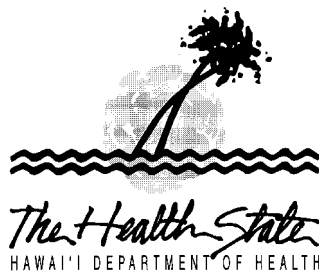


*ALCOHOL AND DRUG ABUSE DIVISION*  
*State of Hawaii Department of Health*

# **1998 HAWAII STUDENT ALCOHOL AND DRUG USE STUDY**

## **Executive Summary**



# **1998 Hawaii Student Alcohol and Drug Use Study**

## **Executive Summary**

by

Renee Storm Klinge, Ph.D.  
Michael D. Miller, Ph.D.

The University of Hawaii at Manoa

Hawaii Department of Health  
Alcohol and Drug Abuse Division  
Kukuihewa Building  
601 Kamokila Boulevard, Room 360  
Kapolei, Hawaii 96707

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Data presented here are excerpted from the comprehensive volume *The 1998 Hawaii Student Alcohol and Drug Use Study (1991-1998): Hawaii Adolescent Treatment Needs Assessment* (Klinge & Miller, 1999) which is available throughout the Hawaii State Public Library System, at Hamilton and Sinclair Libraries, University of Hawaii at Manoa, and at each of the District School Offices.

# ***1998 HAWAII STUDENT ALCOHOL AND DRUG USE STUDY***

## **EXECUTIVE SUMMARY**

In the spring of 1998, the Hawaii State Department of Health, Alcohol and Drug Abuse Division, and the University of Hawaii Speech Department collaborated in a study designed to determine prevalence and trends in substance use, treatment needs, and factors related to substance use for public and private school students statewide. The survey was administered to all sixth, eighth, tenth, and twelfth grade students in attendance who received written parental consent to participate in the study. The results presented in this report are based on over 25,000 students in 204 public schools and 44 private schools. Data from the previous *Hawaii Student Alcohol and Drug Use Studies* conducted by the Hawaii State Department of Education and the Northwest Regional Educational Laboratory in 1987, 1989, 1991, and 1993 and by Drs. Klingle and Miller in 1996 are used to assess trend results. Data from the National *1998 Monitoring the Future Study* are used to make nationwide comparisons.

Important findings from the *1998 Hawaii Student Alcohol and Drug Use Study* are highlighted in this executive summary to provide the reader with a quick overview of the key results contained in the report: *The 1998 Hawaii Student Alcohol and Drug Use Study (1991-1998): Hawaii Adolescent Treatment Needs Assessment* (Klingle & Miller, 1999). Readers are encouraged to refer to the major report for more specific details on the findings reported in this summary.

Section I highlights lifetime prevalence and trend data (e.g., use of a substance at least once in a person's lifetime). Section II focuses on monthly and daily prevalence and trend data. Monthly prevalence refers to the percentage of students reporting use of a substance at least once in the past thirty days whereas daily refers to the percentage of students reporting use of a substance on 20 or more occasions in the past thirty days. Twelve separate classes of drugs are distinguished for this report: marijuana, cocaine, inhalants, methamphetamine, heroin or other opiates, tranquilizers or sedatives, ecstasy/MDMA, hallucinogens, steroids, diuretics/laxatives, alcohol, and tobacco. Use of "any illicit drug" includes the use of marijuana, cocaine, inhalants, methamphetamine, heroin/opiates, tranquilizers/sedatives, ecstasy, hallucinogens, or steroids. Use of "any alcohol" refers to the use of wine, beer, or hard liquor. Use of "any tobacco" refers to the use of cigarettes or smokeless tobacco. Throughout the report, "substances" refers to alcohol, tobacco, and illicit drugs. Appendix A provides two prevalence tables. Table 1 is an integrative tables showing lifetime and monthly prevalence trends from 1991 to 1998. Daily use was not assessed prior to 1996, thus daily trend data is limited to 1996 and 1998 data. Table 2 displays typical usage of a substance on each occasion.

Section III summarizes adolescent treatment needs in the State of Hawaii. Appendix B, Table 3, summarizes statewide treatment needs for each drug classification (alcohol, marijuana, stimulants, depressants, and hallucinogens) by grade. Table 4, provides estimated statewide, county-level, and district-level treatment needs for students in grades six through twelve for any substance abuse problem.

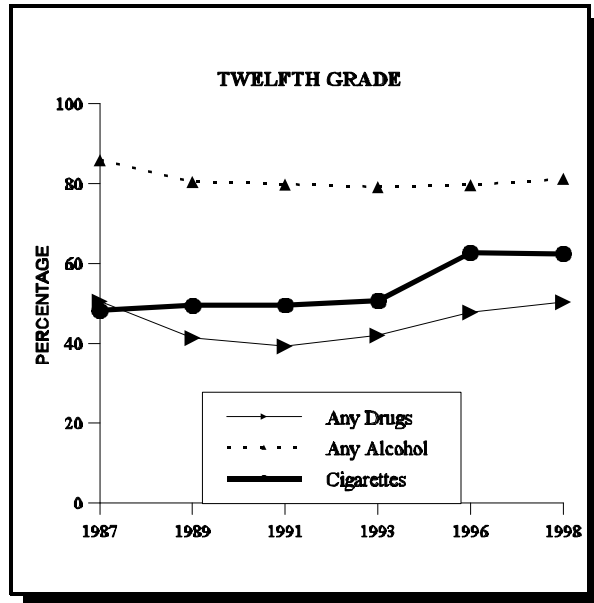
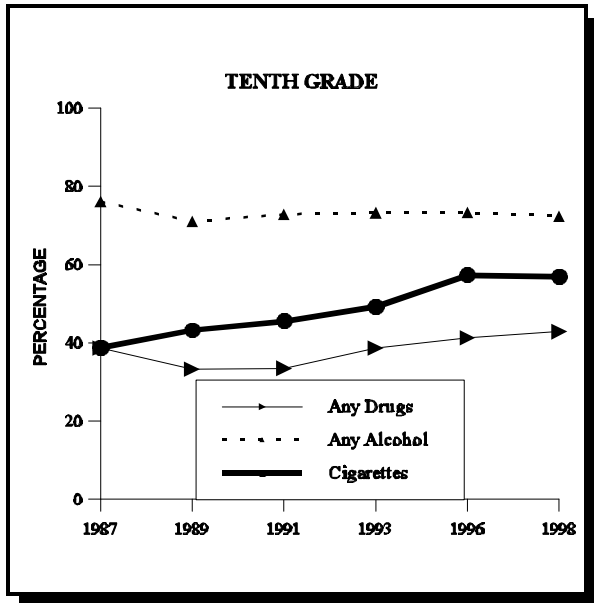
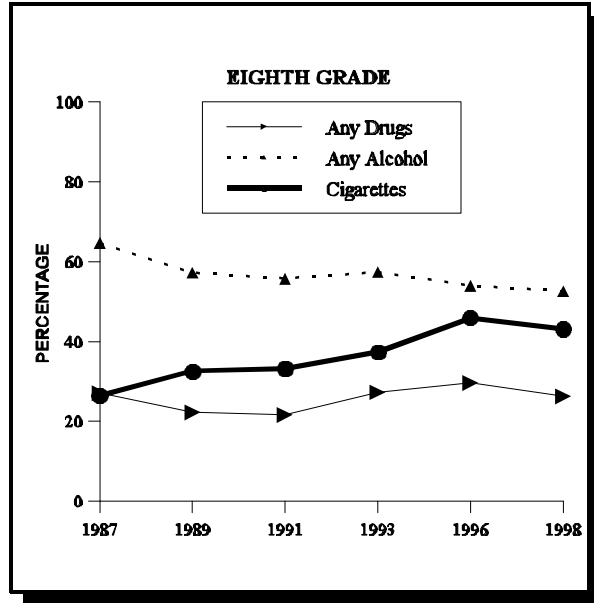
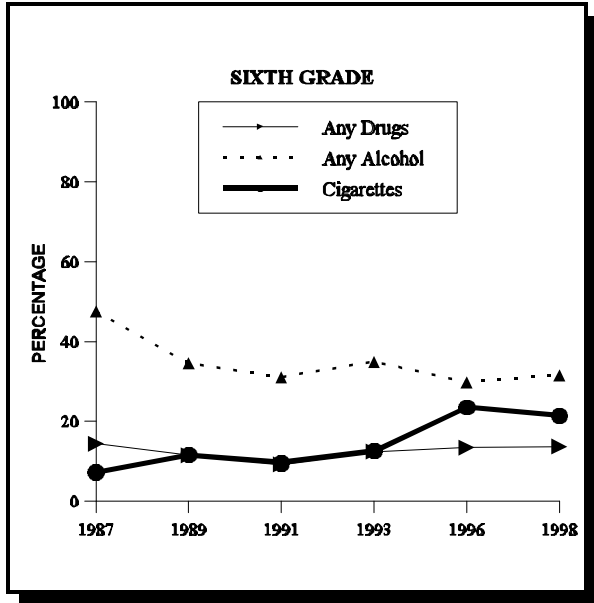
Section IV highlights various factors associated with substance use. Appendix C provides a number of tables that focus on factors related to use such as substance use onset, perceived harmfulness and availability of various substances, perceptions of classmates' substance use, typical exposure to substance use by others, and perceptions of peer disapproval of substance use. Appendix D provides tables that highlight risk and protective factors that need to be addressed in various communities to reduce substance use risk and to enhance resiliency.

