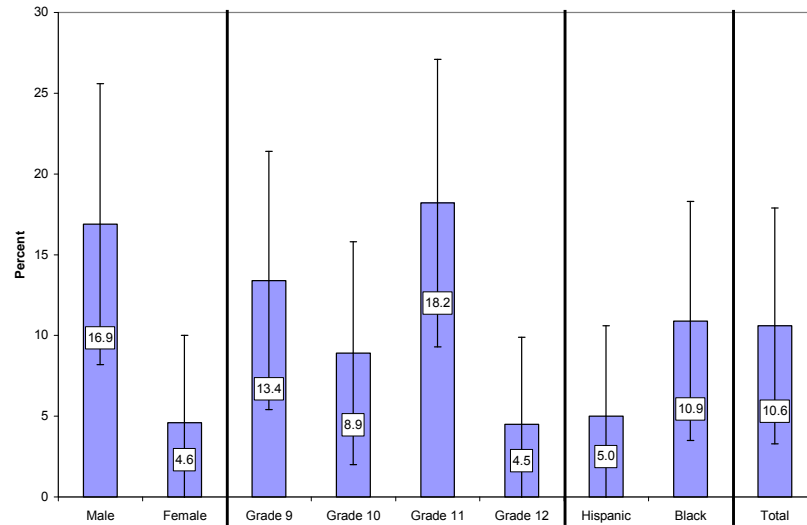


Figure 20 shows that heavy cigarette use (more than 10 cigarettes per day), was almost four times more frequent among males compared to females (16.9% vs. 4.6%, respectively), and more frequent among 9th and 11th graders (13.4% and 18.2%, respectively). Heavy use rates were lowest among 12th graders (4.5%). Trend data for this indicator were unavailable.

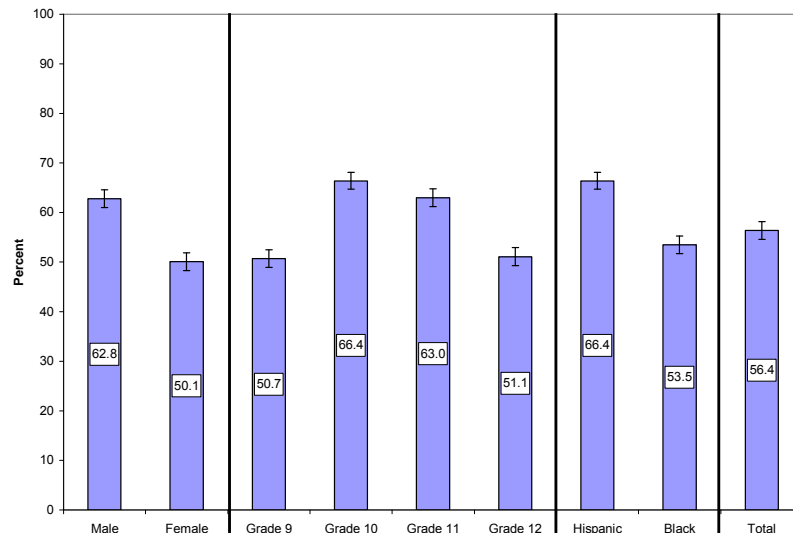
Figure 20. Heavy Cigarette Use (> 10 per day) among Youths in Grades 9-12 who are Current Users, by Gender, Grade, and Race, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

On average, over half (56%) of adolescents who had smoked cigarettes during the past year reported stopping smoking for one or more days because they were trying to quit smoking, and over 60% of respondents in the following groups reported doing so: males, 10th and 11th graders, and Hispanic students (Figure 21). Again, trend data for this indicator were unavailable.

Figure 21. Youths in Grades 9-12 Who Smoked During the Past Year and Stopped Smoking for One or More Days Because They Were Trying to Quit, by Gender, Grade, and Race, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

Figure 22 indicates that smokeless tobacco use rates were also much lower among Virgin Islands public high school students compared to US students (0.7% vs. 8.0%, respectively, in 2006). Due to the extremely low use rates and very wide, overlapping confidence bands about the estimates, we were unable to determine which subgroups had higher use rates (Figure 23).

Figure 22. Current (Past 30-Day) Smokeless Tobacco Use among Youths in Grades 9-12, Virgin Islands and US, 1997-2005

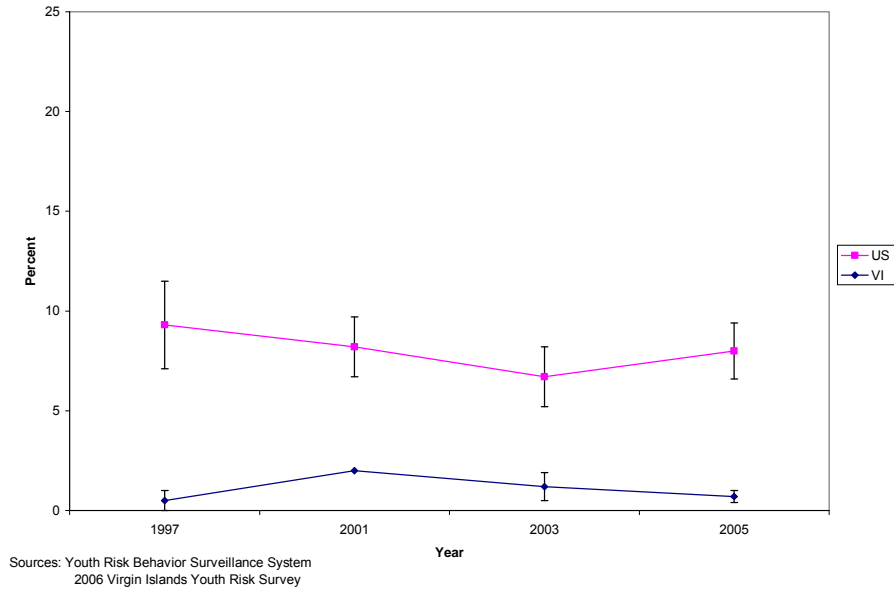
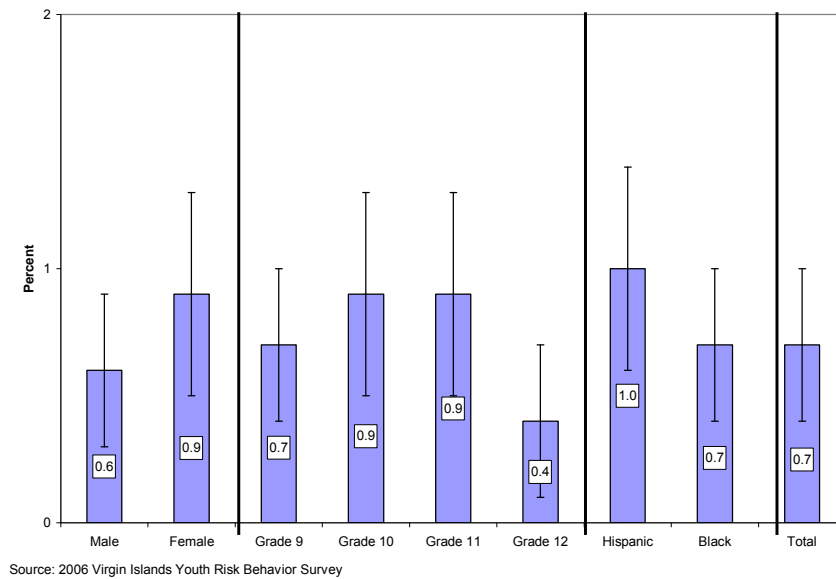


Figure 23. Current Smokeless Tobacco Use among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006



Marijuana and Other Illicit Drugs

Figures 24 through 35 provide information about marijuana and other illicit drug use. Current (past 30-day) marijuana use rates among public high school students in the Virgin Islands appear to have increased since 2003 and were nearly equivalent to US rates, standing at 17.7% in 2006 (Figure 24). Males were nearly twice as likely to report current marijuana use compared to females (23.4% vs. 12.7%, respectively), and tenth graders reported slightly higher current use rates (20.2%) compared to students in other grades (Figure 25).

Figure 24. Current (Past 30-Day) Marijuana Use among Youths in Grades 9-12, Virgin Islands and US, 1993-2005

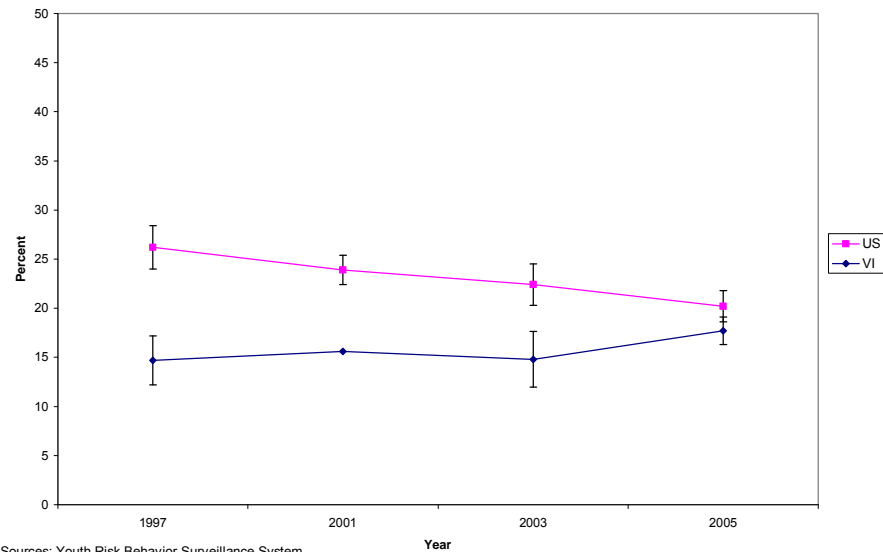
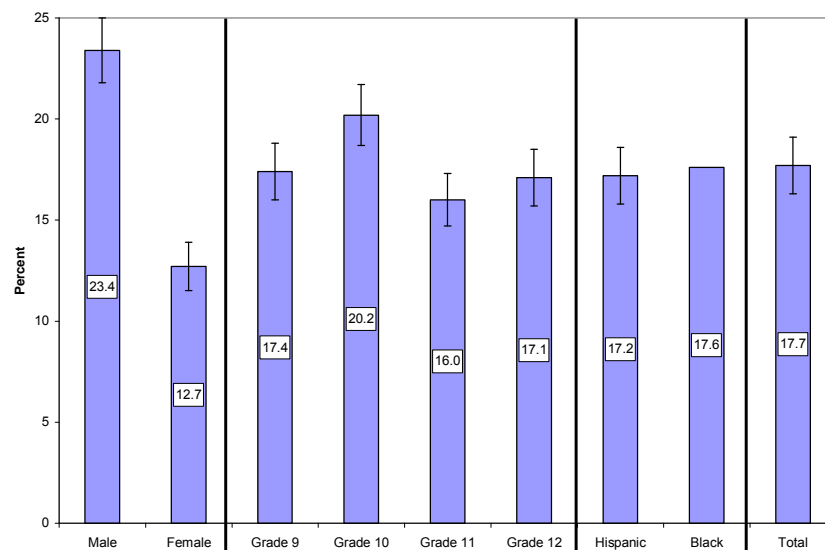


Figure 25. Current (Past 30-Day) Marijuana Use among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006



Virgin Islands youth consistently reported higher rates of first marijuana use before age 13 compared to US youth (Figure 26). In 2006, 14.0% of Virgin Islands youth reported early marijuana use, compared to 8.7% of US youth. Males reported early use more frequently than the other subgroups (18.7%); females (9.8%) and Hispanic students (10.6%) less frequently (Figure 27).

Figure 26. First Used Marijuana Before Age 13 among Youths in Grades 9-12, Virgin Islands and US, 1993-2005

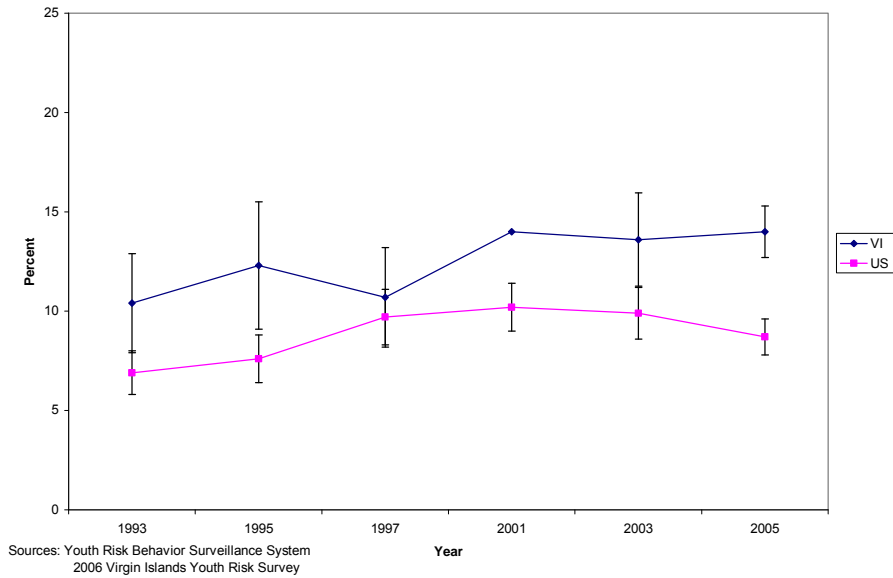
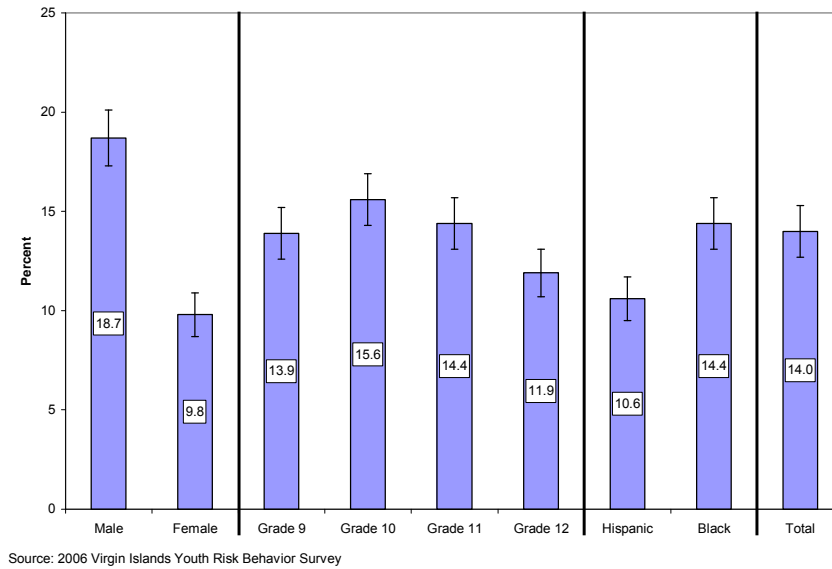
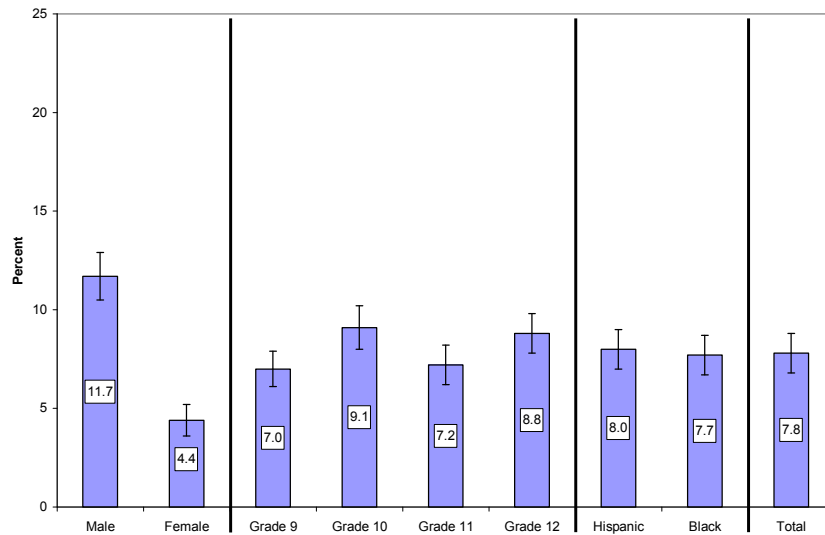


Figure 27. First Used Marijuana Before Age 13 among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006



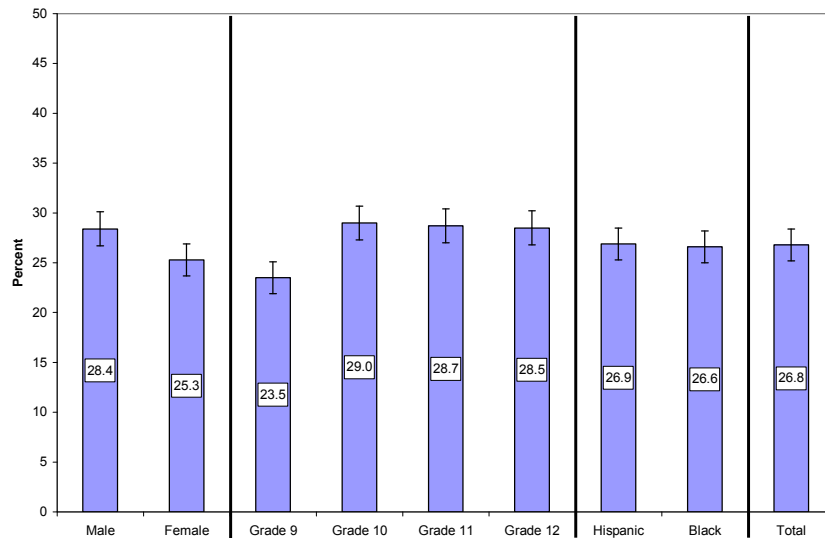
As seen in Figure 28, rates of driving a car after smoking marijuana were highest among males (11.7%). For riding in a car with someone who had smoked marijuana (Figure 29), there were few subgroup differences. Males reported slightly higher rates than females (28.4% vs. 25.3%, respectively) and 9th graders reported lower rates than other grades (23.5%). Trend data were not available for these two indicators.

Figure 28. Youths in Grades 9-12 Who Drove a Car after Smoking Marijuana, by Gender, Grade, and Race, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

Figure 29. Youths in Grades 9-12 Who Rode in a Car with Someone Who Had Smoked Marijuana, by Gender, Grade, and Race, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

While relatively few students reported using marijuana on school property in the past 30 days, rates appear to be increasing in the Virgin Islands but decreasing in the US. In the Virgin Islands, rates increased from 4.0% in 1997 to 6.4% in 2006; in contrast they decreased from a high of 8.8% in 1995 to 4.5% in 2005 (Figure 30). In the Virgin Islands in 2006, males (8.8%), 10th graders (7.8%), and Hispanic students (7.9%) were more likely to report using marijuana on school property than other subgroups (Figure 31).