## SECTION I – LIFETIME PREVALENCE AND TRENDS

Lifetime prevalence of any illicit drug use (e.g., use of any illicit drug at least once in a person’s lifetime) was on an upward incline from 1991 to 1996 for students in all grades. This trend continued in 1998 for tenth and twelfth graders. However, lifetime prevalence reports for any illicit drug use decreased for eighth graders and stabilized for sixth graders in 1998 (Figure 1). The continued increase in any illicit drug use by tenth and twelfth graders is largely due to marijuana use. All other illicit drug use has generally declined or stabilized since 1996. Although alcohol is still the most prevalent substance, lifetime prevalence reports for any alcohol use have remained relatively stable. Lifetime prevalence reports for cigarette use, on the other hand, have started to decline in some grades. From 1993 to 1996, cigarette use was on the rise with nearly twice as many sixth graders reporting lifetime use of cigarettes in 1996 as compared to 1993. In 1998, lifetime prevalence of cigarette use dropped for sixth and eighth graders and leveled for tenth and twelfth graders. Hawaii lifetime prevalence reports for tobacco, alcohol, and illicit drugs are generally lower than, or nearly equal to, nationwide reports (Figure 2 and 3). Hawaii twelfth graders’ lifetime prevalence reports for methamphetamine use, however, are higher than nationwide reports. Lifetime prevalence reports for inhalants, sedatives/tranquilizers, and smokeless tobacco are substantially lower in Hawaii compared to nationwide reports. Refer to Appendix A, Table 1, for Hawaii lifetime prevalence and trend data.

- ! Lifetime use of **any illicit drug** decreased from 1989 to 1991 then steadily increased in 1993 and 1996. In 1998, the increase in any illicit drug use continued for tenth and twelfth graders (Figure 1). From 1996 to 1998, reports of having ever used an illicit drug increased by two percentage points for tenth graders and three percentage points for twelfth graders. In 1998, lifetime prevalence reports of any illicit drugs decreased by three percentage points for eighth graders and remained relatively unchanged for sixth graders.
- ! As seen in Figure 2a, Hawaii students’ lifetime prevalence reports related to **any illicit drug use** are at least five percentage points **lower than nationwide reports** for eighth (26% vs. 38%), tenth (43% vs. 49%), and twelfth graders (50% vs. 56%). More than one-tenth (14%) of Hawaii sixth graders have used at least one illicit drug in their lives.
- ! The trends noted above for any illicit drug use are largely a function of **marijuana** use which has increased by three percentage points for tenth and twelfth graders, decreased by two percentage points for eighth graders, and remained unchanged for sixth graders (Appendix A, Table 1).
- ! By the twelfth grade, nearly half of the students have tried **marijuana**. In 1998, 5% of the sixth graders, 19% of the eighth graders, 39% of the tenth graders, and 48% of the twelfth graders report having used marijuana at some point in their lives. Lifetime prevalence reports for marijuana in Hawaii are fairly similar to nationwide reports for tenth and twelfth graders and slightly lower than nationwide reports for eighth graders (Figure 2b).
- ! **Inhalants** are the second most popular illicit drug type with 10% of sixth graders, 13% of eighth graders, 10% of tenth graders, and 8% of the twelfth graders reporting use of inhalants at least once in their lifetime. Although inhalants are popular among Hawaii students, prevalence reports for inhalant use have stabilized or decreased since 1996 (Appendix A, Table 1) and are 50% lower than nationwide reports (Figure 2c).

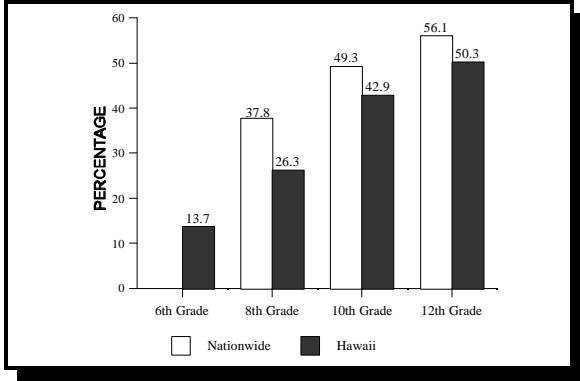
**FIGURE 1**  
**Trends in Lifetime Prevalence of Any Illicit Drug, Any Alcohol, and Cigarette Use**  
**for Hawaii Sixth, Eighth, Tenth, and Twelfth Graders (1987-1998)**



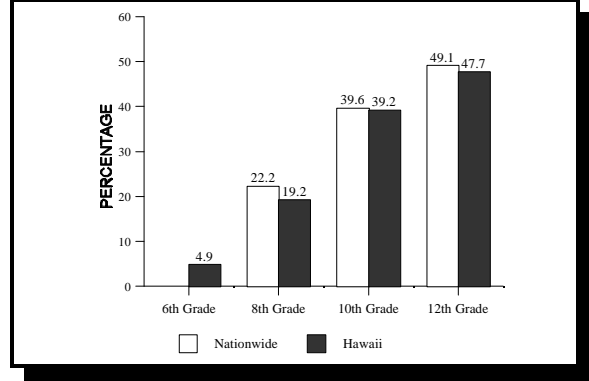
**FINDINGS:** Lifetime prevalence reports (e.g., use of a substance at least once in a person’s lifetime) for any illicit drug use was on an upward incline from 1991 to 1996. This trend continued in 1998 for tenth and twelfth graders. However, lifetime prevalence reports for any illicit drug use decreased for eighth graders and stabilized for sixth graders in 1998. Lifetime prevalence reports for alcohol have remained relatively stable over the years. Lifetime prevalence reports for cigarettes were on an upward incline from 1991 to 1996, but have now started to show a downward decline in 1998 – particularly for sixth and eighth graders. Reported cigarette use in 1998, however, is still higher than in 1993.

**FIGURE 2**  
**Lifetime Prevalence of Illicit Drug Use (Nationwide versus Hawaii), by Grade, 1998**  
 (Entries are percentages)

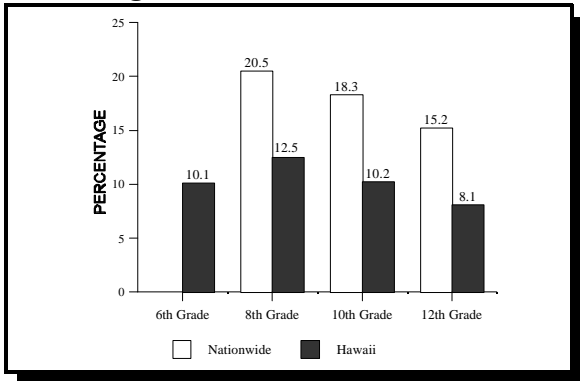
**Figure 2a: Lifetime Illicit Drug Use (Any)**