Figure 30. Marijuana Use on School Property among Youths in Grades 9-12, Virgin Islands and US, 1993-2005

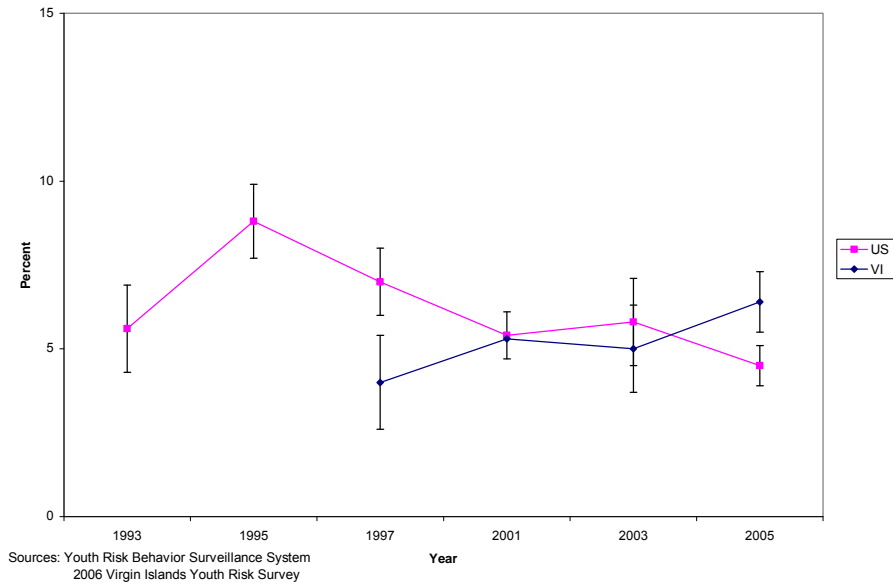


Figure 31. Current (Past 30-Day) Marijuana Use on School Property among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006

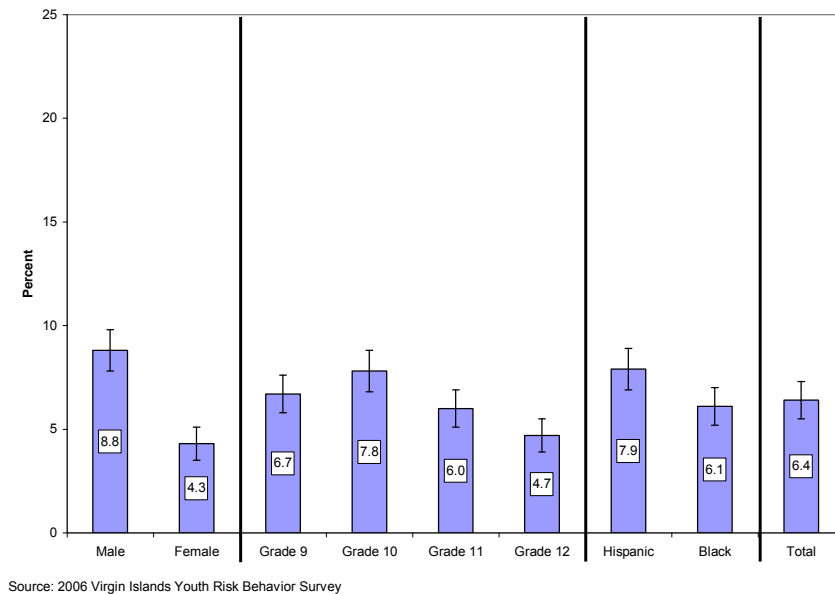
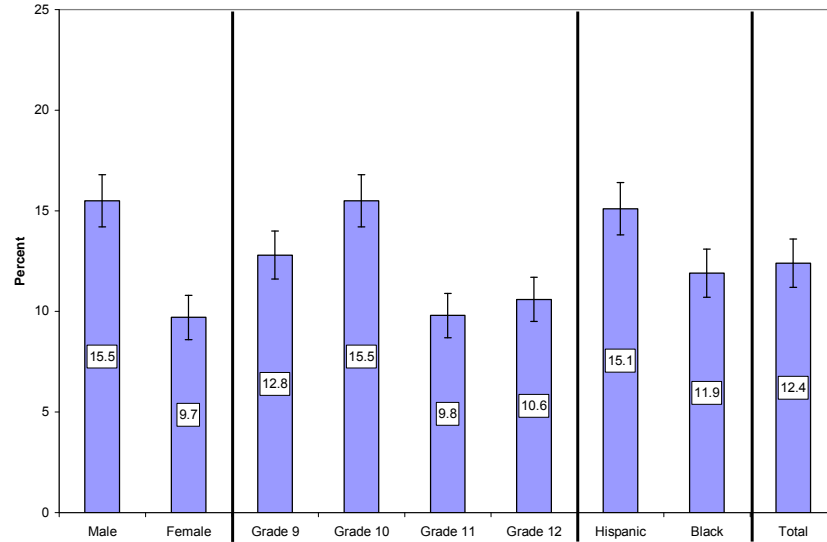


Figure 32 shows that 12.4% of Virgin Islands students used marijuana and fonta together in 2006. Use was higher among males (15.5%), 10th graders (also 15.5%), and Hispanic students (15.1%).

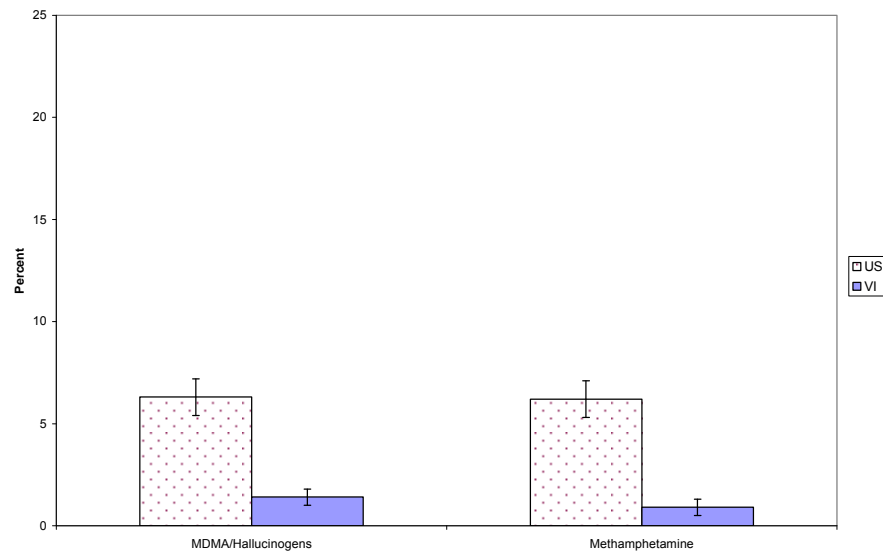
Figure 32. Current (Past 30-Day) Marijuana + Fonta Use among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

Figure 33 shows that fewer than 2% of Virgin Islands high school students reported ever using hallucinogens or methamphetamines, and that the rates are lower than the US rates of these drugs. Thus, it appears that higher rates of early marijuana use among Virgin Islands youth did not translate into higher rates of other illicit drug use.

Figure 33. Lifetime Hallucinogen and Methamphetamine Use Among Youths in Grades 9-12, Virgin Islands and US, 2005/2006



Sources: 2005 Youth Risk Behavior Surveillance System & 2006 Virgin Islands Youth Risk Survey

In subgroup analyses, the rates of hallucinogen and methamphetamine use were very low and confidence limits overlapping, so we could not tell with sufficient confidence whether any particular group reported higher use rates (Figures 34 and 35).

Figure 34. Lifetime Hallucinogen Use among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006

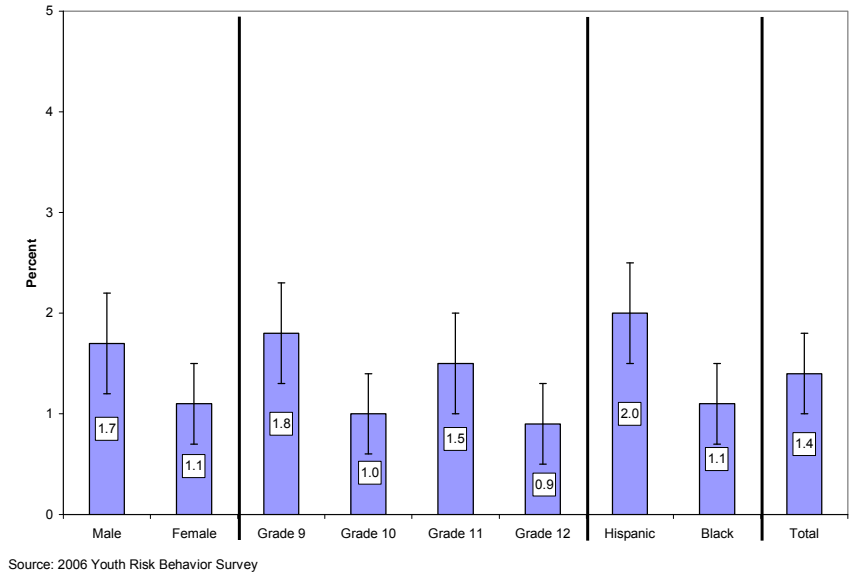
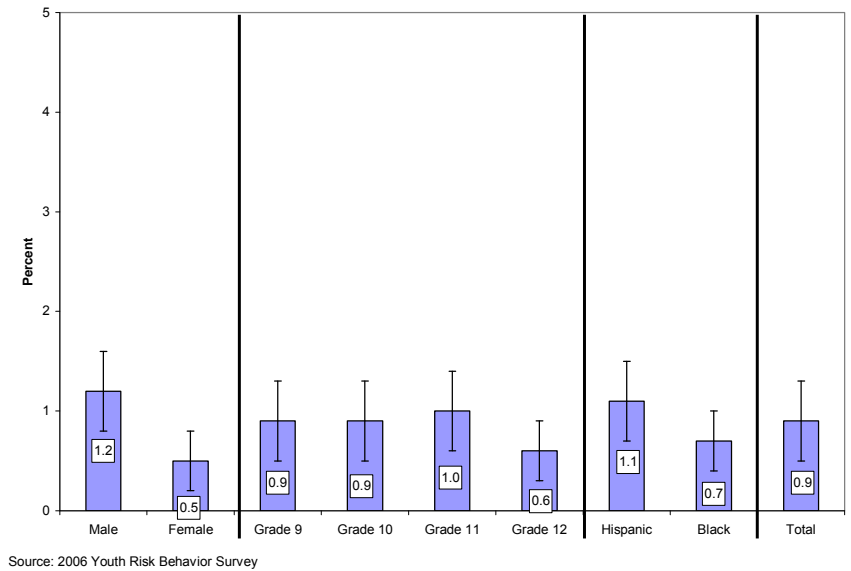


Figure 35. Lifetime Methamphetamine Use among Youths in Grades 9-12, by Gender, Grade, and Race, Virgin Islands, 2006



Summary of Alcohol, Tobacco, and Other Drug Use

Alcohol is the most commonly used substance among Virgin Islands high school students, with 2006 use rates of about 42%. Virgin Islands students reported initiating alcohol use earlier compared to students on the US mainland. However, this early use did not translate into higher rates of current use, binge use, drinking and driving, or being a passenger with a drinking driver, compared to US youths. Notable unfavorable trends were a recent (since 2003) increase in both current alcohol use and driving after drinking to rates equivalent to those in the US. Current use rates were higher among 12th graders and Hispanic students. High risk subgroups for risky alcohol use, such as binge drinking and drinking and driving included males, 12th graders, and Hispanic students.

Cigarette use rates among Virgin Islands high school students were generally lower than rates in the US (3.1% vs. 23.0%). Males reported heavy use rates which were much higher compared to females. More than half of those who had smoked during the past year had tried to quit for at least one day.

Since 2003, current marijuana use rates in the Virgin Islands appear to have increased and become equivalent to US rates. Rates of current use among males were twice those for females, and 10th graders were also more likely to be current users. Virgin Islands youth consistently reported higher rates of first marijuana before age 13, compared to US youths, with males again at higher risk for early use. Males and 10th graders also showed higher rates of risky use, such as driving a car after smoking marijuana and combined use of marijuana and fonta. Hispanic students also reported high levels of this combined use. Use on school property was higher among males, 10th graders, and Hispanic students. As with alcohol, however, higher rates of early marijuana use did not translate into higher rates of current marijuana use or to use of other illicit drugs, compared to US youths.

Violence-Related Behaviors

Carrying Weapons

Rates of carrying a weapon on school property had been equivalent and decreasing among Virgin Islands and US students through 2003 (Figure 36). However, Virgin Islands rates increased from 7.3% in 2003 to 13.2% in 2006. As shown in Figures 37 and 38, rates for both weapons and handguns were higher among males, 9th graders and 10th graders, and Hispanic students.

Figure 36. Percentage of Youths in Grades 9-12 Who Carried a Weapon on School Property in the Past 30 Days, Virgin Islands and US, 1993-2005

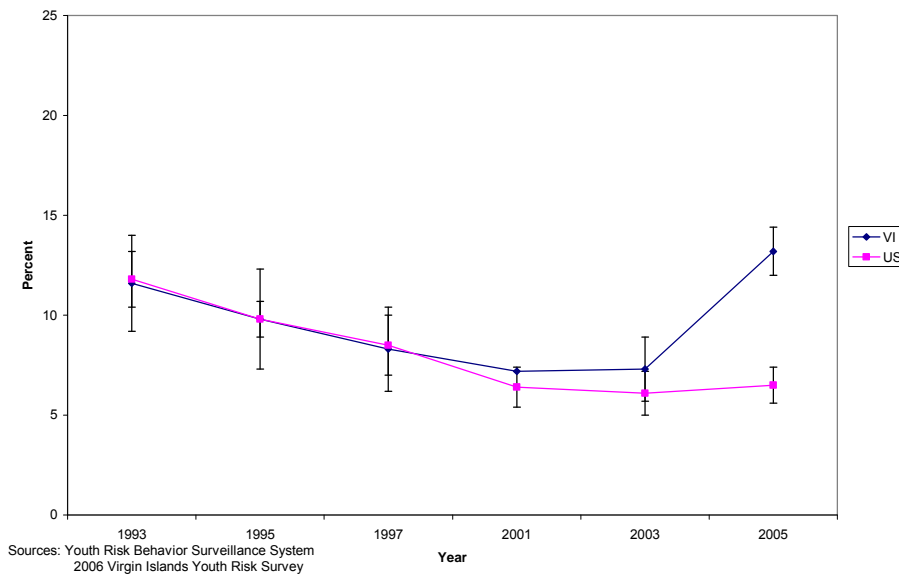
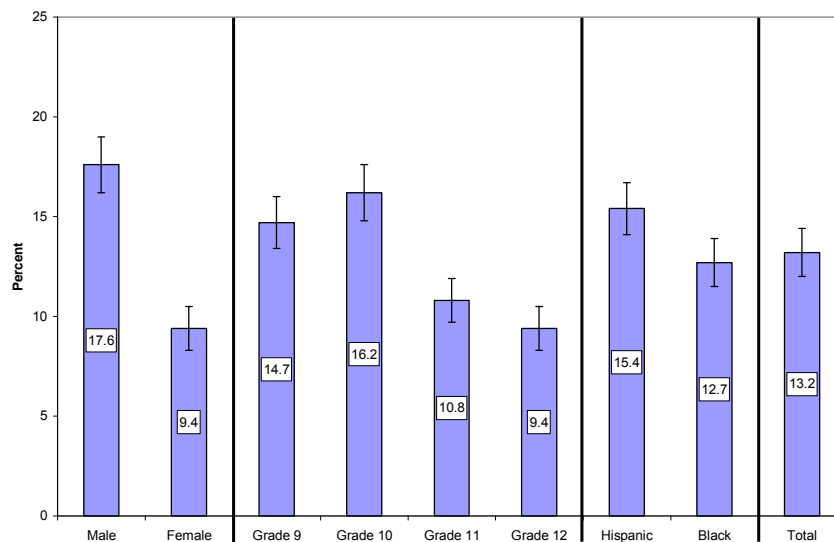
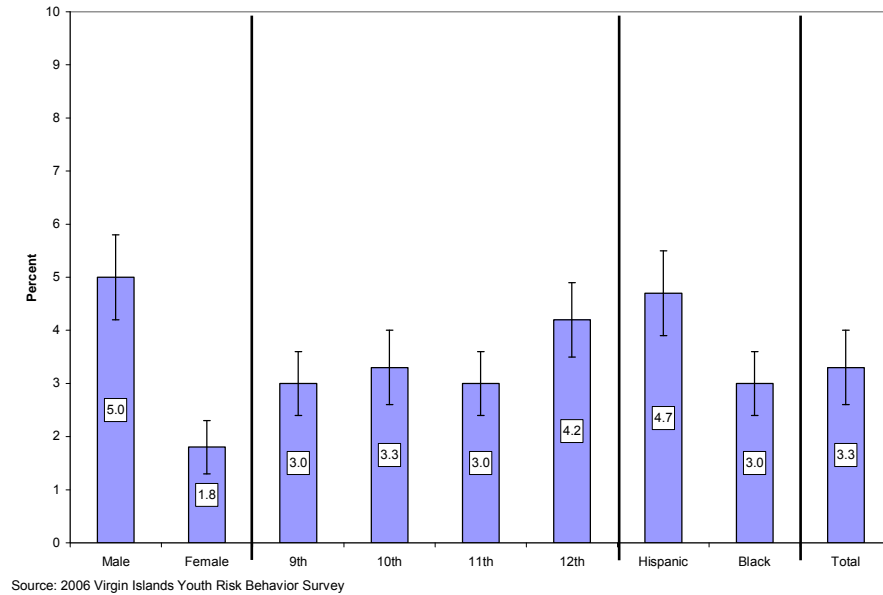


Figure 37. Percentage of Youths in Grades 9-12 Who Carried a Weapon on School Property in the Past 30 Days, by Gender, Grade, and Race, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

Figure 38. Percentage of Youths in Grades 9-12 Who Carried a Handgun to School in the Past Year, by Gender, Grade, and Race, Virgin Islands, 2006



Feelings of Safety and Physical Fighting

As indicated in Figures 39-41 school safety has been consistently a greater concern among Virgin Islands students than US students. In 2006, Virgin Islands students were more likely to report not attending school for personal safety reasons (8.5%), to have been threatened or injured on school property (12.1%), and to have been in a physical fight on school property (17.6%), compared to US students. Rates of physical fighting were about the same at 34.4% (Figure 42).

Figure 39. Percentage of Youths in Grades 9-12 Who Did Not Attend School in the Past 30 Days Because They Felt it was Unsafe, Virgin Islands and US, 1993-2005

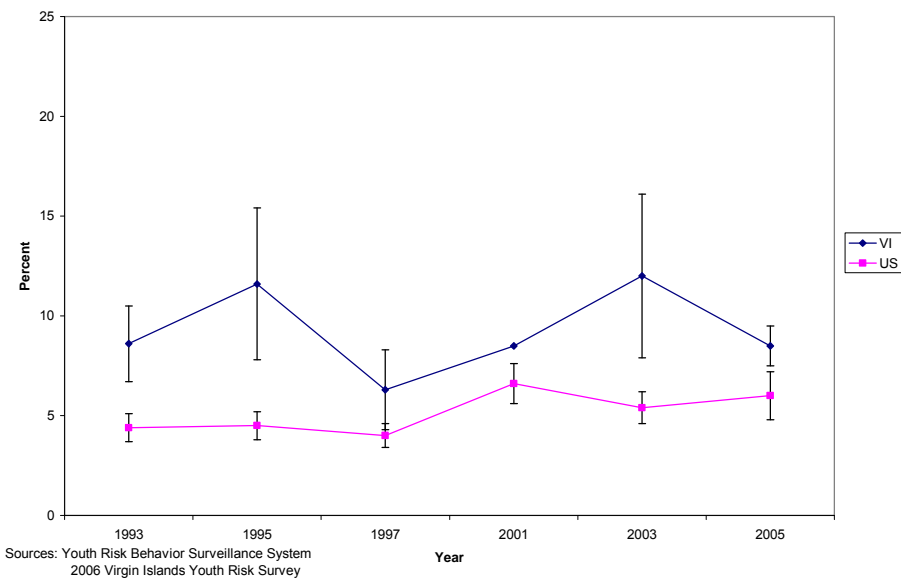


Figure 40. Percentage of Youths in Grades 9-12 Who Were Threatened or Injured on School Property in the Past Year, Virgin Islands and US, 1993-2005

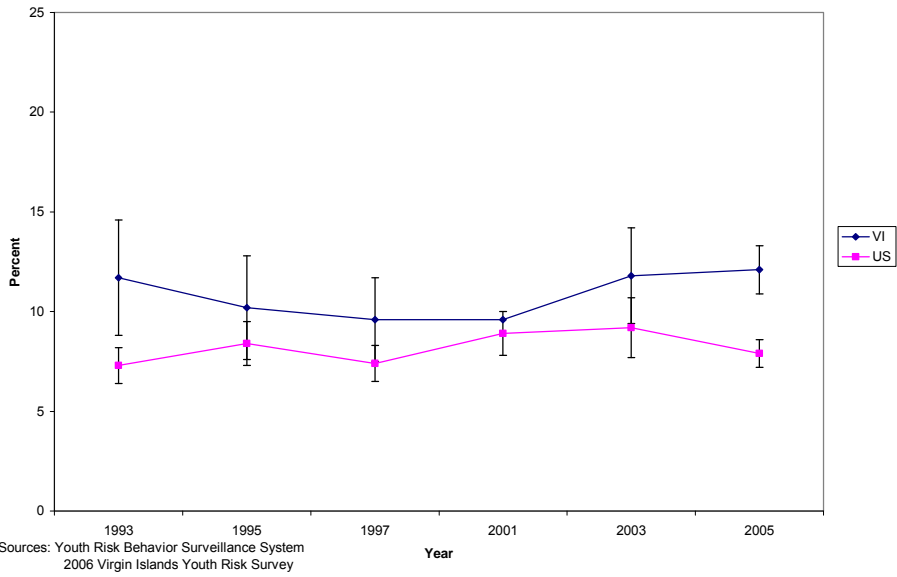


Figure 41. Percentage of Youths in Grades 9-12 Who Were in a Physical Fight on School Property in the Past Year, Virgin Islands and US, 1993-2005

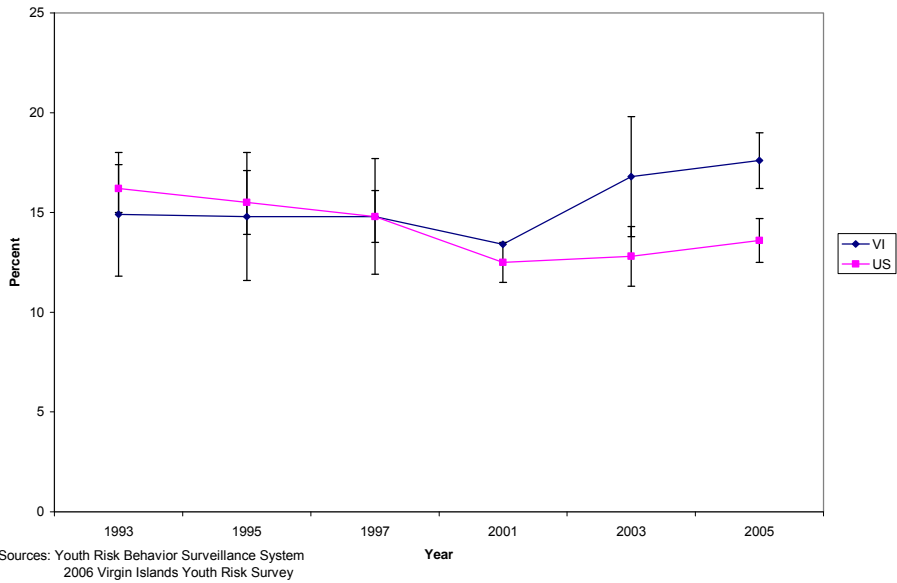
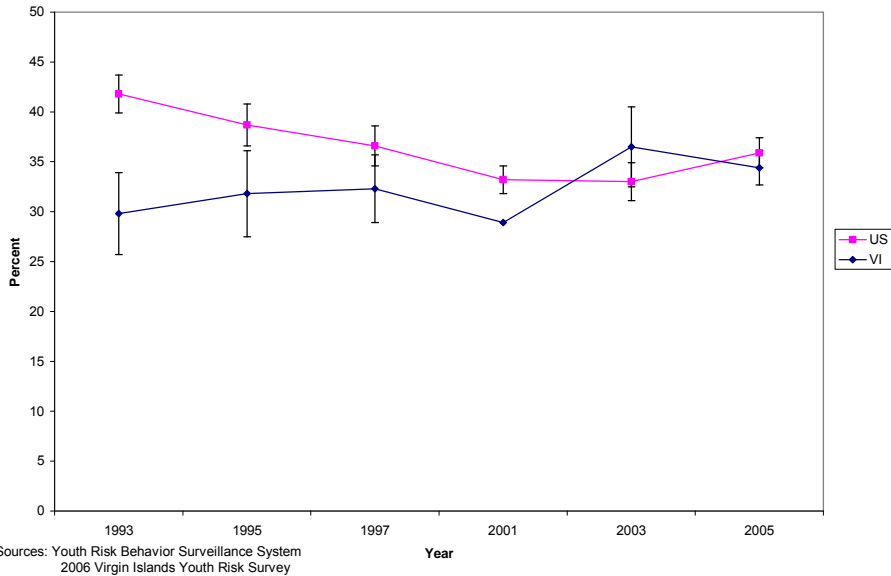


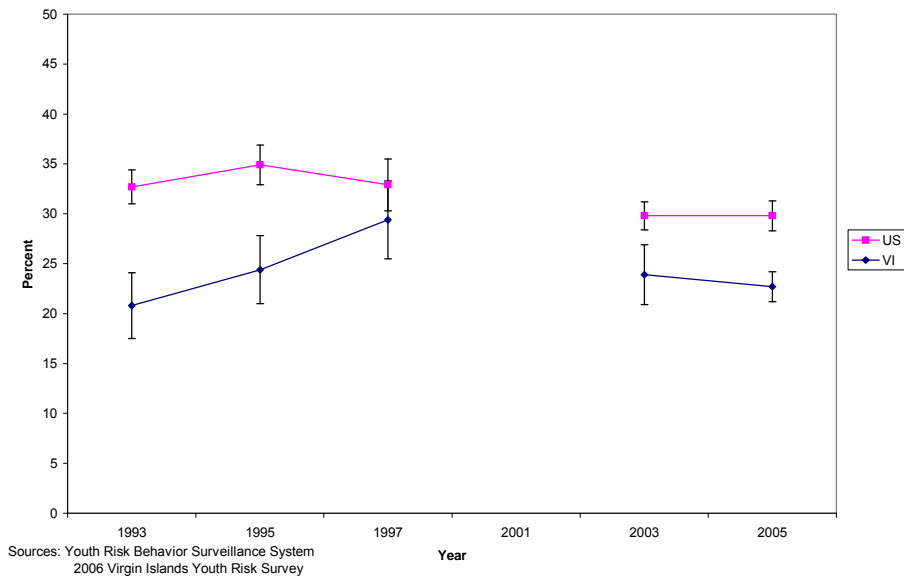
Figure 42. Percentage of Youths in Grades 9-12 Who Were in a Physical Fight in the Past Year, Virgin Islands and US, 1993-2005



Theft

Rates of property theft/damage were consistently lower in Virgin Islands public high schools compared to US public high schools, with 2006 rates standing at 22.7% for Virgin Islands students and 29.8% for US students (Figure 43).

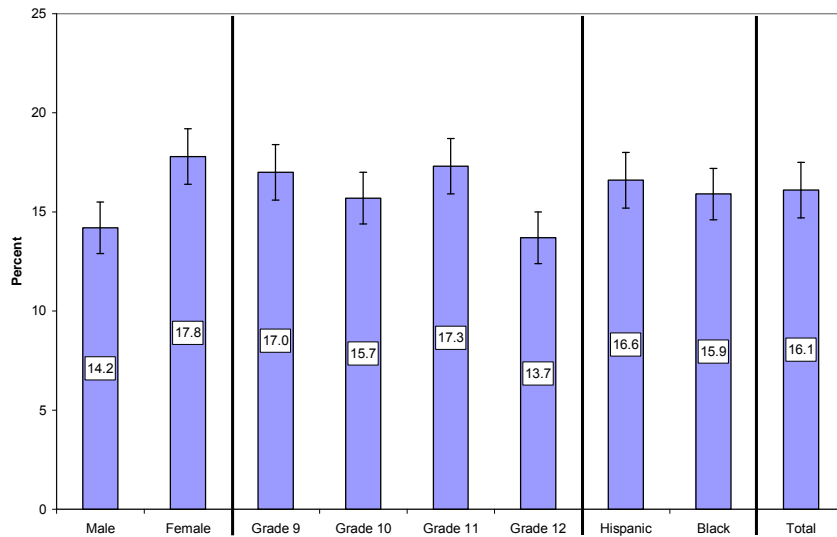
Figure 43. Percentage of Youths in Grades 9-12 Who Had Property Stolen or Damaged on School Property in the Past Year, Virgin Islands and US, 1993-2005



Sexual Violence

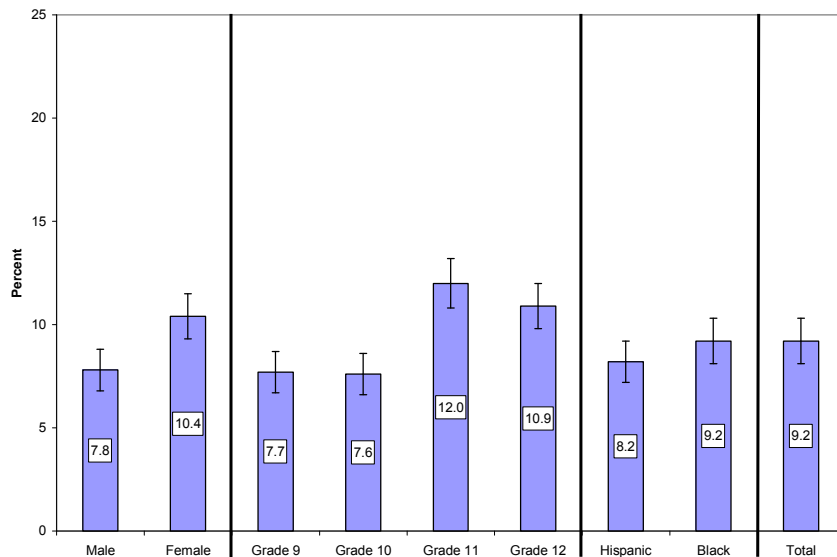
As shown in Figure 44, 16% of public high school students reported that they were touched sexually against their wishes or forced to touch someone else. Females reported higher rates of inappropriate/unwanted sexual touching compared to males (17.8% vs. 14.2%) and 12th graders seemed to report lower rates (13.7%). Figure 45 indicates that 9% of students reported being forced to have sexual intercourse, with higher rates reported by females (10.4%), 11th graders (12.0%), and 12th graders (10.9%).

Figure 44. Percentage of Youths in Grades 9-12 Who Were Ever Touched By or Forced to Touch Someone Else Sexually Against Their Wishes, by Gender, Grade, and Race, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

Figure 45. Percentage of Youths in Grades 9-12 Who Were Ever Forced to Have Sexual Intercourse, by Gender, Grade, and Race, Virgin Islands, 2006

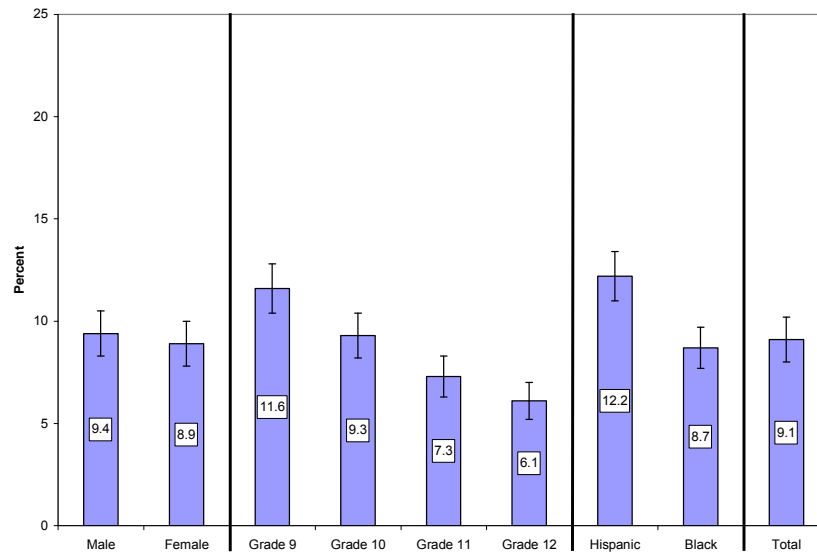


Source: 2006 Virgin Islands Youth Risk Behavior Survey

Bullying

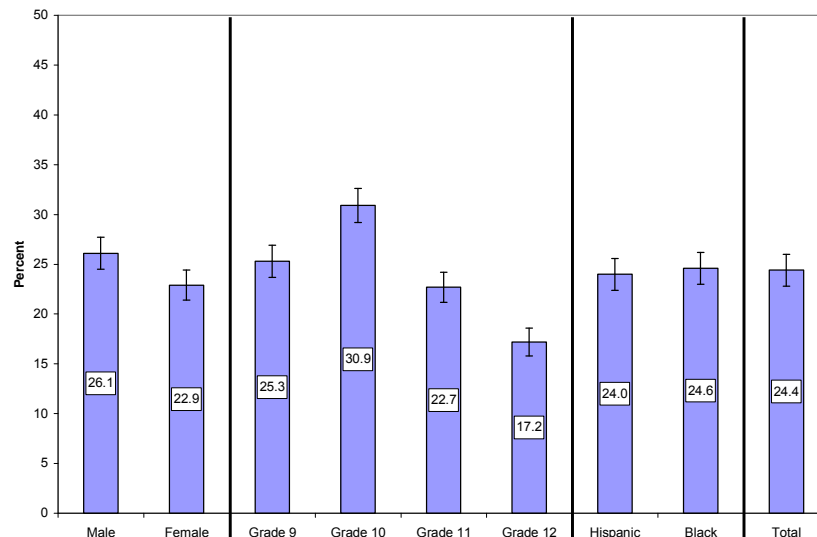
Figure 46 shows that 9.1% of students reported being bullied, with the highest rates among 9th graders (11.6%) and Hispanic students (12.2%).⁴ Figure 47 displays much higher rates of bullying someone else, with 24.4% of students reporting that they bullied. Particularly high rates of bullying were reported by 10th graders (30.9%).

Figure 46. Percentage of Youths in Grades 9-12 Who Were Bullied in the Past 30 Days, by Gender, Grade, and Race, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

Figure 47. Percentage of Youths in Grades 9-12 Who Bullied Someone in the Past 30 Days, by Gender, Grade, and Race, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

⁴ Bullying was defined as saying or doing unpleasant things to another student to make fun of, tease, embarrass, scare, or exclude him/her.

Suicidal Feelings and Attempts

In 2006, 9.1% of Virgin Islands students reported attempting to commit suicide in the last year. Rates have been relatively constant over time and similar for the Virgin Islands and the US (Figure 48). As shown in Figure 49, reported rates were three times higher among females compared to males (13.1% vs. 4.5%), and also higher among 9th graders (10.9%) and Hispanic students (13.9%).