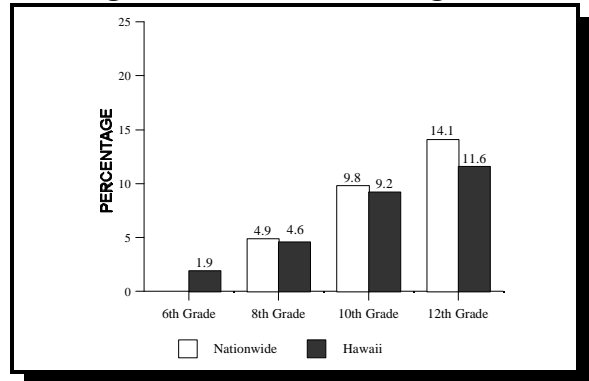
**Figure 2b: Lifetime Marijuana Use**



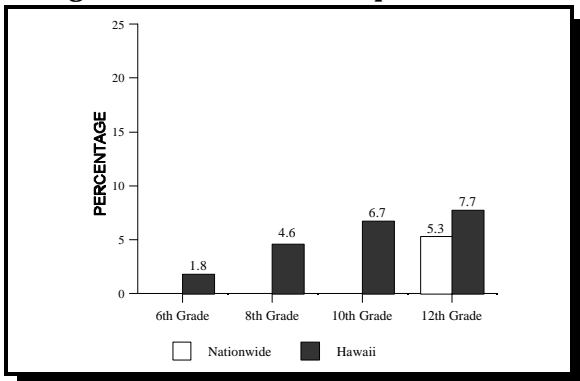
**Figure 2c: Lifetime Inhalant Use**



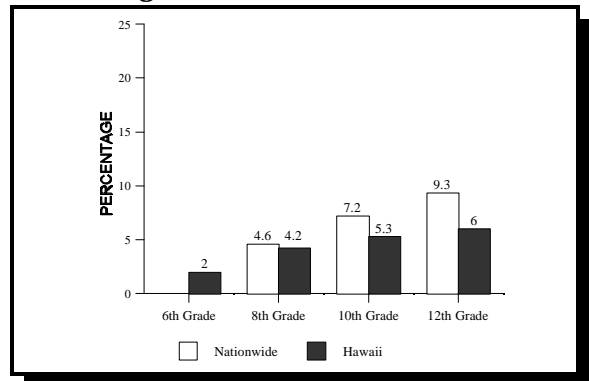
**Figure 2d: Lifetime Hallucinogen Use**



**Figure 2e: Lifetime Methamphetamine Use**



**Figure 2f: Lifetime Cocaine Use**

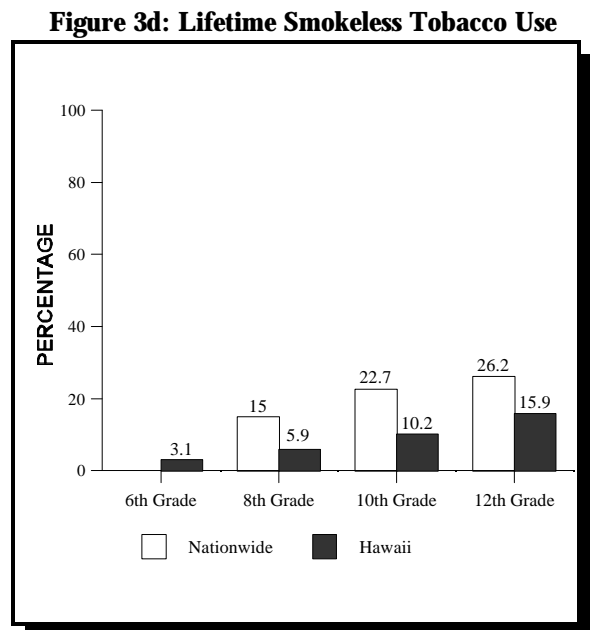
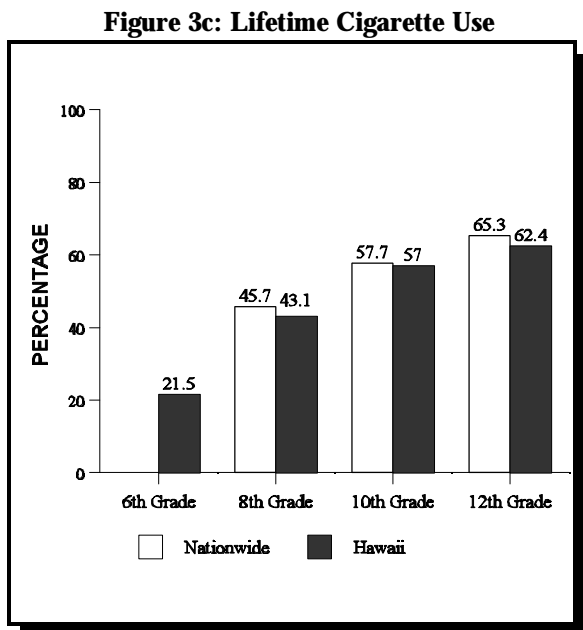
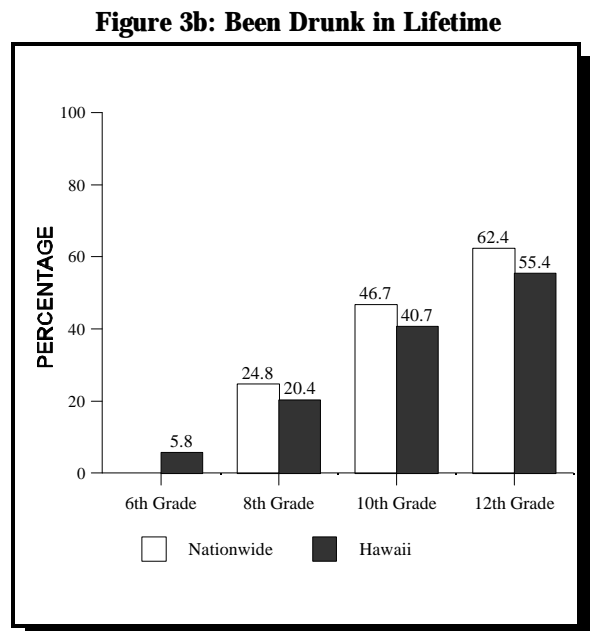
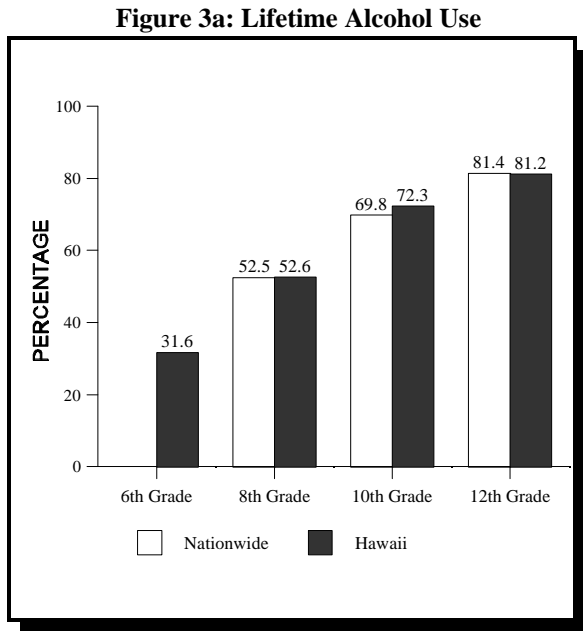


**FINDINGS:** Although lifetime prevalence reports for any illicit drug use are lower in Hawaii than nationwide, more Hawaii seniors report having tried methamphetamine at least once in their lives than students nationwide. Lifetime prevalence reports for marijuana use in Hawaii are fairly similar to nationwide reports. Lifetime prevalence reports for other illicit drugs are lower in Hawaii.