Figure 48. Percentage of Youths in Grades 9-12 Who Attempted Suicide in the Past Year, Virgin Islands and US, 1993-2005

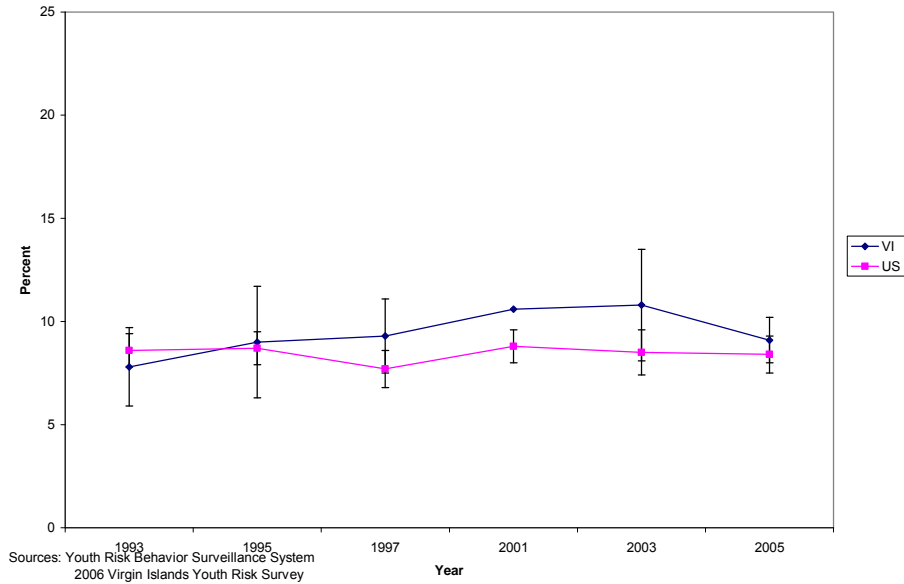
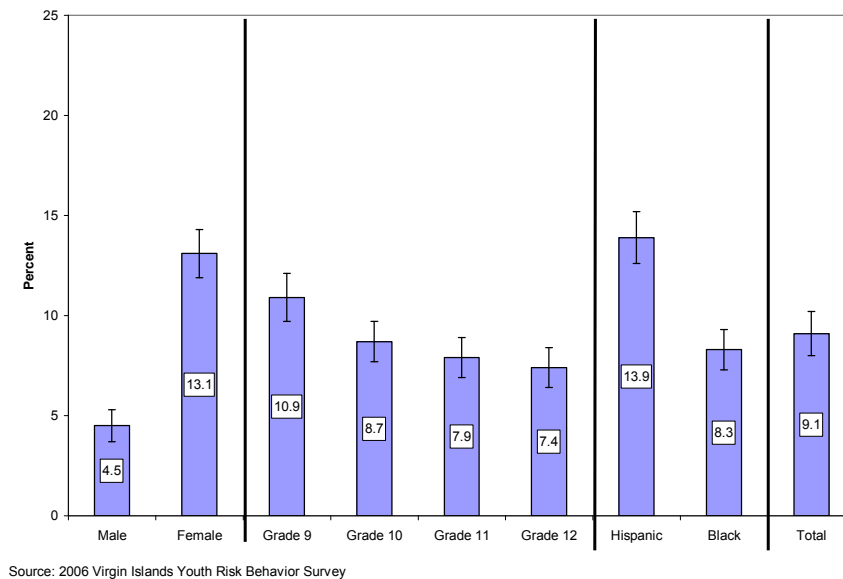
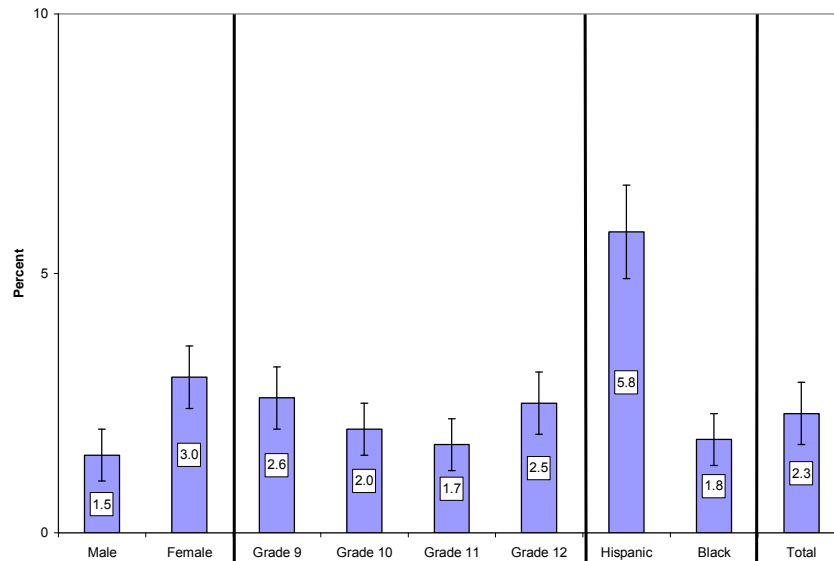


Figure 49. Percentage of Youths in Grades 9-12 Who Attempted Suicide in the Past Year, by Gender, Grade, and Race, Virgin Islands, 2006



As shown in Figure 50, 2.3% of students reported a suicide attempt that resulted in injury. Such attempts were higher among females compared to males (3.0% vs. 1.5%), and were particularly high among Hispanic students (5.8%).

Figure 50. Percentage of Youths in Grades 9-12 Who Attempted Suicide Resulting in Injury in the Past Year, by Gender, Grade, and Race, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

Summary of Violence-Related Behaviors

School safety appears to be a greater concern among Virgin Islands public high school students compared to their US mainland counterparts: Virgin Islands youth were more likely to report not attending school for personal safety reasons, to have been threatened or injured on school property, to have been in a physical fight on school property, and to have carried a weapon on school property, compared to US students. Rates of weapons possession on campus appear to have increased significantly since 2003 among Virgin Islands public high school students, with males, 9th and 10th graders, and Hispanic students in Virgin Islands public high schools particularly at risk. However, rates of property theft/damage at school were higher in US mainland public schools. The data on bullying are consistent with data in the literature indicating that rates of bullying and being bullied are higher among younger adolescents and pre-adolescents. Also, Hispanic students, a racial/ethnic minority, reported higher rates of being bullied.

The rate of suicide attempts was much higher for females compared to males, and rates were higher among 9th graders compared to students in higher grades. Hispanic students appeared also to be at risk for suicide attempts and notably for the more serious attempts resulting in physical injury.

Sexual Behaviors

Figures 51-64 display data about sexual behaviors. As shown in Figure 51, Virgin Islands students have consistently reported having sex before age 13 at a higher rate than US students, although the rate in the Virgin Islands has decreased from 27.3% in 1993 to 17.6% in 2006. Figure 52 indicates that males were much more likely to report early sexual intercourse than females (30.7% vs. 6.2%).

Figure 51. Percentage of Youths in Grades 9-12 Who Had Sex Before Age 13, Virgin Islands and US, 1993-2005

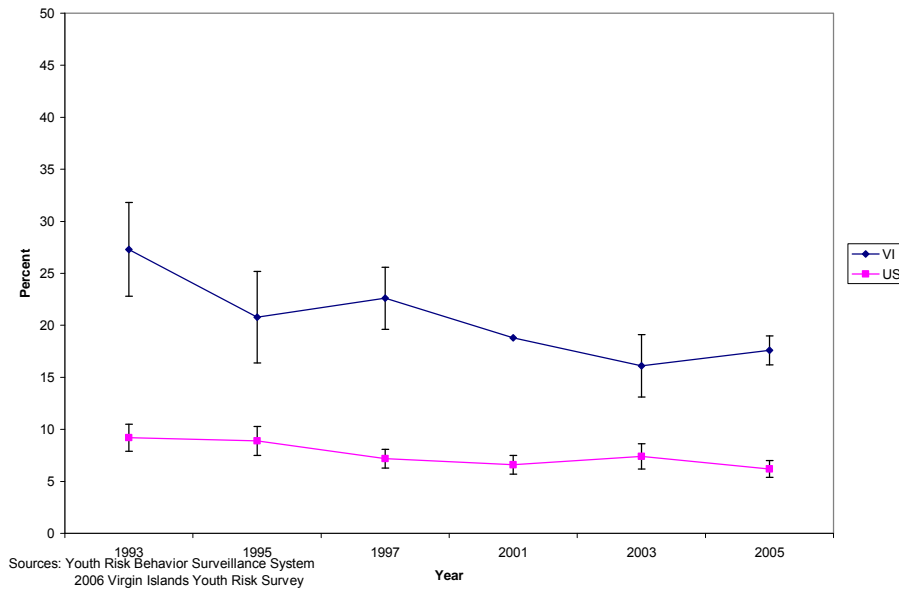
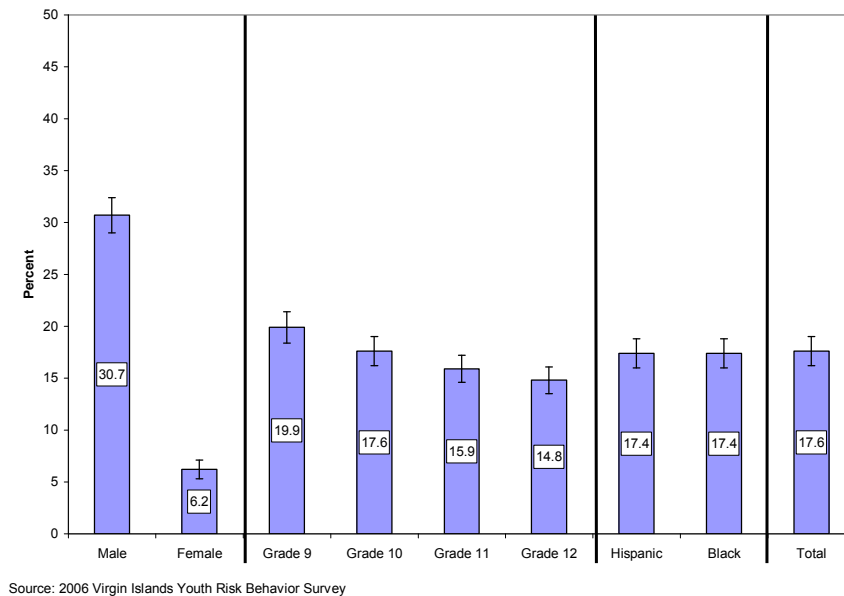


Figure 52. Percentage of Youths in Grades 9-12 Who Had Sex Before Age 13, by Gender, Grade, and Race, Virgin Islands, 2006



Virgin Island students have consistently reported slightly higher rates of ever having sex compared to US rates, with Virgin Islands rates increasing from 48.6% in 2003 to 56.8% in 2006 (Figure 53). Subgroup analysis (Figure 54) revealed particularly high rates among males (68.7%), 11th graders (62.3%) and 12th graders (70.9%).

Figure 53. Percentage of Youths in Grades 9-12 Who Have Ever Had Sex, Virgin Islands and US, 1993-2005

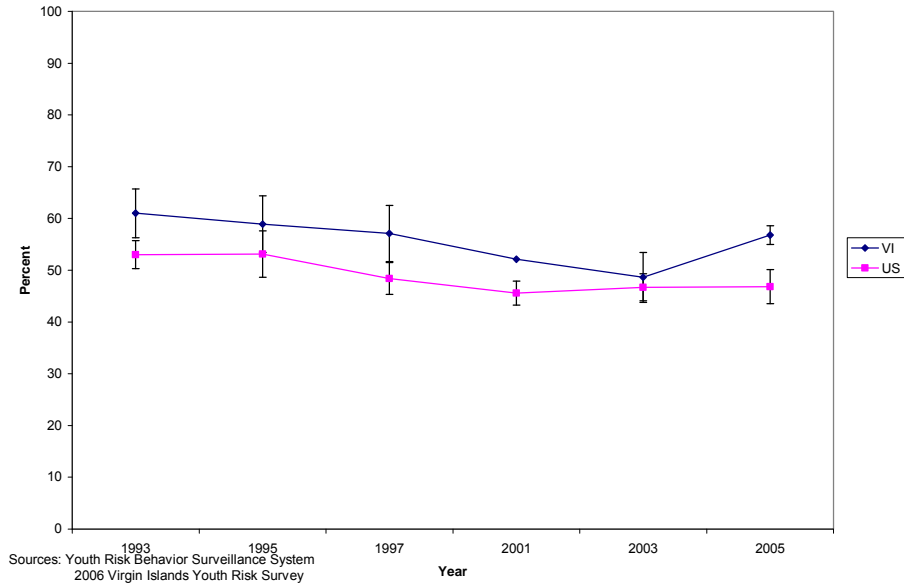
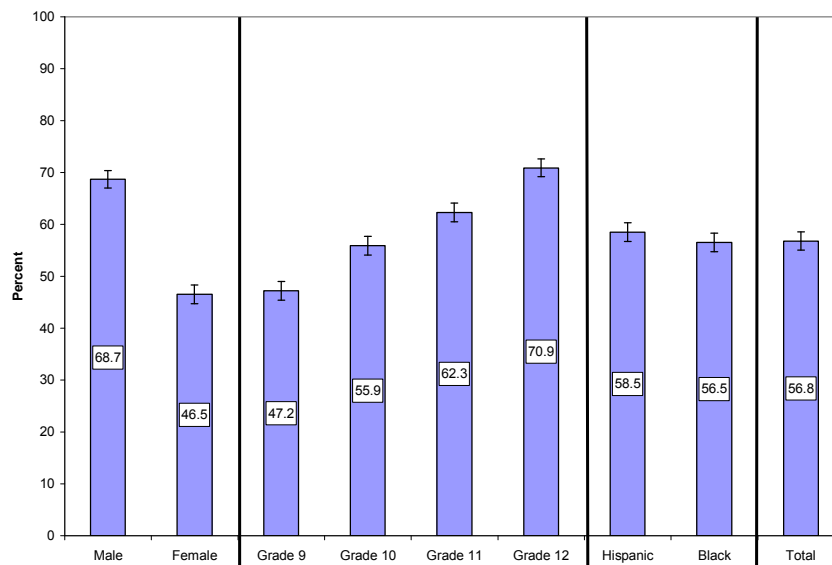


Figure 54. Percentage of Youths in Grades 9-12 Who Have Ever Had Sex, by Gender, Grade, and Race, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

Virgin Islands public high school students were more likely to report having had four or more sexual partners in their lifetime compared to US high school students (Figure 55). Virgin Islands rates appear to have increased from 18.4% in 2003 to 23.7% in 2006. Subgroup analysis showed that males (36.7%), 11th graders (27.0%), and 12 graders (33.2%) were considerably more likely to report four or more sexual partners in their lifetime than other students (Figure 56).

Figure 55. Percentage of Youths in Grades 9-12 Who Have Had Four or More Lifetime Sexual Partners, Virgin Islands and US, 1993-2005

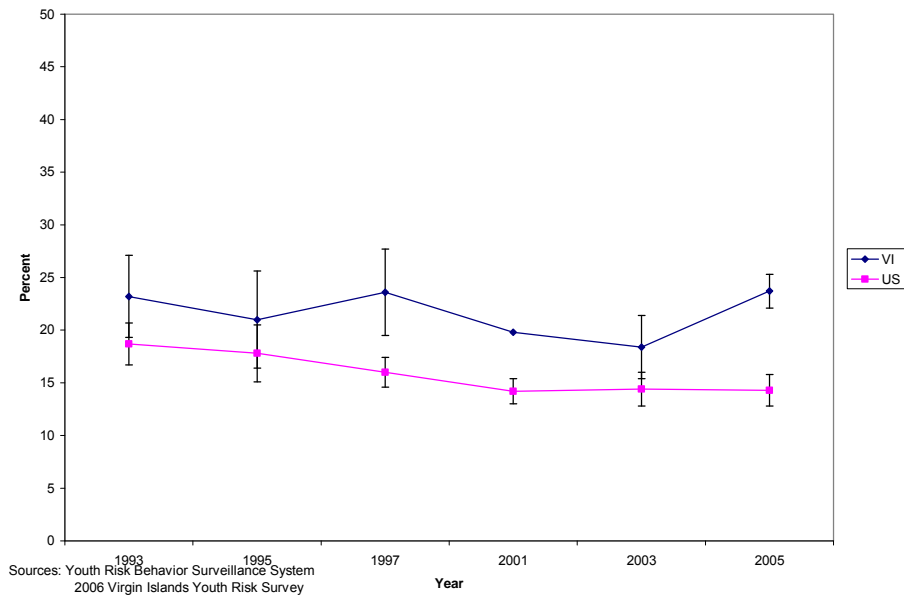
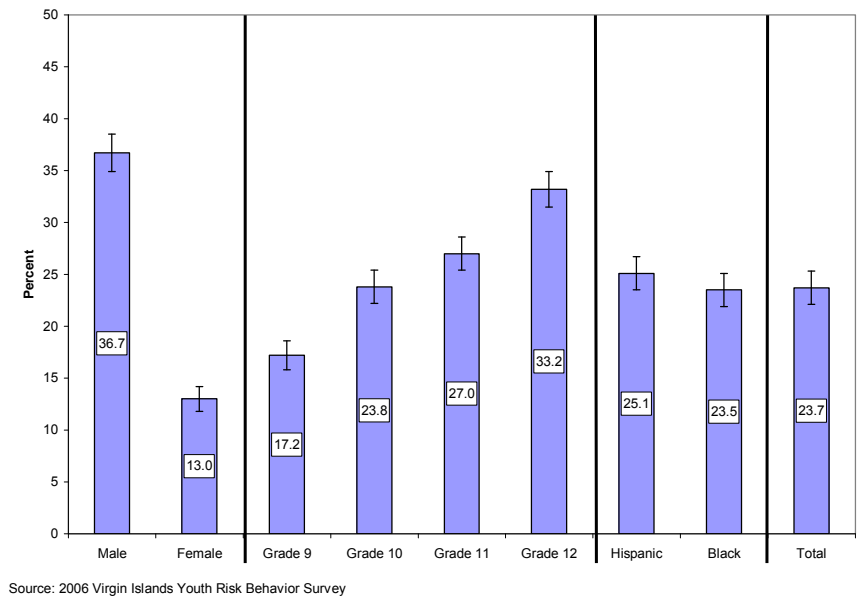


Figure 56. Percentage of Youths in Grades 9-12 Who Have Had Four or More Lifetime Sexual Partners, by Gender, Grade, and Race, Virgin Islands, 2006



Virgin Islands and US public high school students have consistently reported similar rates of having sex during the past three months (Figure 57). Virgin Islands rates, however, appear to have increased from 31.3% in 2003 to 36.9% in 2006, while US rates remained steady. Subgroup analysis showed that males (40.5%), 11th graders (41.7%), 12th graders (53.8%), and Hispanic students (43.0%) reported particularly high rates of recent sexual intercourse (Figure 58).