- ! Lifetime prevalence reports for *hallucinogens* and *methamphetamine* have increased by one percentage point for tenth graders. All other illicit drug use has been on the decline or increased less than one percentage point (Appendix A, Table 1).
- ! With the exception of *methamphetamine*, lifetime prevalence reports for illicit drugs are generally *lower* than or *nearly equal* to nationwide reports (Figure 2). Nearly 8% of Hawaii seniors report having tried methamphetamine at least once in their lives compared to only 5% of seniors nationwide report having tried methamphetamine (Figure 2e). Hawaii tenth and twelfth graders' lifetime prevalence reports for all other illicit drugs are typically lower than nationwide reports; Hawaii eighth graders' lifetime prevalence reports are generally equal to nationwide reports.
- ! Although there are slight fluctuations, lifetime use of *any alcohol* (e.g., beer/wine or hard liquor) has generally stabilized since 1993 (Figure 1). Lifetime prevalence reports for alcohol increased by less than two percentage points in the sixth and twelfth grade and decreased by one percentage point in the eighth and tenth grade. Nationwide, lifetime prevalence reports for alcohol have started to show a downward decline. As seen in Figure 3a, lifetime prevalence reports for alcohol use in Hawaii are similar to nationwide reports for eighth (53% vs. 53%), tenth (72% vs. 70%), and twelfth graders (81% vs. 81%).
- ! Reports of ever being *drunk* in one's lifetime have increased by three percentage points for Hawaii twelfth graders, decreased by three percentage points for Hawaii eighth graders, and remained fairly level for Hawaii sixth and tenth graders. Nationwide reports show a drop in self-reported drunkenness in all grades. However, self-reported drunkenness in Hawaii is still below the nationwide averages for eighth (20% vs. 25%), tenth (41% vs. 47%), and twelfth graders (55% vs. 62%) (Figure 3b).
- ! One of the largest decreases in 1998 for Hawaii students is in the use of *cigarettes* for sixth and eighth graders (Figure 1). This coincides with a nationwide downward trend in cigarette prevalence reports. The percentage of students having ever used cigarettes decreased by two percentage points for sixth graders and three percentage points for eighth graders. Lifetime prevalence reports for cigarettes remain unchanged for Hawaii tenth and twelfth graders. Over one-fifth of the sixth graders (22%) report that they have tried cigarettes. Nearly half of the eighth graders (43%) and more than half of the tenth (57%) and twelfth graders (62%) have used cigarettes. Hawaii lifetime prevalence reports for cigarettes are only slightly lower than nationwide reports (Figure 3c).
- ! Use of *smokeless tobacco* is less prevalent than cigarettes and, as shown in Figure 3d, is much lower in Hawaii than nationwide reports for eighth (6% vs. 15%), tenth (10% vs. 23%), and twelfth graders (16% vs. 26%).
- ! Since 1996, the percentages of students reporting that they have *regularly smoked cigarettes* at some point in their lives have increased by two percentage points for tenth and twelfth graders, decreased by one percentage point for eighth graders, and remained the same for sixth graders (Appendix A, Table 1). Nearly one-fifth of the eighth graders (19%) and over one-fourth of the tenth (28%) and twelfth graders (31%) report that they have been regular cigarette smokers at some point in their lives (Appendix A, Table 1).



**FIGURE 3**  
**Lifetime Prevalence of Alcohol and Tobacco (Nationwide versus Hawaii), by Grade, 1998**  
 (Entries are percentages)



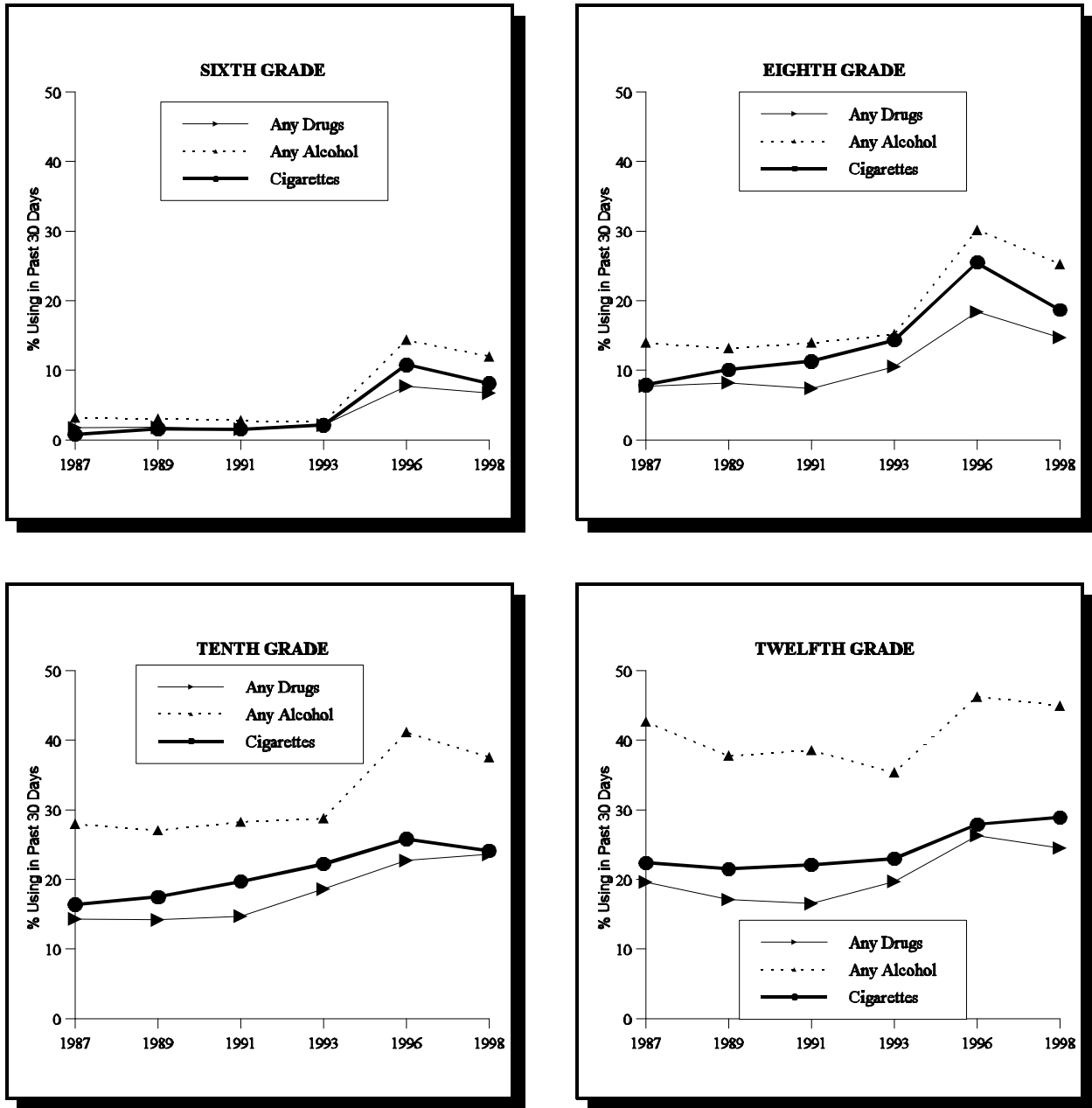
**FINDINGS:** Hawaii students are fairly similar to students nationwide on lifetime prevalence reports for having ever used alcohol, but fewer Hawaii students report having been drunk in their lives than students nationwide. In regards to tobacco use, Hawaii students are similar to or slightly lower than students nationwide on their reported use of cigarettes at least once in their lives. Although lifetime prevalence reports for cigarette use in Hawaii are only slightly lower than nationwide reports, lifetime prevalence reports for smokeless tobacco in Hawaii are much lower than nationwide reports.

## SECTION II -- MONTHLY AND DAILY PREVALENCE AND TRENDS

Monthly use of any illicit drug, alcohol, and cigarettes had increased drastically from 1993 to 1996 (Figure 4). In 1998, monthly and daily prevalence reports for each substance, at each grade, generally dropped or leveled (Appendix A, Table 1). Most daily illicit drug use has decreased by 50% from 1996 to 1998. Daily cigarette use dropped in the eighth grade by two percentage points and daily alcohol use dropped in the twelfth grade by two percentage points. However, 1998 rates for monthly prevalence reports for any illicit drug, any alcohol, and cigarette use are still higher than reports in 1993. The drop in 1998 monthly prevalence rates is consistent with nationwide trends. Hawaii reports related to monthly marijuana use are slightly higher than nationwide reports for eighth and tenth graders and equal to nationwide reports for twelfth graders. With the exception of eighth graders, fewer Hawaii students report using alcohol, cigarettes, and smokeless tobacco in the past thirty days than students nationwide (Figure 5). However, more Hawaii students in the eighth and tenth grade report daily marijuana and alcohol use. Daily use of tobacco products is lower in Hawaii than nationwide (Figure 6). Typical cigarette consumption is as high as ½ a pack a day for one out of ten tenth and twelfth graders (Appendix A, Table 2).

- ! Monthly use of *any illicit drug* increased drastically for all grade levels from 1993 to 1996 and then dropped by one percentage point for sixth graders, four percentage points for eighth graders, and two percentage points for twelfth graders in 1998 (Figure 4). Tenth graders' monthly prevalence reports for any illicit drug continued to climb one percentage point in 1998. In 1998, 7% of sixth graders, 15% of eighth graders, 24% of tenth graders, and 25% of twelfth graders reported using at least one illicit drug in the last thirty days (Appendix A, Table 1). These 1998 percentages are still nearly five percentage points higher than 1993 reports. Hawaii students' monthly reports of any illicit drug use are similar to nationwide monthly prevalence reports, with Hawaii eighth graders the same as eighth graders nationwide, Hawaii tenth graders only one percentage point higher than tenth graders nationwide, and Hawaii twelfth graders two percentage points lower than twelfth graders nationwide.
- ! Monthly prevalence reports are up by one percentage point for tenth graders' *marijuana* use. Monthly prevalence reports for all other illicit drug types have decreased or leveled (Appendix A, Table 1). The largest percentage point decreases in monthly prevalence reports were for eighth graders' *marijuana* (down three percentage points) and *inhalant* use (down two percentage points) and for twelfth graders' *marijuana*, *cocaine*, and *hallucinogen* use (all down two percentage points). Hawaii student reports of monthly marijuana use are slightly higher than nationwide reports for eighth (12% vs. 10%) and tenth graders (22% vs. 19%), and equal for twelfth graders (23% each) (Figure 5a).
- ! From 1993 to 1996, monthly prevalence of *alcohol* use increased by more than ten percentage points in each grade. In 1998, monthly prevalence of alcohol use dropped by two percentage points for sixth graders, five percentage points for eighth graders, four percentage points for tenth graders, and one percentage point for twelfth graders. However, these drops still leave monthly alcohol prevalence reports nearly ten percentage points above 1993 reports (Appendix A, Table 1; Figure 4). Compared to nationwide reports, monthly alcohol use in Hawaii is higher for eighth graders (25% vs. 23%), and lower for tenth (38% vs. 39%) and twelfth graders (45% vs. 52%) (Figure 5b).

**FIGURE 4**  
**Trends in Monthly (30-Day) Prevalence of Any Illicit Drug, Any Alcohol, and Cigarette Use**  
**for Hawaii Sixth, Eighth, Tenth, and Twelfth Graders (1987-1998)**

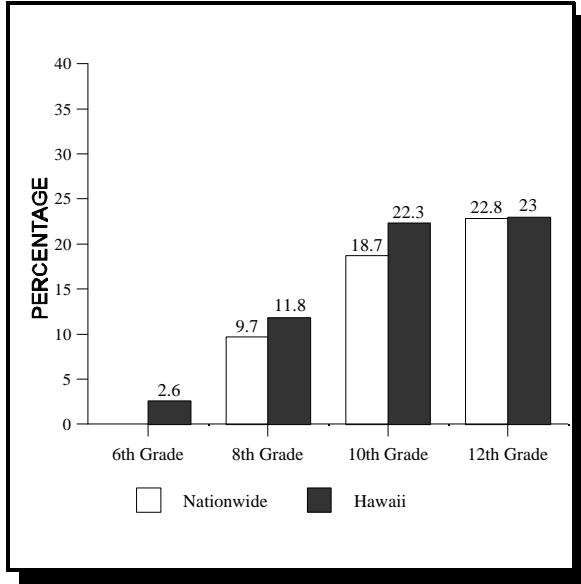


**FINDINGS:** Monthly prevalence reports (e.g., use of a substance at least once in the previous 30-days) for use of any illicit drug, any alcohol, and cigarettes increased drastically from 1993 to 1996. From 1996 to 1998 monthly prevalence reports for any illicit drug use dropped for sixth, eighth, and twelfth graders and increased by one percentage point for tenth graders. From 1996 to 1998 monthly prevalence reports for any alcohol use declined in all grades. Monthly prevalence reports for cigarette use decreased from 1996 to 1998 in all grades but twelfth. 1998 monthly prevalence reports for illicit drugs, alcohol, and cigarettes are still higher than 1993 reports.

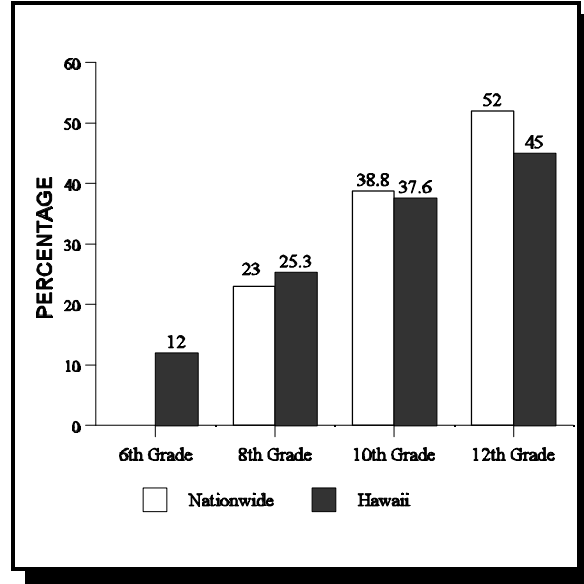
**FIGURE 5**  
**Monthly (30-Day) Prevalence of Marijuana, Alcohol, and Tobacco Use**  
**(Nationwide versus Hawaii), by Grade, 1998**

(Entries are percentages)

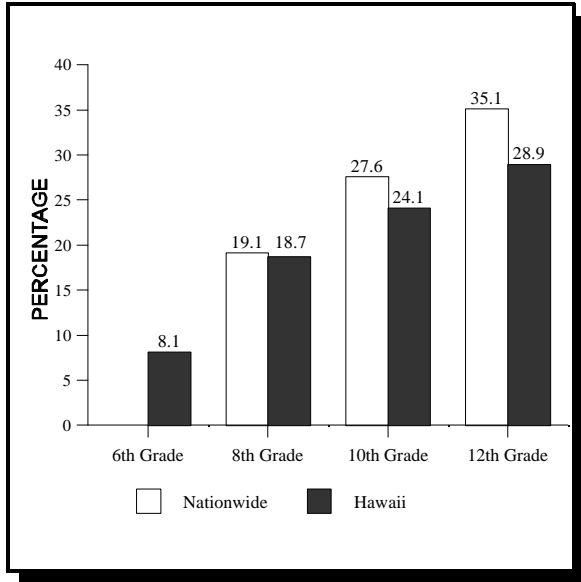
**Figure 5a: 30-Day Marijuana Use**



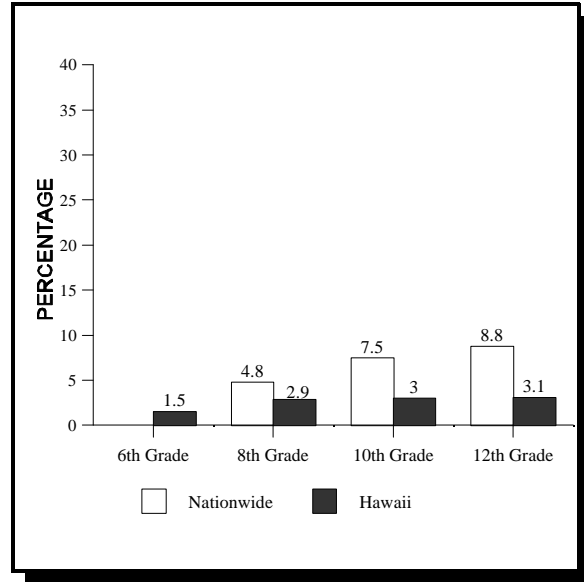
**Figure 5b: 30-Day Alcohol Use**



**Figure 5c: 30-Day Cigarette Use**



**Figure 5d: 30-Day Smokeless Tobacco Use**



**FINDINGS:** Monthly prevalence reports for marijuana use are slightly higher in Hawaii than nationwide reports for eighth and tenth graders and equal for twelfth graders. Monthly prevalence reports for alcohol use are slightly higher than nationwide reports for Hawaii eighth graders, but lower for Hawaii tenth and twelfth. Hawaii monthly prevalence reports for tobacco use are lower than reports nationwide.