Figure 57. Percentage of Youths in Grades 9-12 Who Have Had Sex in the Past Three Months, Virgin Islands and US, 1993-2005

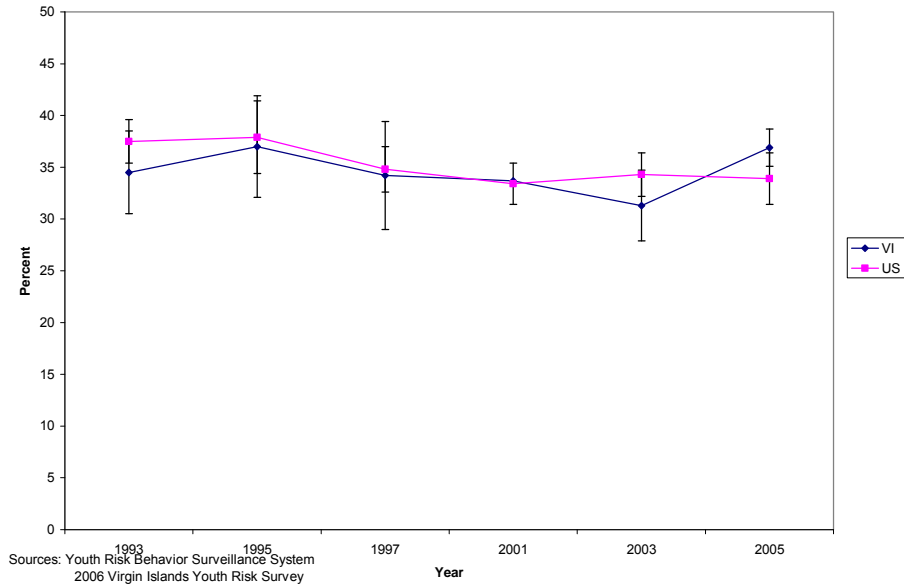
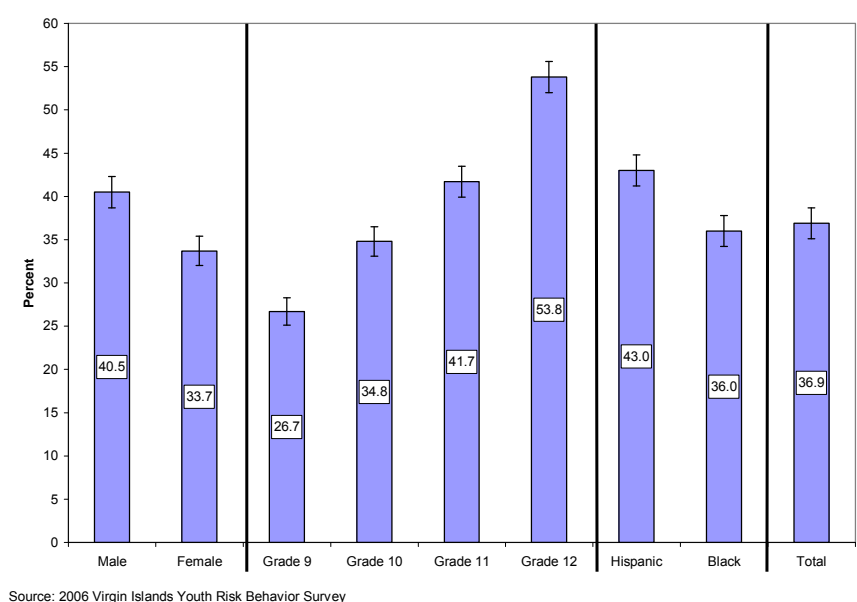


Figure 58. Percentage of Youths in Grades 9-12 Who Have Had Sex in the Past Three Months, by Gender, Grade, and Race, Virgin Islands, 2006



As indicated in Figure 59, US students have consistently reported engaging in the risky behavior of drinking and/or using drugs (including marijuana) before sex more frequently than Virgin Islands students, with the 2006 Virgin Islands rate standing at 9.9%. Subgroup analysis showed that the rate for males was more than twice that for females (13.5% vs. 6.2%), and that rates among 9th and 10th graders (11.9% and 10.5%) were higher than other grades (Figure 60).

Figure 59. Percentage of Youths in Grades 9-12 Who Drank or Used Drugs Before Sex, Virgin Islands and US, 1993-2005

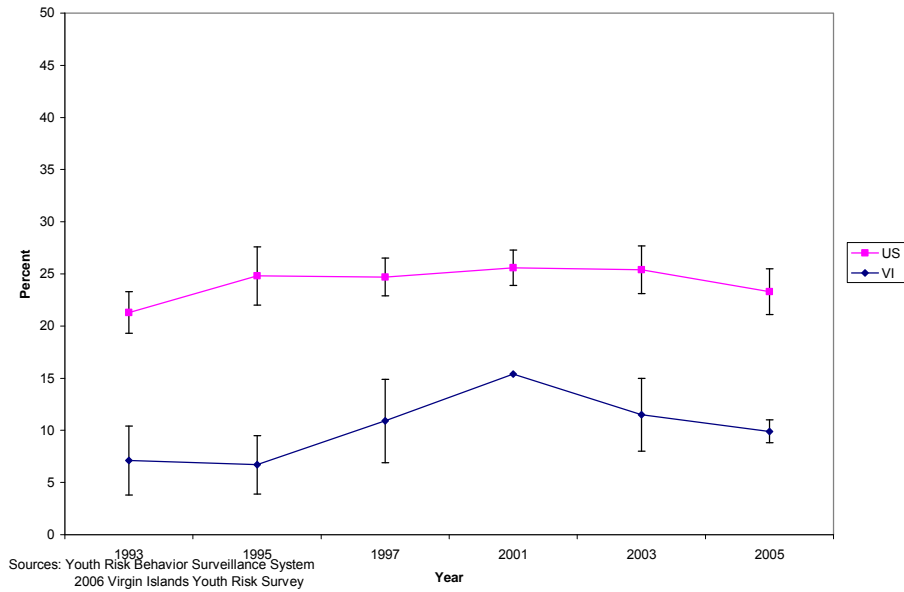
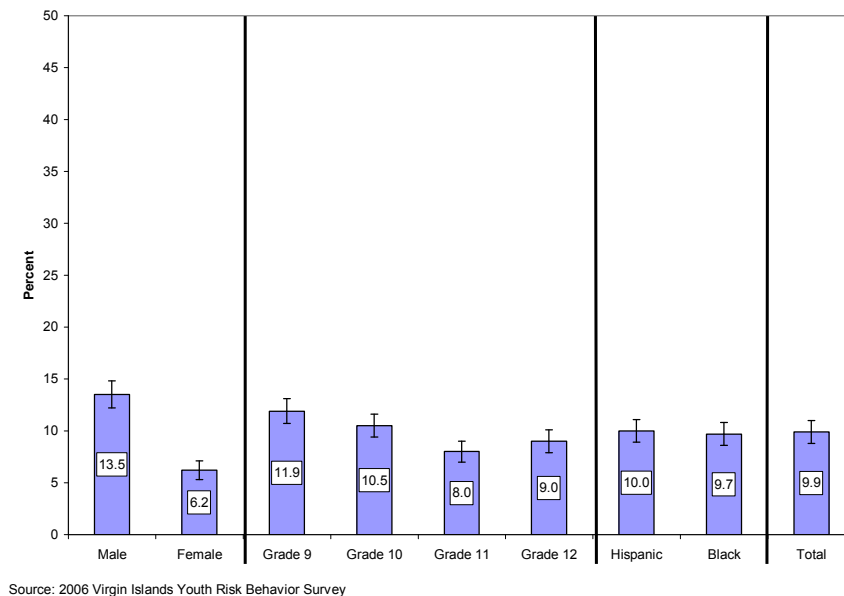


Figure 60. Percentage of Youths in Grades 9-12 Who Drank or Used Drugs Before Sex, by Gender, Grade, and Race, Virgin Islands, 2006



In 2006, Virgin Islands youth reported higher rates of condom use before sex than did US youth (72.2% vs. 62.8%), even though Virgin Islands rates decreased substantially since 2003 (Figure 61). Subgroup analysis showed that males (78.7%), 9th graders (78.5%), and Black students (72.9%) reported higher rates of condom use than other students (Figure 62). The decline in condom use among older students is particularly noteworthy.

Figure 61. Percentage of Youths in Grades 9-12 Who Used a Condom Before Sex, Virgin Islands and US, 1993-2005

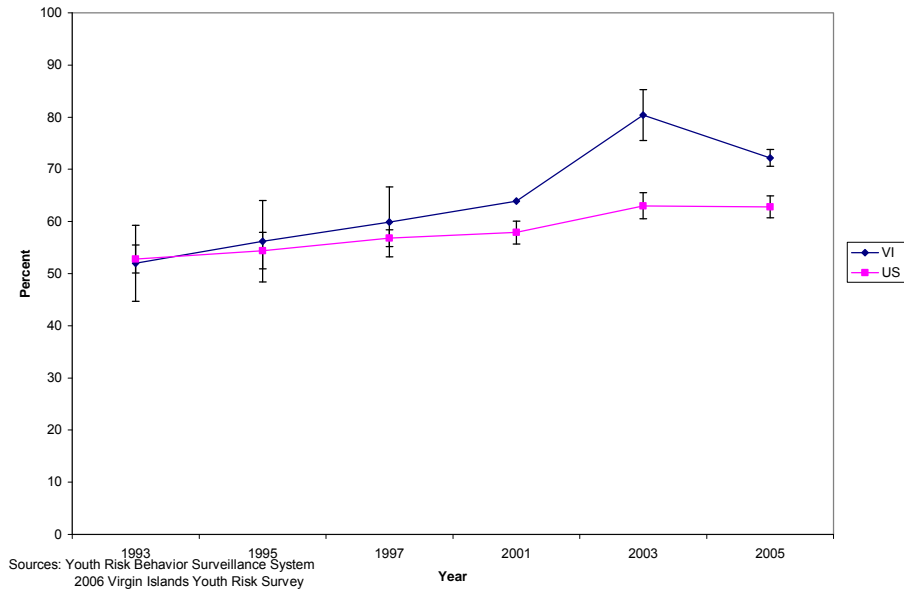
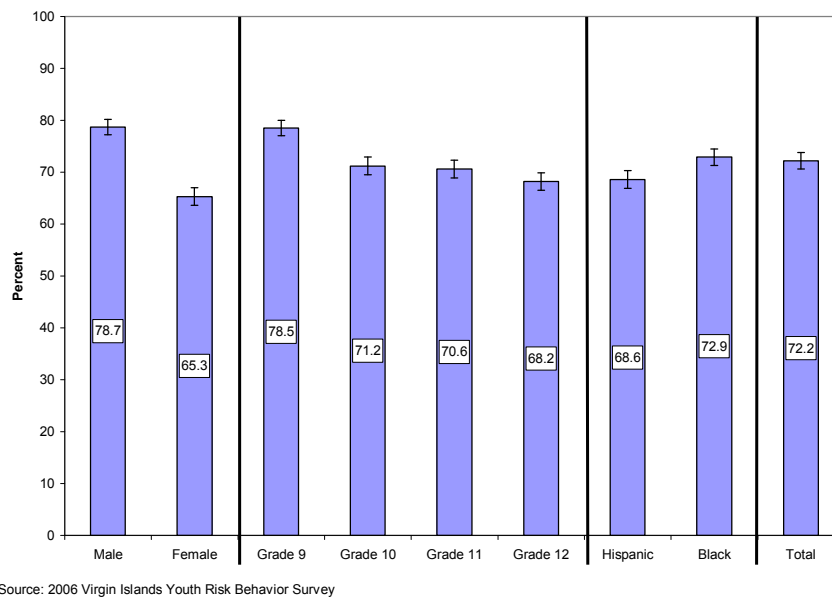


Figure 62. Percentage of Youths in Grades 9-12 Who Used a Condom Before Sex, by Gender, Grade, and Race, Virgin Islands, 2006



As indicated in Figure 63, self-reported birth control pill use rates among public high school students have been consistently almost six times higher in the US compared to the Virgin Islands, with rates of use in the Virgin Islands never topping 5%. Overlapping confidence bands in subgroup analyses prevented us from making any definitive statements about differences between subgroups, except that there was an apparent increase in use by grade level (Figure 64).

Figure 63. Percentage of Youths in Grades 9-12 Who Used Birth Control Pills to Prevent Pregnancy, Virgin Islands and US, 1993-2005

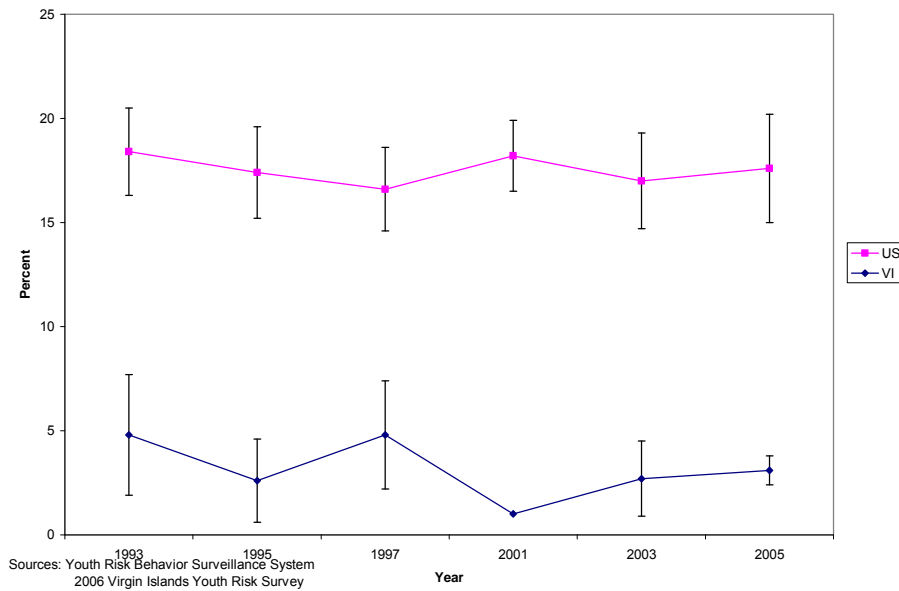
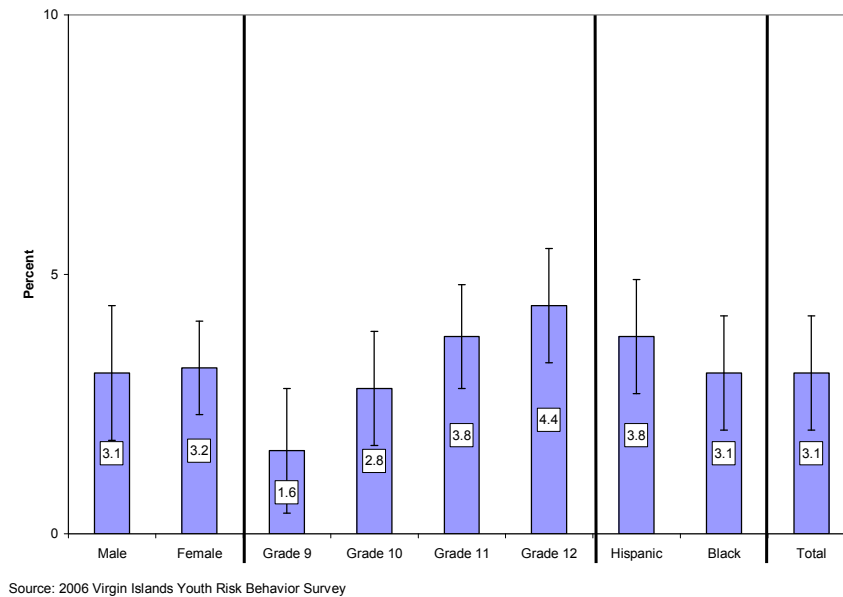


Figure 64. Percentage of Youths in Grades 9-12 Who Used Birth Control Pills to Prevent Pregnancy, by Gender, Grade, and Race, Virgin Islands, 2006



Summary of Sexual Behaviors

Rates of several sexual behaviors assessed by the VI YRBS were less favorable for Virgin Islands public high school students compared to US students: Virgin Islands students were more likely to have had sex (rates increased significantly from 2003), three times more likely to have had sex before age 13, more likely to have had four or more partners (rates increasing from 2003), and much less likely to have used birth control pills before last intercourse. On the positive side, Virgin Islands high school students were less likely to engage in some risky sexual behaviors. For instance, Virgin Islands youth were less likely to drink and use drugs before sex and were more likely to use a condom before intercourse, compared to US mainland public high school students.

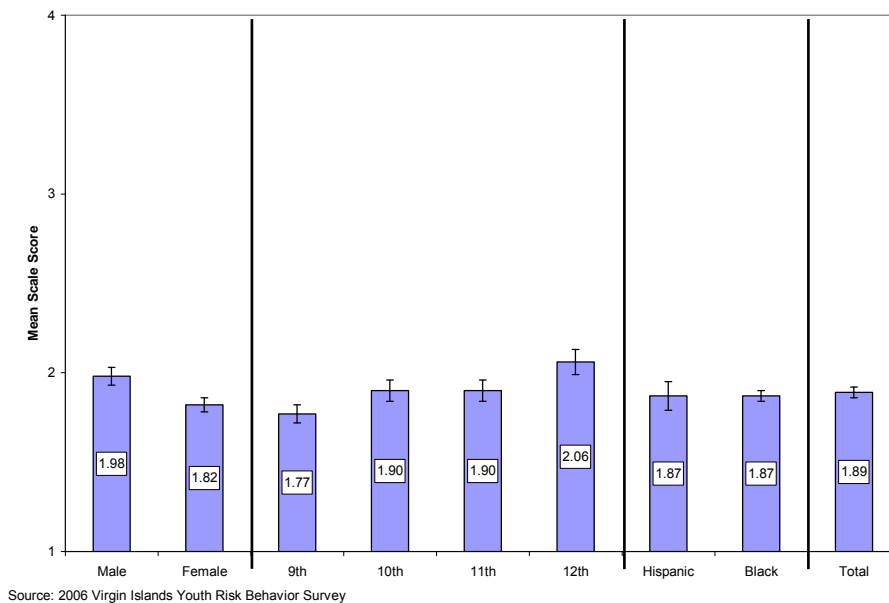
Factors Related to Substance Use

In this section, we provide data on factors that are related to substance use. Some of these factors appear to increase the risk of substance abuse (e.g., favorable attitudes towards substance use), some appear to provide protection against substance abuse (e.g., school bonding), and others simply increase our understanding of how adolescents navigate a world in which they may be exposed to substances (e.g., whom they would turn to discuss substance abuse and related problems).

Student Attitudes Favorable Towards Drug Use

We asked students how wrong they thought it was for someone their age to smoke cigarettes, drink alcohol, or smoke marijuana. Students responded on a scale from 1 (very wrong) to 4 (not wrong at all). On average, students had negative attitudes towards substance use (mean score of 1.89), indicating that they thought substance use was “wrong” (Figure 65). Subgroup differences were minimal, with males and 12th graders slightly less likely to indicate that drug use was wrong.

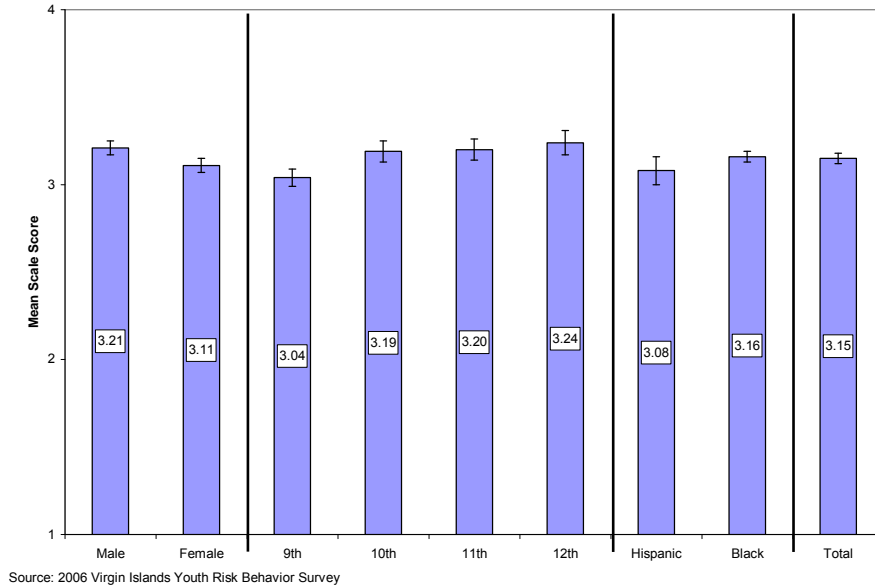
Figure 65. Mean Attitudes Favorable Towards Drug Use, By Gender, Grade, and Race, Virgin Islands, 2006



Community Norms Favorable to Drug Use

Students rated community norms associated with substance use (e.g., “If a kid smoked marijuana in your neighborhood, would he or she be caught by the police?”). Students reported community norms that were favorable to drug use (mean score = 3.15 on a scale of 1 to 4; Figure 66).