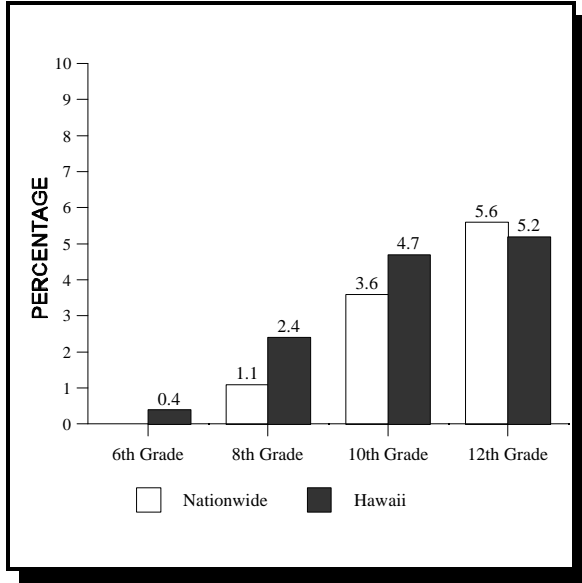
- ! Similar to alcohol use, monthly use of **cigarettes** has decreased at all grade levels with the largest decrease occurring in the eighth grade (Figure 4). From 1996 to 1998, students using cigarettes at least once in the last thirty days decreased by the following percentage points: 3% for sixth graders, 7% for eighth graders, 2% for tenth graders, and 1% for twelfth graders. Once again, these decreases still leave monthly cigarette prevalence reports in 1998 higher than in 1993. As seen in Figure 5c, compared to nationwide reports, monthly cigarette use is lower in Hawaii for tenth (24% vs. 28%) and twelfth graders (29% vs. 35%) and equal to nationwide reports for eighth graders (19% each).
- ! For most illicit drugs, **daily drug use** has dropped by 50% from 1996 to 1998 (Appendix A, Table 1). Daily **cigarette** use dropped two percentage points in the eighth grade (from 7% to 5%) and daily **alcohol** use dropped two percentage points in the twelfth grade (from 5% to 3%).
- ! Appendix A, Table 1, shows that daily use is most frequent for cigarettes, followed by marijuana and alcohol. **Cigarettes** are used daily by 1% of sixth graders, 5% of eighth graders, 10% of tenth graders, and 14% of twelfth graders. Typical use of cigarettes is as high as ½ a pack or more per occasion for 3% of sixth graders, 7% of eighth graders, 10% of tenth graders, and 13% of twelfth graders (Appendix A, Table 2).
- ! **Marijuana** accounts for most illicit daily drug use with 0.4% of sixth graders, 2% of eighth graders, and 5% of tenth and twelfth graders using marijuana daily (Appendix A, Table 1). Typical use of marijuana is 5 or more joints for more than 5% of tenth and twelfth graders (Appendix A, Table 2).
- ! Daily **alcohol** use is nearly equal to daily marijuana use, at 1% for sixth graders, 3% for eighth graders, 4% for tenth graders, and 3% for twelfth graders (Appendix A, Table 1). Typical daily alcohol use is more than five drinks for approximately one-fifth of Hawaii seniors (Appendix A, Table 2).
- ! Reported daily **marijuana** and **alcohol** use in Hawaii is higher for eighth and tenth graders and lower for twelfth graders than nationwide students in the same grades (Figure 6a and 6b). However, daily tobacco use in Hawaii is lower at all grades than nationwide reports (Figure 6c and 6d). For instance, only 14% of the seniors in Hawaii use cigarettes daily compared to 22% of the seniors nationwide.

*In sum, lifetime, monthly, and daily prevalence reports for all substances were generally on an upward incline from 1993 to 1996. In 1998, prevalence reports dropped or leveled for most substances. Although 1998 witnessed decreases from 1996 in most prevalence reports, substance use rates are still higher than those reported in 1993.*

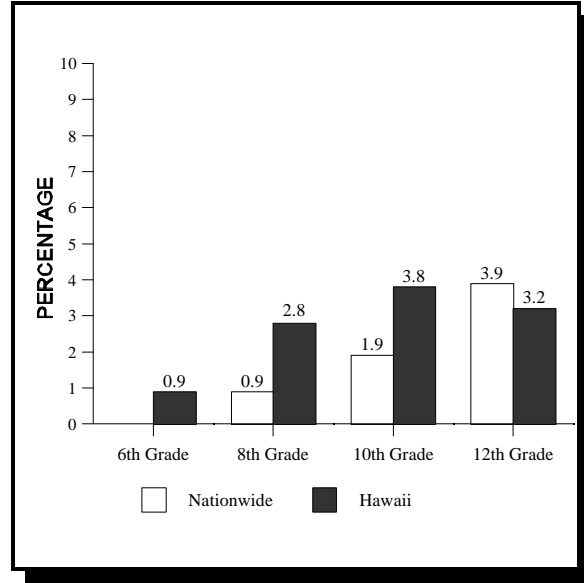
**FIGURE 6**  
**Daily Prevalence of Marijuana, Alcohol, and Tobacco Use**  
**(Nationwide versus Hawaii), by Grade, 1998**

(Entries are percentages)

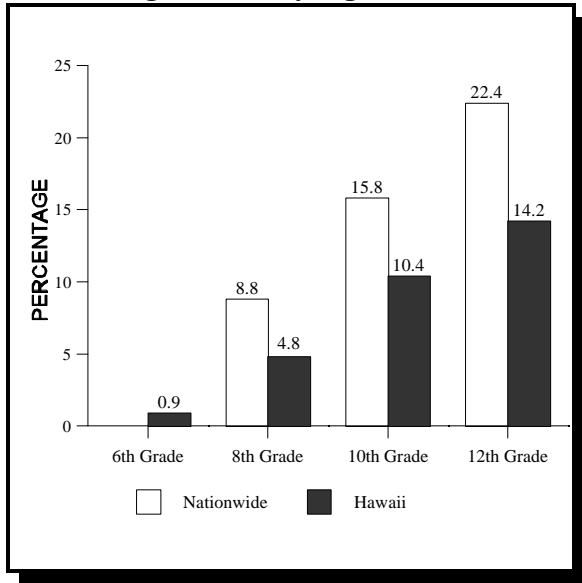
**Figure 6a: Daily Marijuana Use**



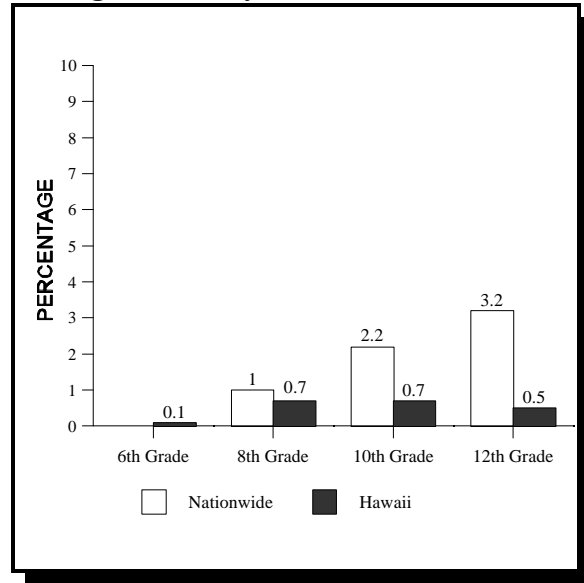
**Figure 6b: Daily Alcohol Use**



**Figure 6c: Daily Cigarette Use**



**Figure 6d: Daily Smokeless Tobacco Use**



**FINDINGS:** More Hawaii eighth and tenth graders use marijuana and alcohol daily than eighth and tenth graders nationwide. However, fewer Hawaii seniors report using marijuana and alcohol daily than seniors nationwide. Daily tobacco prevalence reports are substantially lower in Hawaii than nationwide.

### SECTION III – TREATMENT NEEDS AND ACCESSIBILITY OF SERVICES

Survey efforts prior to 1996 determined treatment needs by focusing on the frequency of substance use in the last thirty days and the amount typically consumed. The *Center for Substance Abuse Treatment* has argued that quantity-frequency measures are inappropriate indicators of adolescent substance abuse and has suggested that adolescent treatment needs be determined according to the DSM-III-R criteria for substance abuse which reflect standards developed by researchers as to what patterns of behavior or physiological characteristics constitute abuse and dependence. Thus, the present study used DSM-III-R criteria to determine adolescent treatment needs in the State of Hawaii for alcohol, marijuana, stimulants (cocaine, methamphetamine, or speed), depressants (downers, sedatives, or heroin), and hallucinogens. Two types of diagnoses are distinguished by the DSM-III-R criteria: dependence and abuse. Dependence is the most severe diagnosis and includes both physiological symptoms, such as tolerance and withdrawal, and behavioral symptoms, such as impaired control over the use of a substance. Abuse is a residual category for those who don't meet the criteria of dependence but who use substances in dangerous situations or who use substances despite having problems related to their substance use. Because of the high likelihood of substance abuse by adolescents turning into a dependency problem, students are considered needing treatment, or at least screening for treatment, if they meet either a dependence or abuse diagnosis for any of the five drug classifications.

Substance abuse treatment is needed for 3% of sixth graders, 10% of eighth graders, 22% of tenth graders, and 29% of twelfth graders statewide (Figure 7). Many students who abuse alcohol also abuse illicit drugs (Figure 7) and the most common illicit drug abused is marijuana (Appendix B, Table 3; Figure 8). Appendix B, Table 4, shows that treatment needs for public school students in grades six through twelve are estimated to be more than 14,000 students (approximately 17% of the public school population in grades six through twelve). Statewide treatment needs for public and private schools combined are estimated to be 16,701 (16%). The percentage of tenth and twelfth graders needing treatment has nearly doubled since 1996 (Figure 9). Treatment needs are highest in Hawaii County and lowest in the City and County of Honolulu (Figure 10). Students needing treatment often fail to seek the help they need because they do not believe they have a substance abuse problem and they are afraid they will get in trouble with the law or their teachers/parents. The majority of students who report previous utilization of various treatment options indicate that help was received from a school program.