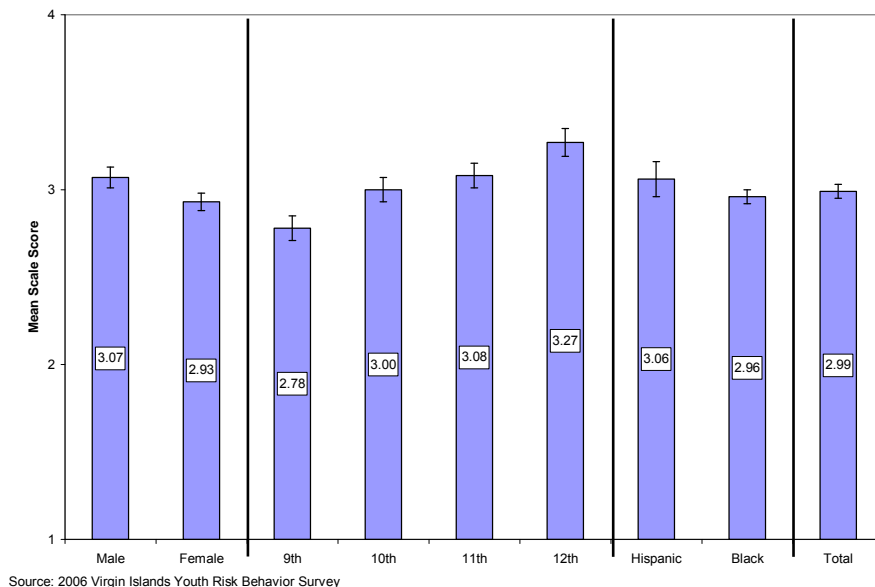
Figure 66. Mean Community Norms Favorable to Drug Use Scale Score, By Gender, Grade, and Race, Virgin Islands, 2006



Perceived Availability of Drugs

Students reported that drugs were readily available in their communities (mean score = 2.99 on a 1 to 4 scale; Figure 67). Males and 12th graders were more likely to report this availability.

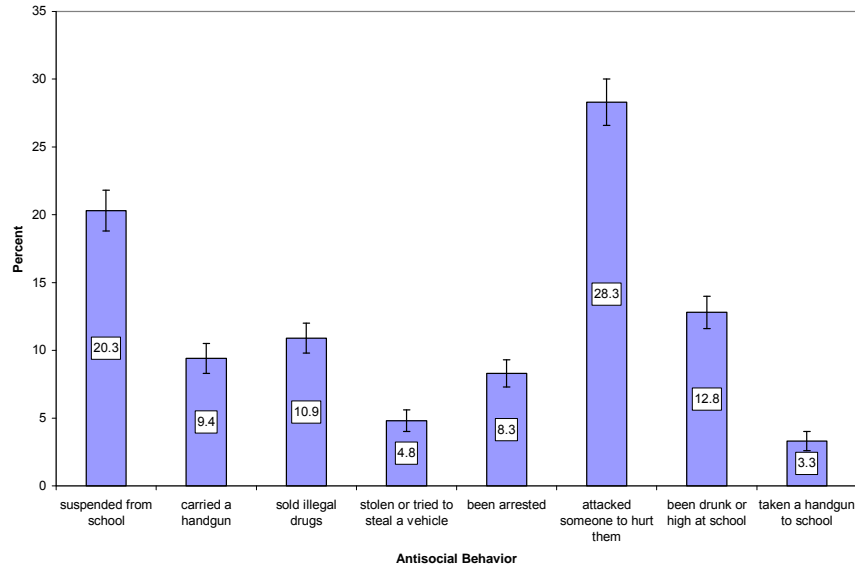
Figure 67. Mean Perceived Availability of Drugs Scale Score, By Gender, Grade, and Race, Virgin Islands, 2006



Student Antisocial Behaviors

As shown in Figure 68, a relatively high percent of students reported engaging in an antisocial behavior at least once during the past year: 28% attacked someone, 20% were suspended from school, 13% were drunk or high at school, 11% sold illegal drugs, and 9% carried a handgun.

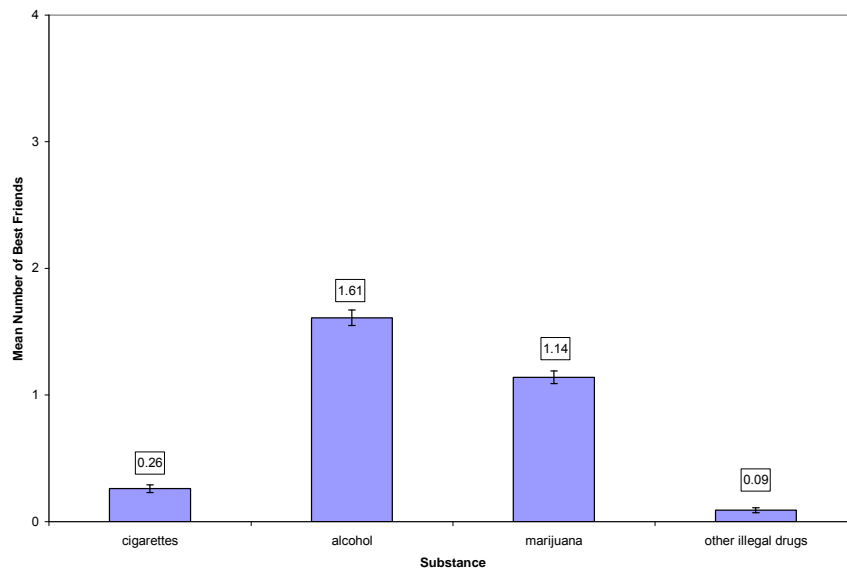
Figure 68. Percentage of Students Reporting that they Engaged in Various Antisocial Behaviors in the Past Year, Virgin Islands, 2006



Peer Substance Use

On average, students reported that 1.6 of their best friends used alcohol and 1.1 used marijuana in the past year (Figure 69). Differences among subgroups were minimal.

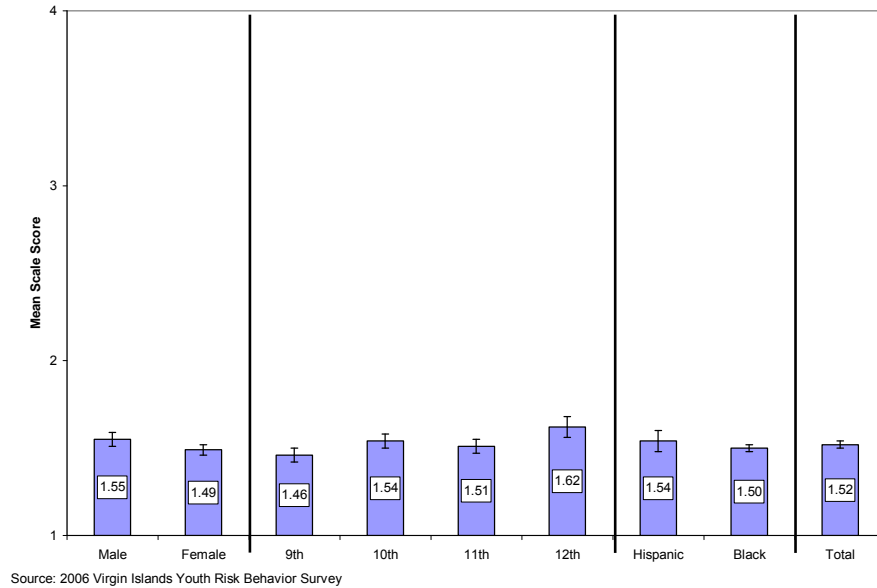
Figure 69. Mean Number of Best Friends Using Various Substances in the Past Year, Virgin Islands, 2006



Parental Attitudes Favorable to Drug Use

Virgin Islands public high school students indicated low levels of parental tolerance/acceptance of drug use (mean scale score = 1.52, Figure 70). Subgroup differences were minimal.

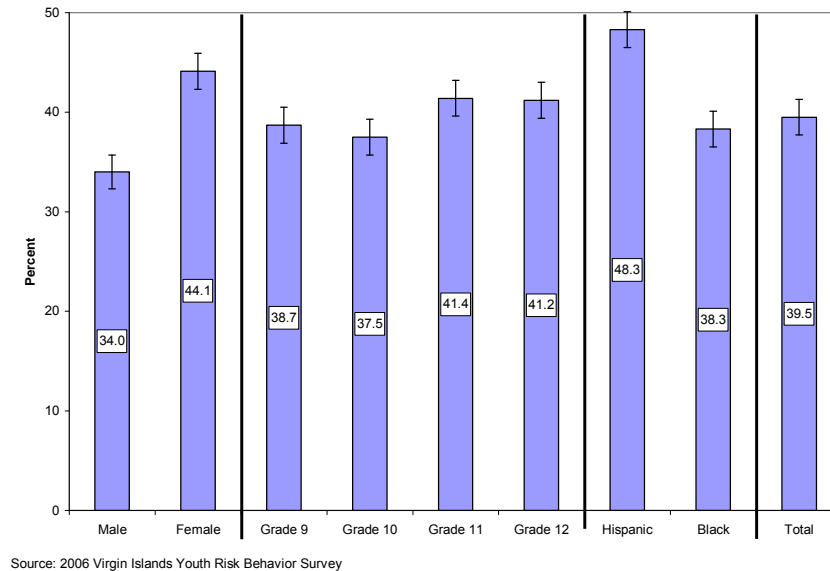
Figure 70. Mean Parental Attitudes Favorable to Drug Use Scale Score, By Gender, Grade, and Race, Virgin Islands, 2006



Family History of Substance Abuse

A high percent of students reported severe family alcohol or drug problems (39.5%), with females, Hispanic students, and 11th and 12th graders reporting higher rates of severe alcohol or drug problems in the home (Figure 71).

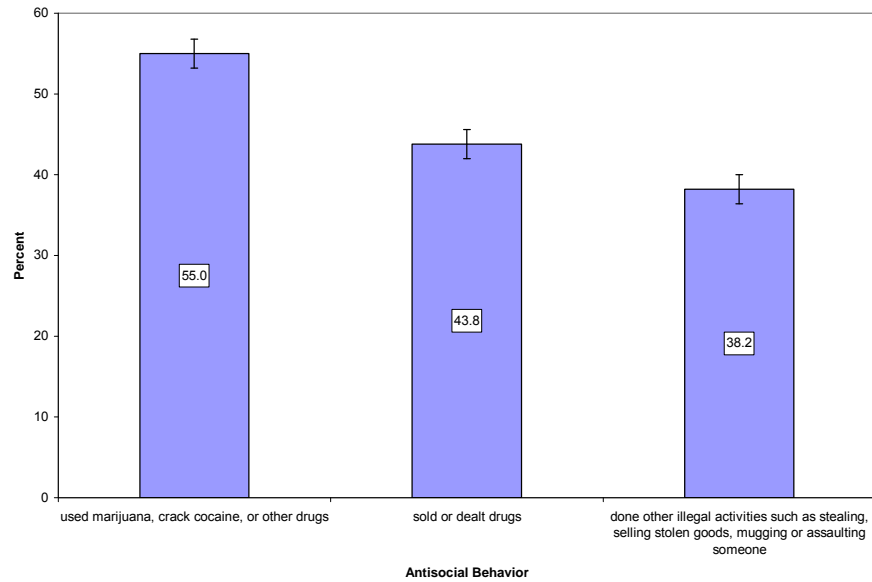
Figure 71. Youths in Grades 9-12 Reporting a Family Member with a Severe Alcohol or Drug Problem, Virgin Islands, 2006



Other Adults and Drug Use/Antisocial Behavior

A high percent of students reported knowing an adult who had engaged in antisocial behaviors (Figure 72).

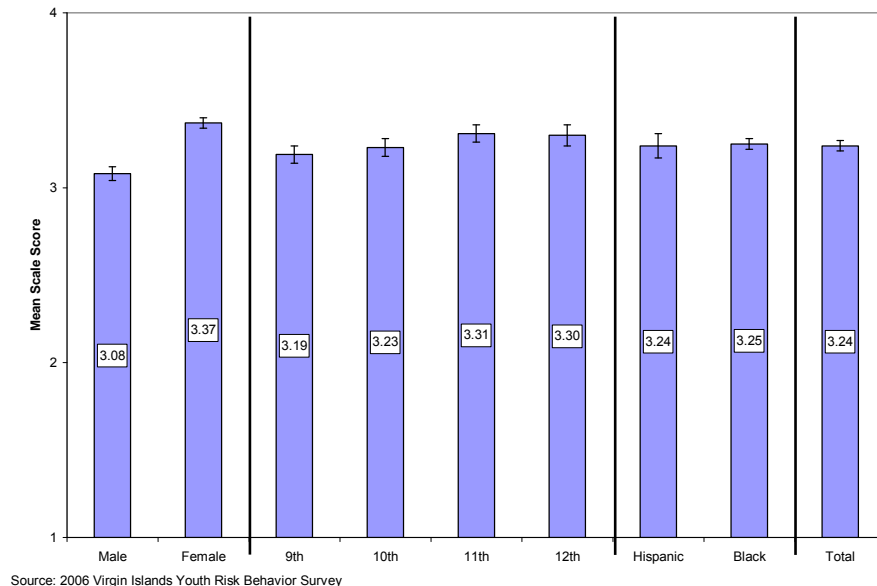
Figure 72. Percentage of Students Reporting Knowing Personally in the Past Year Adults (over age 21) Who Have Engaged in Various Antisocial Behaviors, Virgin Islands, 2006



Perceived Risk of Drug Use

Students perceived that the risk of harm from using substances was relatively high (overall mean = 3.24, Figure 73), with females scoring slightly higher than males. Other subgroup differences were minimal.

Figure 73. Mean Perceived Risk of Drug Use Scale Score, By Gender, Grade, and Race, Virgin Islands, 2006

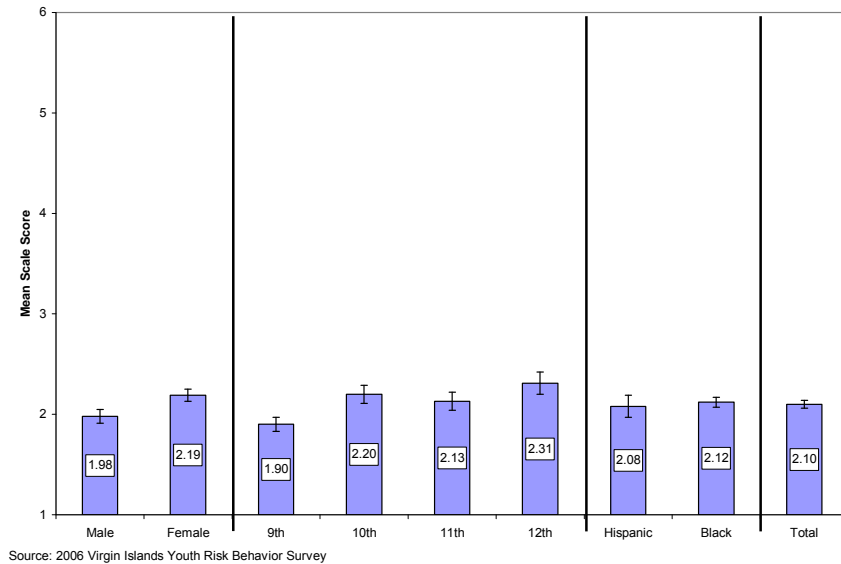


Source: 2006 Virgin Islands Youth Risk Behavior Survey

Prosocial Involvement

Students reported limited prosocial involvement (e.g., time spent with a club or a social organization), with an overall mean scale score of 2.10 on a 4-point scale (Figure 74). Males, 9th graders, and Hispanic students were less likely to be positively involved in their communities.

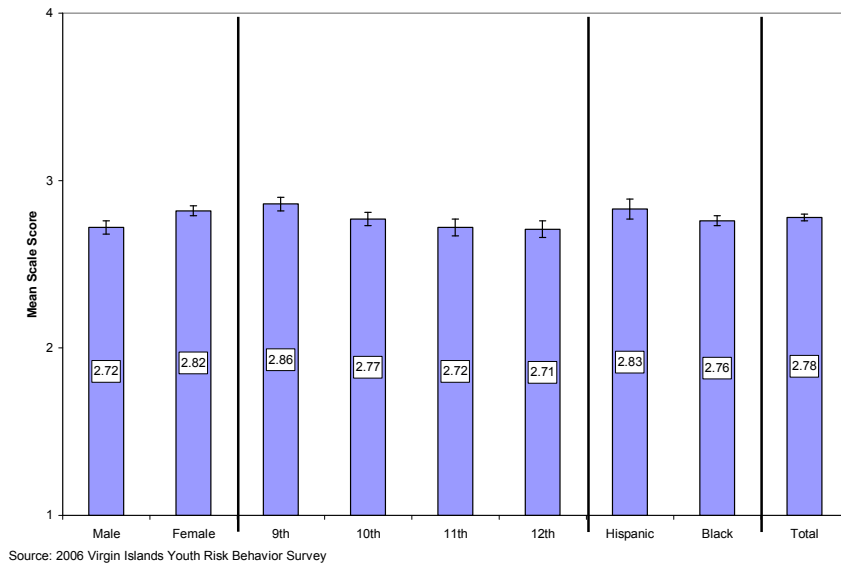
Figure 74. Mean Prosocial Involvement Scale Score, By Gender, Grade, and Race, Virgin Islands, 2006



Effective Family Management

Students reported a moderate level of effective family management (i.e., clear family rules and monitoring). The overall mean was 2.78 (out of 4) and subgroup differences were minimal (Figure 75).

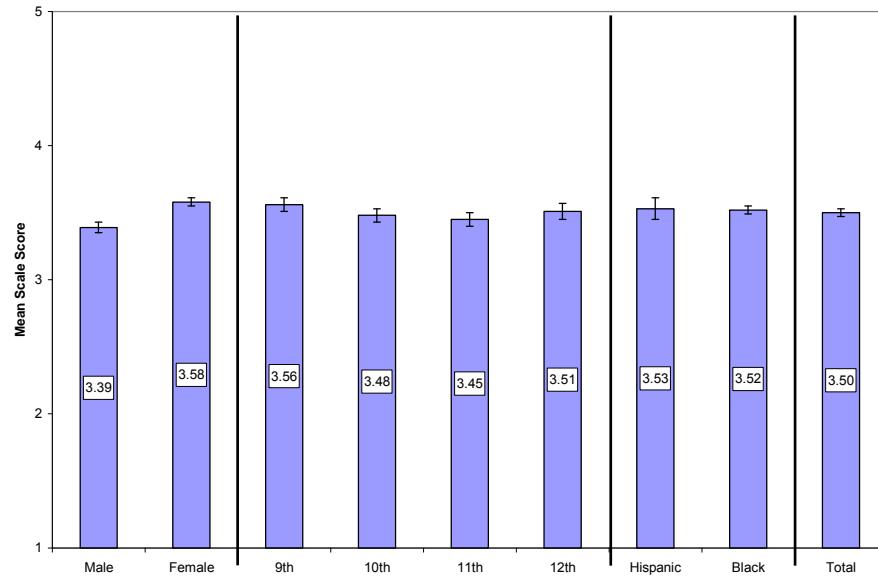
Figure 75. Mean Family Management Scale Score, By Gender, Grade, and Race, Virgin Islands, 2006



School Bonding

As shown in Figure 76, Virgin Islands students reported a moderate level of school bonding (overall mean = 3.50 out of 5). Subgroup differences were minimal.

Figure 76. Mean School Bonding Scale Score, By Gender, Grade, and Race, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

Truancy

Nearly 40% of public high school students reported skipping school one or more days during the four weeks prior to the survey, half of whom reported skipping for only one or two days (Figure 77). However, over 5% reported skipping school for 6 or more days. Of the 40% reporting cutting class for one or more days, males, 10th and 12th graders, and Hispanic students were more likely to cut class, compared to other demographic subgroups (Figure 78).

Figure 77. Number of Days Cut Class During the Past Year, Youths in Grades 9-12, Virgin Islands, 2006

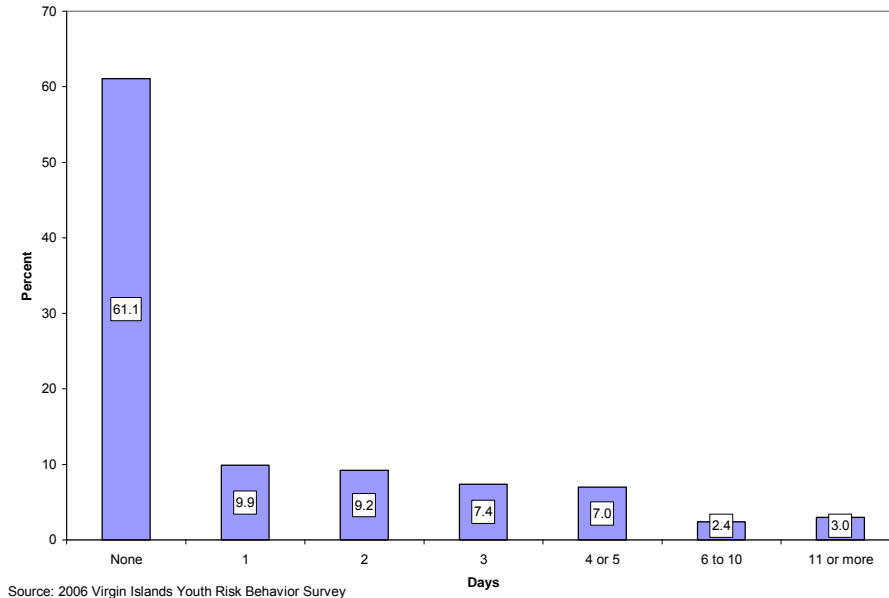
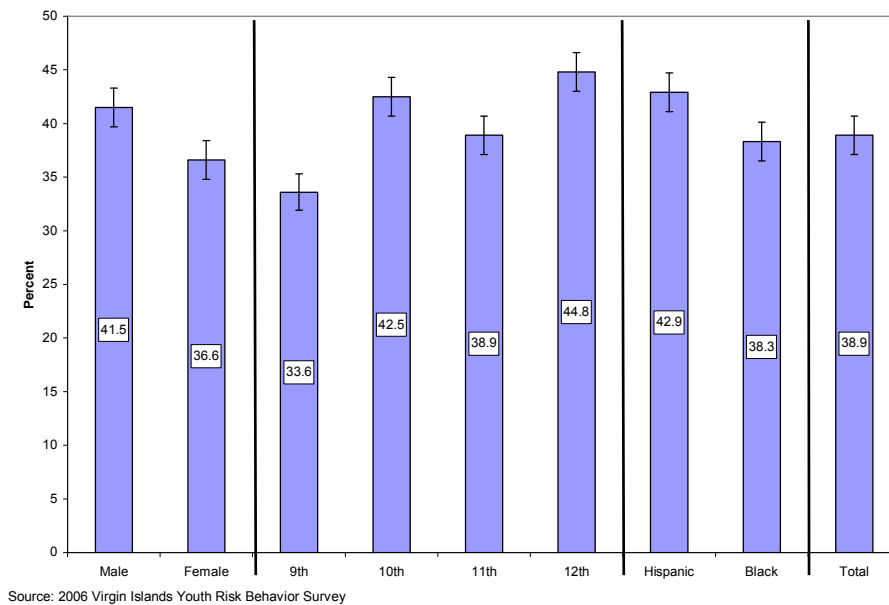


Figure 78. Percentage of Students in Grades 9-12 Who Cut Class for One or More Days During the Past Year, By Gender, Grade, and Race/Ethnicity, Virgin Islands, 2006



Grades in School

Students reported getting mostly B's and C's in school, on average, during the past year (Figure 79). Only 2.5% reported receiving "mostly D's" and "mostly F's," though even more (5.4%) were unsure. Females, 12th graders, and Black students were more likely to report receiving mostly A's and B's in the past year (Figure 80). Because 12th graders were much more likely (78.0%) to report receiving high grades and because there was an increase across grade levels, there may have been a cohort effect whereby the more successful students remained in school.

Figure 79. Grades in School During the Past Year, Youths in Grades 9-12, Virgin Islands, 2006

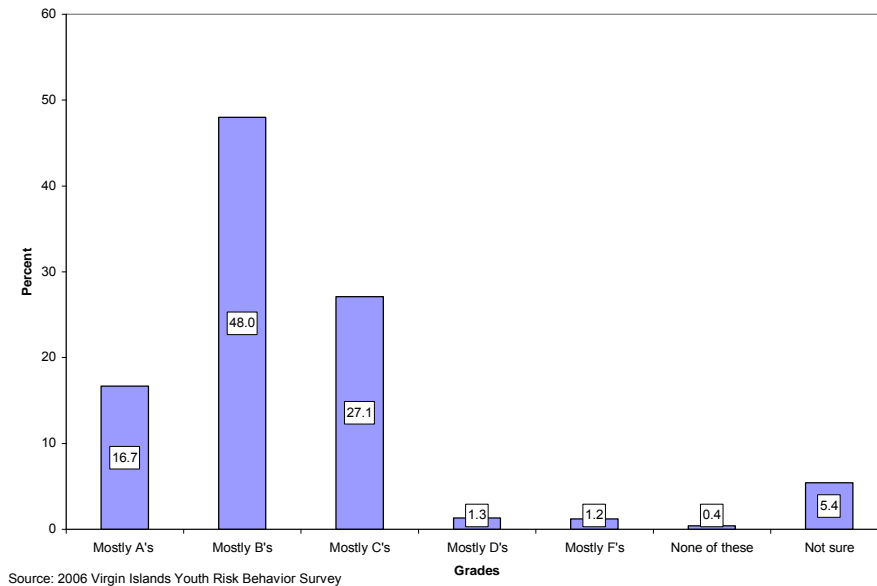
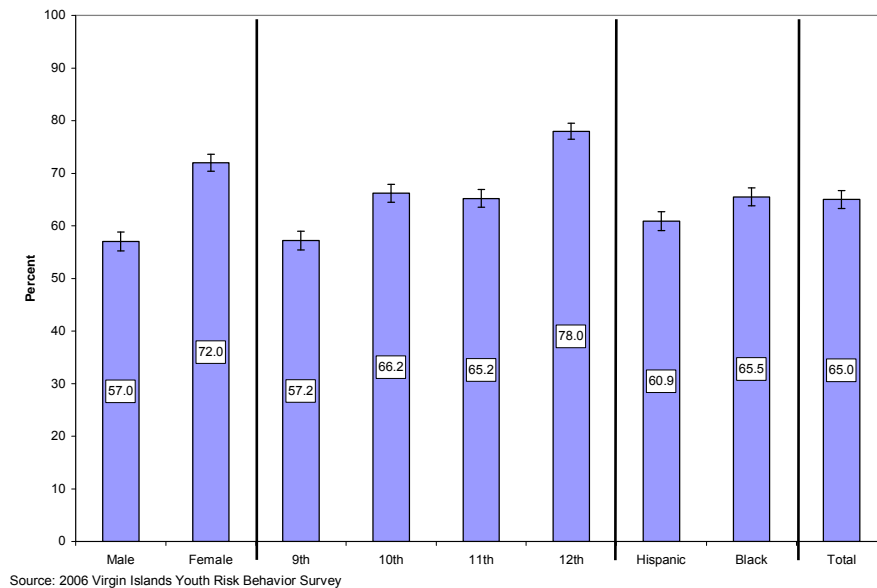


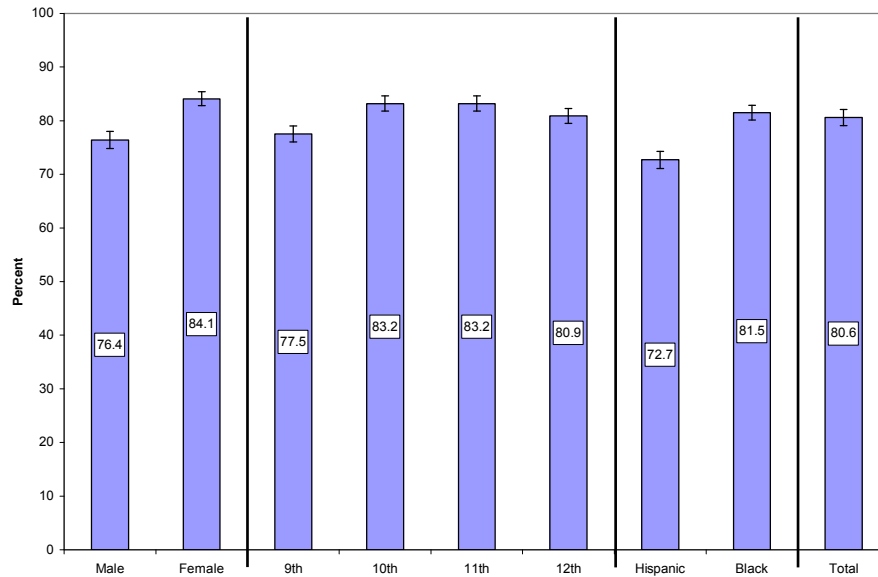
Figure 80. Percentage of Youths in Grades 9-12 Receiving mostly A's and B's in School During the Past Year, By Gender, Grade, and Race/Ethnicity, Virgin Islands, 2006



Religiosity

Approximately 81% students reported attending religious services or activities, with females and Black students being more likely to attend services than others in the subgroups (Figure 81).

Figure 81. Percentage of Youth in Grades 9-12 Reporting Attending Religious Services or Activities, By Gender, Grade, and Race, Virgin Islands, 2006

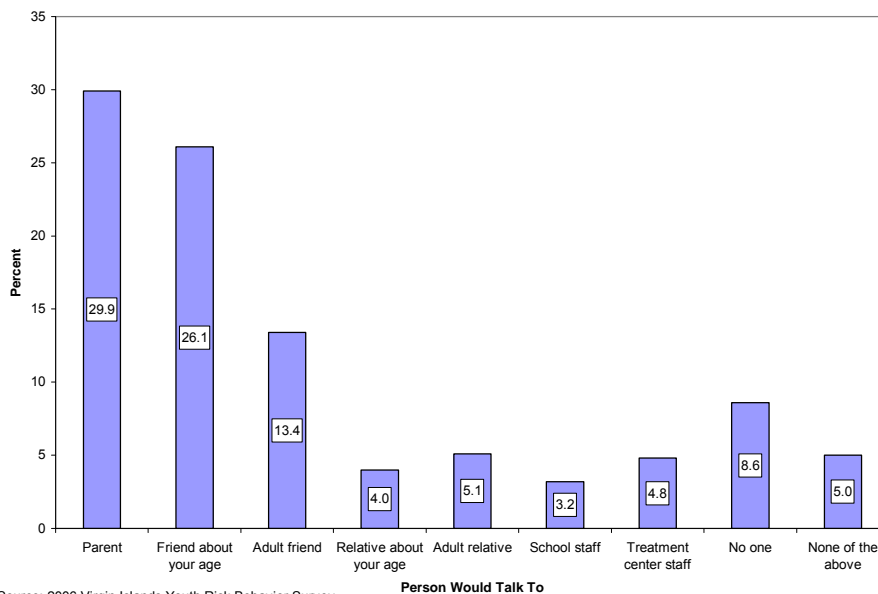


Source: 2006 Virgin Islands Youth Risk Behavior Survey

Attachments with Others

Students were most likely to talk to a parent (30%), friend their own age (26%), or an adult friend (13%) about a substance use problem they might have (Figure 82).

Figure 82. Most Likely Person to Talk to About a Substance Use Problem, Youths in Grades 9-12, Virgin Islands, 2006



Source: 2006 Virgin Islands Youth Risk Behavior Survey

Finally, the majority of students (56%) reported they had spoken to parents or an adult in the family about AIDS or HIV, 85% reported having an adult in their life to turn to for advice, and 63% reported that their parents ask them at least weekly about how they are doing in school.

Summary of Factors Related to Substance Use

In examining data on factors related to substance use, we found many positive findings among Virgin Islands public high school students. Students generally reported that they feel substance use is wrong and that there is a high degree of risk in using substances. They also reported that their parents generally feel that substance use is wrong. Students reported effective family management, positive school bonding, attachment to other adults and friends, and a high degree of attendance at religious services. All of these factors can help create an environment of low risk of, and high protection against, substance abuse. On the negative side students reported community norms favorable to substance use, perceptions that it is easy to obtain substances, antisocial behaviors, family histories of substance abuse, knowledge of other adults who use substances and have engaged in antisocial behaviors, truancy, and low levels of participation in prosocial behaviors. Subgroup analyses revealed that Hispanic students are particularly likely to report higher levels of risk factors and lower levels of protective factors than other students.

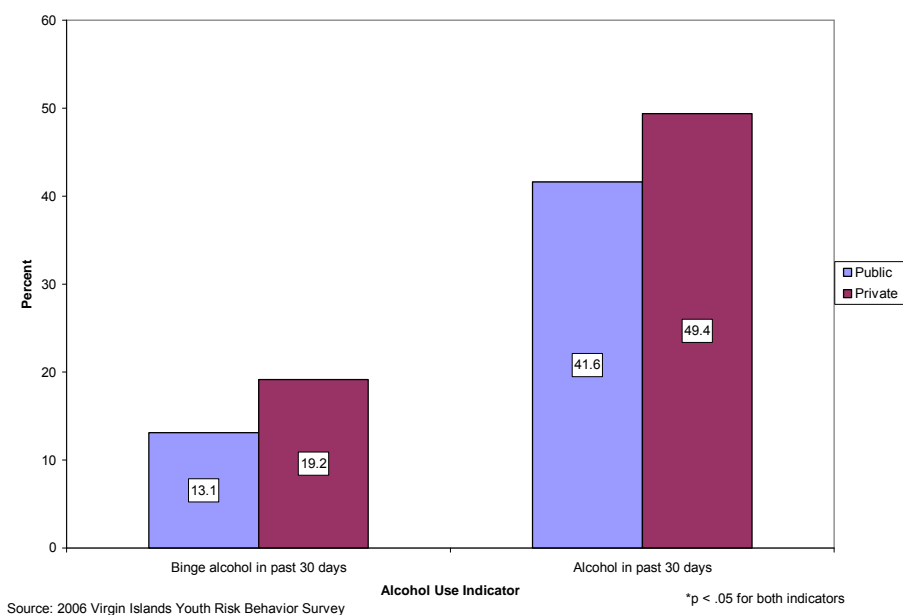
Public-Private School Differences

Below we report results for which there were statistically significant ($p < .05$) differences by enrollment in public compared to private high schools. As indicated in the Sample Demographics section, private school survey respondents included significantly more upper classmen and males, so any differences should be interpreted with these sample differences in mind. Ideally, these differences would be controlled using modeling procedures such as regression analysis, but such analyses are beyond the scope of this report, which is intended more to summarize the results for both public and private school respondents and note any major differences between these subsamples. Because there were relatively few private school respondents, we report only overall results for the sample (unweighted) and provide no subgroup analyses within the private school respondent subsamples.

Alcohol Use

Private school students were more likely than public school students to report binge and any alcohol use in the past month (Figure 83).

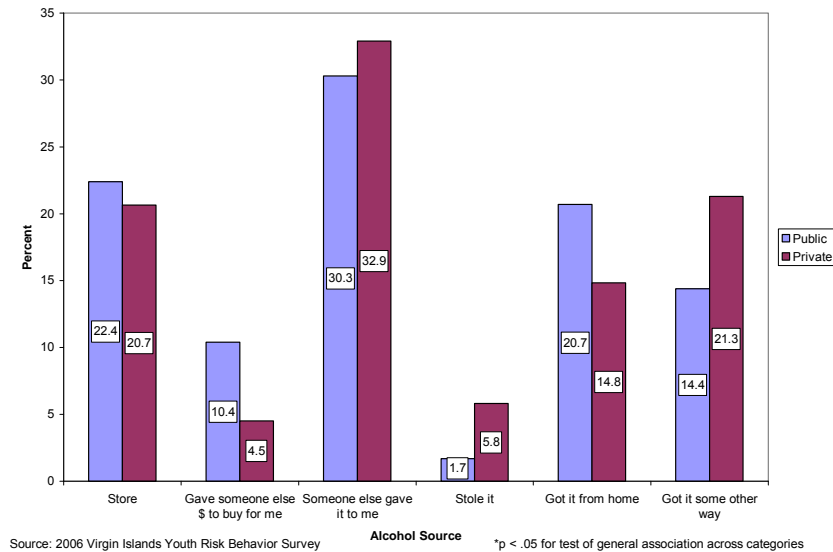
Figure 83. Percentage of Youths in Grades 9-12 Reporting Binge and Current Alcohol Use, Public vs. Private School Students, Virgin Islands, 2006



Sources for Obtaining Alcohol

Private school survey respondents who were current alcohol users were more likely to report obtaining alcohol by getting it from someone else, stealing it, or obtaining it some other way. In contrast, public school students were more likely to report obtaining alcohol by giving someone else money to buy it or getting it in their home (Figure 84).