- ! Treatment needs for alcohol and drug abuse were determined by applying the DSM-III-R diagnostic criteria which reflect standards developed by researchers as to what patterns of behavior or physiological characteristics constitute abuse and dependence. Using the DSM-III-R criteria, estimated statewide treatment needs in public schools for grades six through twelve are as follows: 3,346 students for alcohol abuse only; 3,882 students for drug abuse only, 7,047 for both alcohol and drug abuse, and 14,256 students for any substance abuse treatment. Adding private school students to statewide treatment needs brings the total number of Hawaii students in grades six through twelve needing treatment for any substance abuse equal to 16,701, or 16% (Appendix B, Table 4).
  
- ! Approximately half of the students who need treatment, need help for *both* alcohol and drug abuse rather than treatment for either of these alone (Figure 7). *Any* alcohol abuse treatment need estimates for students in grades six through twelve statewide are 11%; *any* drug abuse treatment need estimates for students in grades six through twelve statewide are 12% (Appendix B, Table 4).

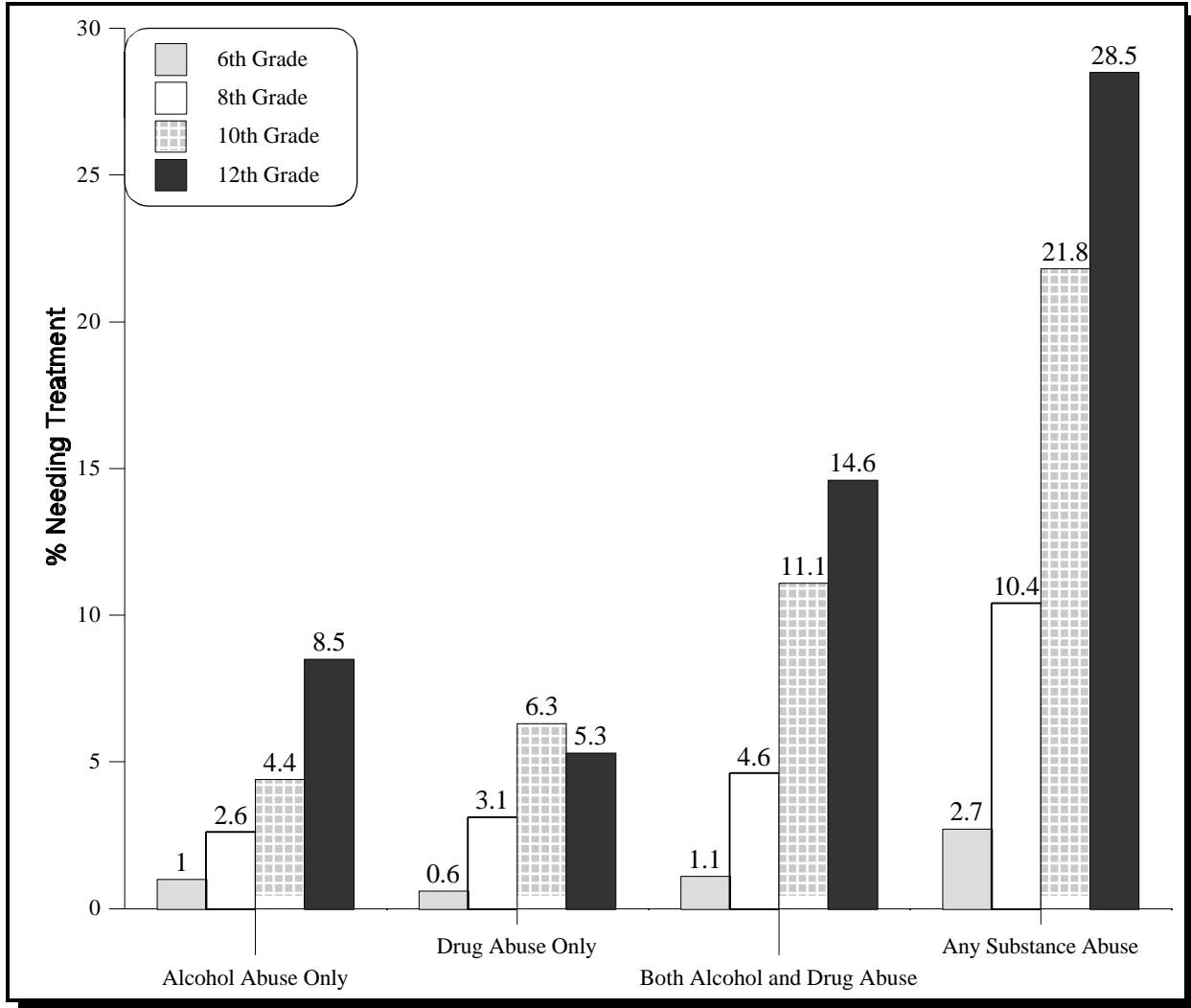
- ! The high percentage of students needing treatment for any illicit drug abuse is largely a function of marijuana abuse (Figure 8; Appendix B, Table 3). The percentages of students needing treatment for marijuana abuse in grades six (1%), eight (7%), ten (16%), and twelve (19%) are very similar to the percentage needing treatment for any alcohol abuse (2%, 7%, 15%, 22%). Treatment needs for other illicit drugs are relatively low (Figure 8).
- ! Treatment needs triple from the sixth to the eighth grade and then double from the eighth to the tenth grade level (Figure 7). Treatment needs for sixth and eighth graders remained relatively unchanged from 1996 to 1998; treatment needs for tenth graders increased nine percentage points and treatment needs for twelfth graders doubled (Figure 9). Treatment needs are based on the number of symptoms present and how often the symptoms occur. Using the nine DSM-III-R criteria, a student is considered dependent if he/she marks “yes” to at least three symptoms and, for at least two of the symptoms, indicates that the symptom occurred more than once in a single month or several times within the last year. The number of symptoms reported in 1998 are similar to those reported in 1996; however, the number of times each symptom reportedly occurred increased substantially in 1998. This is not surprising given that 1996 witnessed an appreciable increase in prevalence reports for eighth graders.
- ! Hawaii, Maui, and Kauai Counties have a larger proportion of students with any substance abuse treatment needs than the City and County of Honolulu (Figure 10). Broken out by district, treatment needs for any substance abuse are highest in Hawaii District (21%), followed by Maui and Windward Oahu (18% each), Kauai (17%), Leeward Oahu (16%), Central Oahu (15%), and Honolulu (14%) Districts (Appendix B, Table 4).
- ! Less than one-third of the students diagnosed with treatment needs have utilized treatment facilities. Reported utilization by students with treatment needs decreased by approximately ten percentage points from 1996 to 1998. The decrease is largely attributed to the fact that the percentage of students *believing* that they need help, also decreased in 1998.
- ! The majority of the students who reported they needed help for a substance abuse problem also reported that they had difficulty seeking help. The most common reasons reported for not seeking help included being afraid of getting in trouble with the law and being afraid parents and/or teachers would find out. Older students also reported that they didn’t seek help because they thought they could handle the problem themselves. In 1996, the majority of the students having difficulty receiving help reported that one of their biggest obstacles was not knowing who to ask or where to go for help. Although still a fairly large obstacle to seeking help in 1998, fewer students in 1998 report this obstacle than in 1996. All other obstacles to receiving treatment were reported to exist by more students in 1998 than in 1996.
- ! School programs are the most commonly utilized treatment option reported by students.