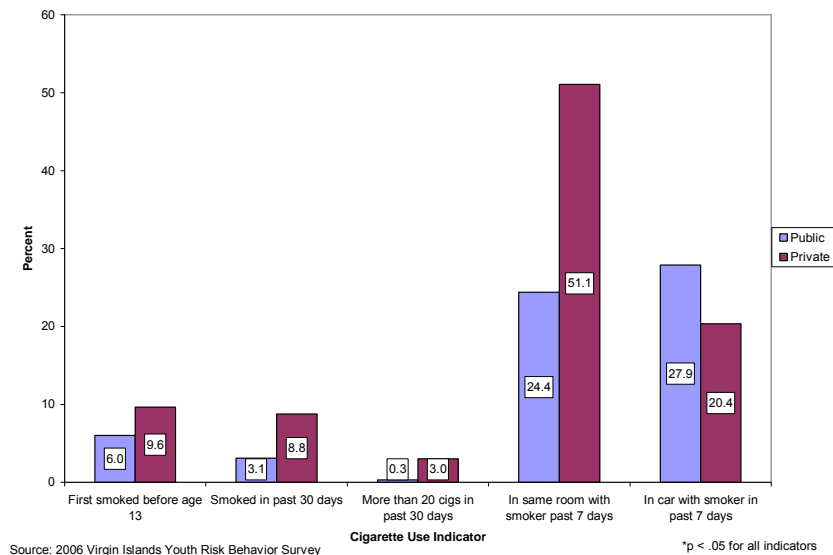
Figure 84. Percentage of Current Alcohol Users in Grades 9-12 Reporting Obtaining Alcohol from Various Sources, Public vs. Private School Students, Virgin Islands, 2006



Cigarette Use

Private school students were more likely than public school students to report first smoking cigarettes before age 13, smoking in the past month, smoking almost daily, and exposure to second-hand smoke (Figure 85).

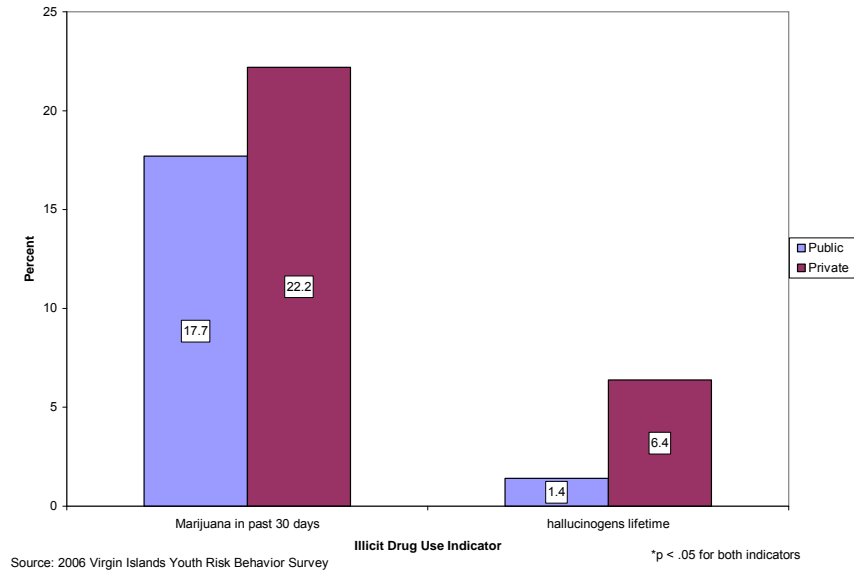
Figure 85. Percentage of Youths in Grades 9-12 Reporting Cigarette Use, Public vs. Private School Students, Virgin Islands, 2006



Illicit Drug Use

Private school students were more likely than their public school counterparts to report marijuana use in the past month and lifetime hallucinogen use (Figure 86).

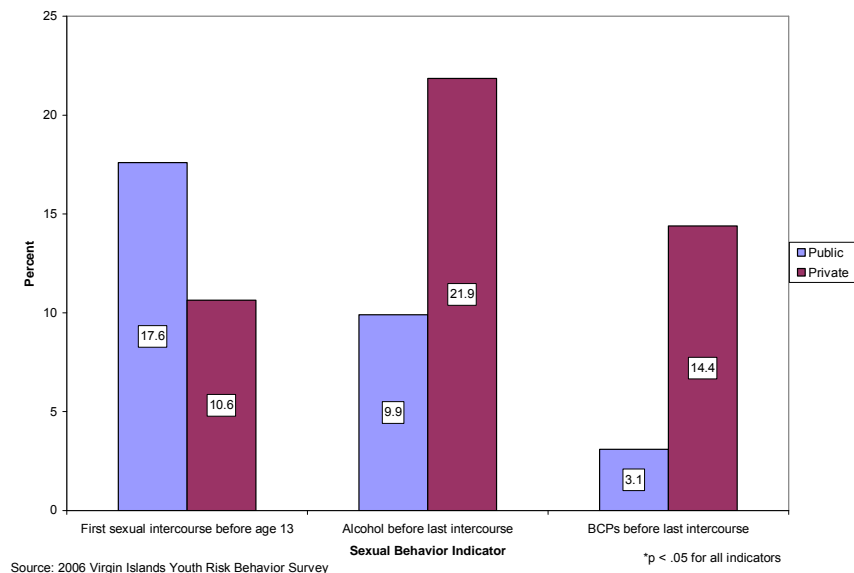
Figure 86. Percentage of Youths in Grades 9-12 Reporting Current Marijuana and Lifetime Hallucinogen Use, Public vs. Private School Students, Virgin Islands, 2006



Sexual Behavior

Public school students were more likely than private school students to report early sexual intercourse and less likely to report using birth control pills. Private school students were more likely to report using alcohol before last having intercourse (Figure 87).

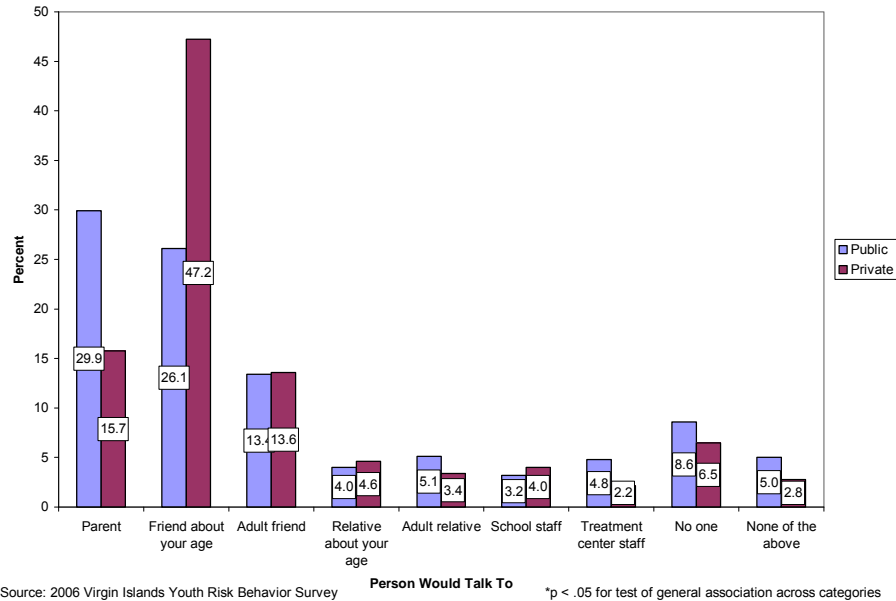
Figure 87. Percentage of Youths in Grades 9-12 Reporting First Intercourse before Age 13, Alcohol before Intercourse, and Birth Control Pills before Intercourse, Public vs. Private School Students, Virgin Islands, 2006



Discussing a Substance Use Problem

Private school students were much less likely to speak to a parent and much more likely to speak to a peer about a substance use problem (Figure 88).

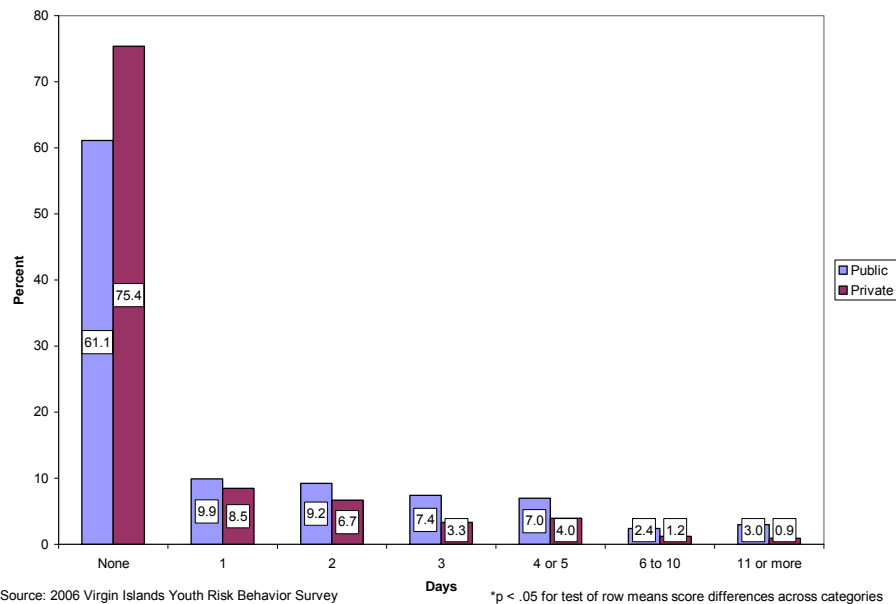
Figure 88. Most Likely Person to Talk to About a Substance Use Problem, Public vs. Private School Students, Virgin Islands, 2006



Truancy

Private school students were less likely to report skipping one or more classes in the past month compared to public school students (Figure 89).

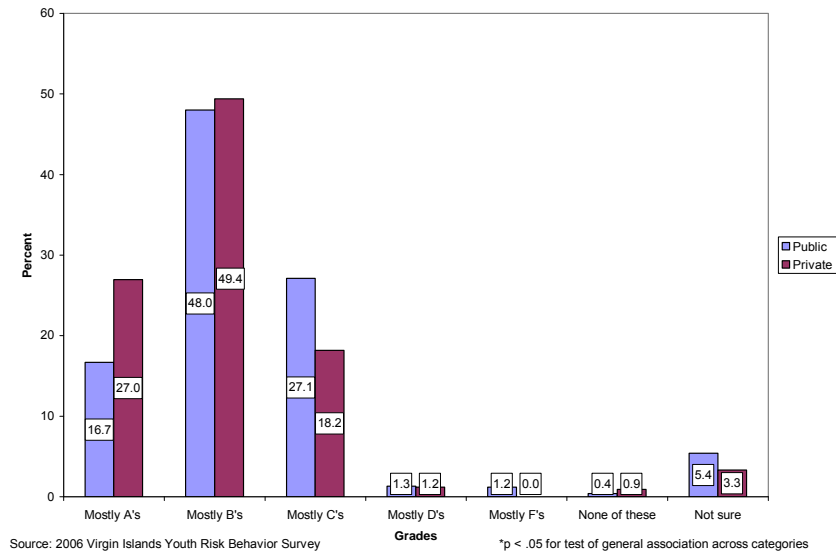
Figure 89. Percentage of Youths in Grades 9-12 Reporting Skipping Class for One or More Days in Past Four Weeks, Public vs. Private School Students, Virgin Islands, 2006



Grades in School

Private school students were more likely to report receiving mostly A's and less likely to report receiving mostly C's, compared to public school students (Figure 90).

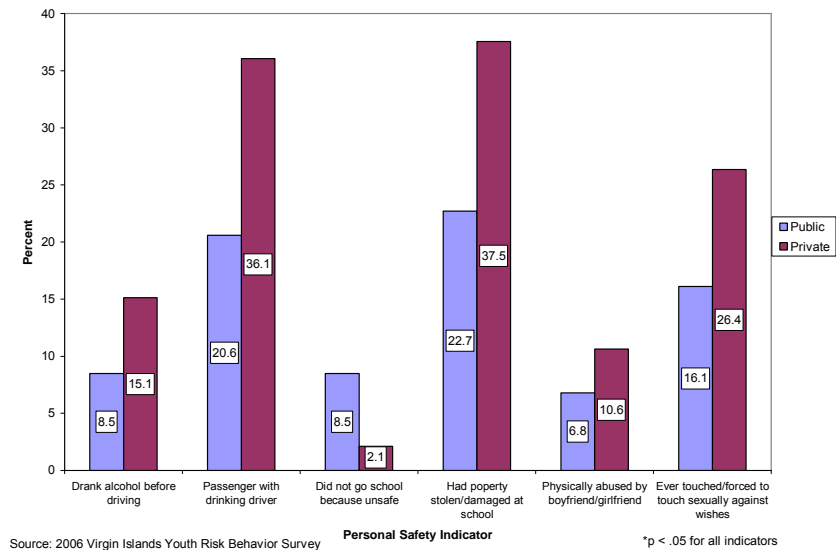
Figure 90. Grades in School during the Past Year, Public vs. Private School Students, Virgin Islands, 2006



Personal Safety and Bullying

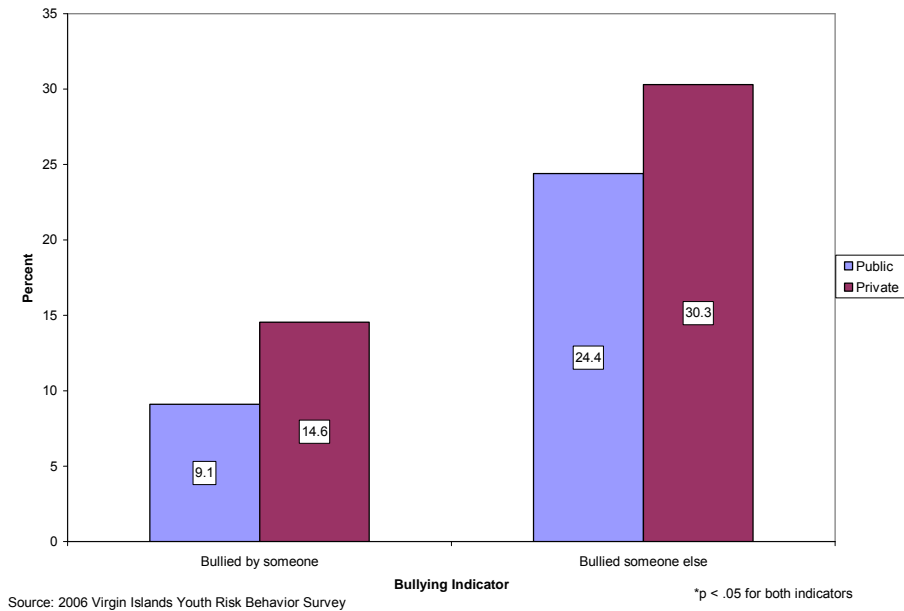
Private school students were more likely to report drinking and driving, being a passenger in a car with a drinking driver, having personal property damaged at school, and being physically abused by a girlfriend/boyfriend or being touched by/forced to touch someone against their wishes (Figure 91). However, private school students were less likely to avoid attending school for safety reasons.

Figure 91. Percentage of Youths in Grades 9-12 Reporting Specific Personal Safety Problems, Public vs. Private School Students, Virgin Islands, 2006



Private school students were more likely than public school students to report being bullied by or bullying someone (Figure 92).

Figure 92. Percentage of Youths in Grades 9-12 Reporting Being Bullied By or Bullying Someone, Public vs. Private School Students, Virgin Islands, 2006



Summary of Public-Private School Differences

Although we did not adjust for age and sex differences, private school students reported a number of risk factors and risk behaviors at significantly higher rates compared to their public school counterparts. While demonstrating more school connectedness (lower truancy rates and higher grades), private school students were more likely to steal alcohol and report a number of personal safety problems related to substance use, such as drunken driving, property damage at school, physical/sexual abuse by a girlfriend or boyfriend, and bullying or being bullied. They were also less likely to engage their parents in a discussion of a substance use problem. These higher risk factor rates, coupled with higher substance use rates, particularly cigarette smoking, binge drinking, illicit drug use (marijuana and hallucinogens), and alcohol use before intercourse, paint a picture of a high risk environment. On the other hand, private school students did appear to report lower rates of early sexual behavior (intercourse before age 13) and were more likely to use birth control pills before intercourse.

Discussion

Several key findings emerge in this report. First, Virgin Islands public high school students have historically reported that they first engaged in risky behaviors (i.e., substance use and sexual activity) at an earlier age than students from the US mainland. Second, this high level of early use has typically not translated into higher levels of current use of substances for Virgin Islands students, but it has translated into higher levels of some sexual activity (e.g., current sexual activity and number of sex partners). Third, data from the 2006 Virgin Islands survey suggest that there have been substantial increases in substance use and sexual activity in the Virgin Islands, but not in the US. Fourth, males and Hispanic students generally report higher rates of substance use than other groups. Fifth, the data are mixed with regard to factors that are related to substance use, with Virgin Islands students reporting favorably on some but not others. Notably, the factors that were most favorable tended to be focused on the individual and peers (e.g., student attitudes, peer use, and perceptions of risk) and the factors that were least favorable tended to focus on the family and community (e.g., family history of substance use, community norms favorable to substance use, and low prosocial involvement). Finally, the data suggests that private high school students engage in some risky substance behaviors at higher rates than public school students (e.g., drunken driving, cigarette use, binge drinking, and marijuana use).

To understand the potential implications of adolescent substance use and sexual activity, it may be helpful to examine these data in the context of other data on risky behaviors among adolescents and adults in the Virgin Islands. Data from the SEOW Epidemiological Profile indicated that rates of heavy alcohol use by Virgin Islands adults were higher than on the US mainland. The Epidemiological Profile also indicated that most of the consequences of alcohol and drug use occur at higher rates in the Virgin Islands compared to the US, especially among younger age groups (18- to 34-year olds), with homicides and fire-arm related death rates five to seven times higher in the Virgin Islands compared to the US in this age range. In addition, HIV/AIDS case rates (all ages) in the Virgin Islands are substantially higher in the Virgin Islands. Thus, even though the VI YRBS did not detect especially high levels of substance use relative to US mainland youth, the consequences of that use are all too prevalent among adults, both young and old, on the Virgin Islands. Given this high prevalence of substance use consequences among young adults, the increase from 2003 to 2006 in many risky behavior indicators among adolescents is alarming.

Data from this survey can be used to help Virgin Island stakeholders (in particular, the Division in collaboration with the VIP SIG PAC) focus prevention efforts in the coming years. For instance, the subgroup analyses clearly indicate that some prevention efforts should focus on the minority Hispanic population. In addition, prevention efforts could be directed towards broad family and community targets, thereby decreasing perceived drug availability, altering community norms tolerating use, addressing adult use, and providing more opportunities for adolescent prosocial involvement in their communities.

Final Thoughts

Findings from the 2006 VIYRBS can help focus prevention efforts on the groups most at-risk and on the problems that are currently most pressing. Forthcoming data from the 2007 survey will provide additional evidence to help verify the rates, subgroup differences, and temporal

trends noted in 2006. Future surveys of private school students will need to confirm the accuracy of our characterization of private schools as a high risk environment or whether these differences compared to public school students are due more to the higher proportions of males and 12th graders in the private school subsample, among whom we would expect to see higher rates of these risk factors and risk behaviors.

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