*In sum, an estimated 16% of Hawaii public and private school students in grades six through twelve need treatment for alcohol or illicit drug abuse. The percentage of tenth and twelfth graders estimated to need treatment nearly doubled since 1996. The most commonly abused substances are alcohol and marijuana.*



**FIGURE 7**  
**1998 Hawaii Statewide Treatment Needs for Alcohol and Illicit Drug Dependency/Abuse**  
**Using the DSM-III-R Criteria, by Grade**

(Entries are percentages)

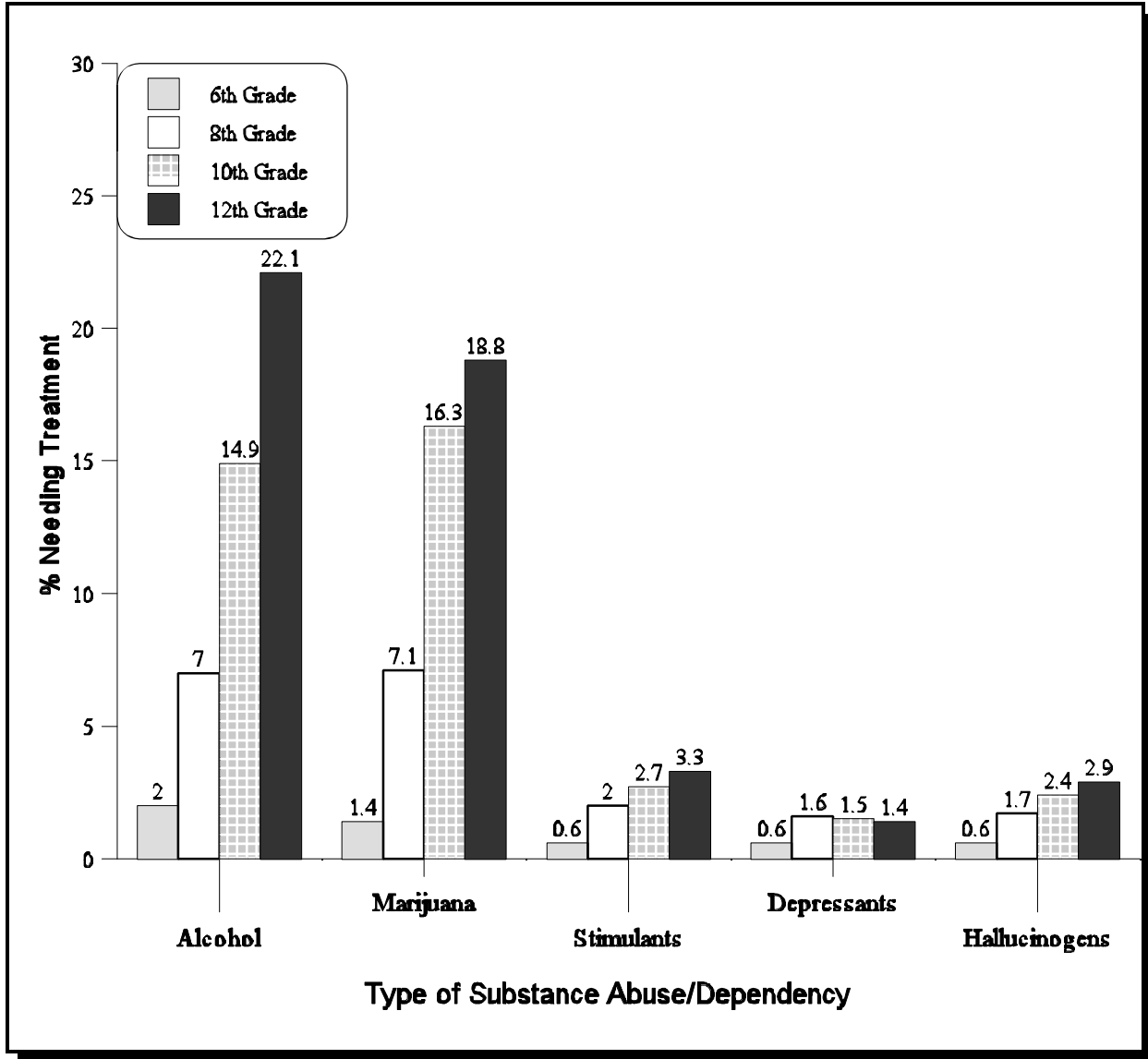


**FINDINGS:** Approximately half the students who need treatment, need help for *both* alcohol and drug abuse rather than treatment for either of these alone. One out of ten eighth graders need treatment for substance abuse; at least one out of five tenth and twelfth graders need treatment for substance abuse.

**NOTES:** “Alcohol Abuse Only” includes students classified as dependent on or abusers of alcohol according to the DSM-III-R criteria, but who are not dependent on or abusers of illicit drugs. “Drug Abuse Only” includes students classified as dependent on or abusers of at least one illicit drug according to the DSM-III-R criteria, but who are not dependent on or abusers of alcohol. Illicit drug dependency/abuse is assessed for marijuana, stimulants, depressants, and hallucinogens. “Both Alcohol and Drug Abuse” includes students classified as dependent on or abusers of both alcohol and illicit drugs. “Any Substance Abuse” includes students who are classified as dependent on or abusers of alcohol, illicit drugs, or both according to the DSM-III-R criteria.

**FIGURE 8**  
**1998 Hawaii Statewide Treatment Needs for Alcohol and Other Drugs of Concern,**  
**Using the DSM-III-R Criteria, by Grade**

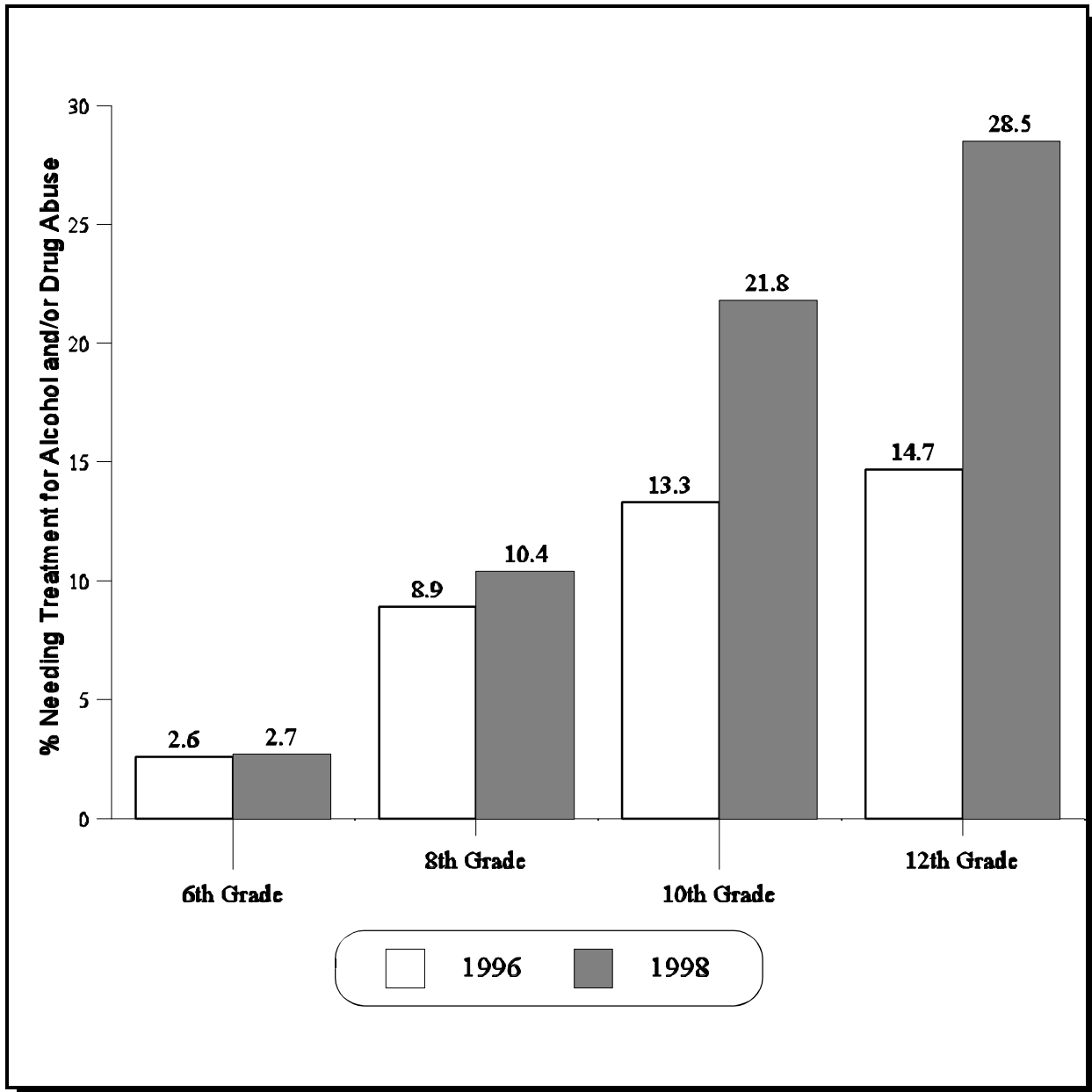
(Entries are percentages)



**FINDINGS:** Marijuana is the most commonly abused illicit drug, with the percentages of students needing treatment for marijuana abuse very similar to the percentages of students needing treatment for alcohol abuse.

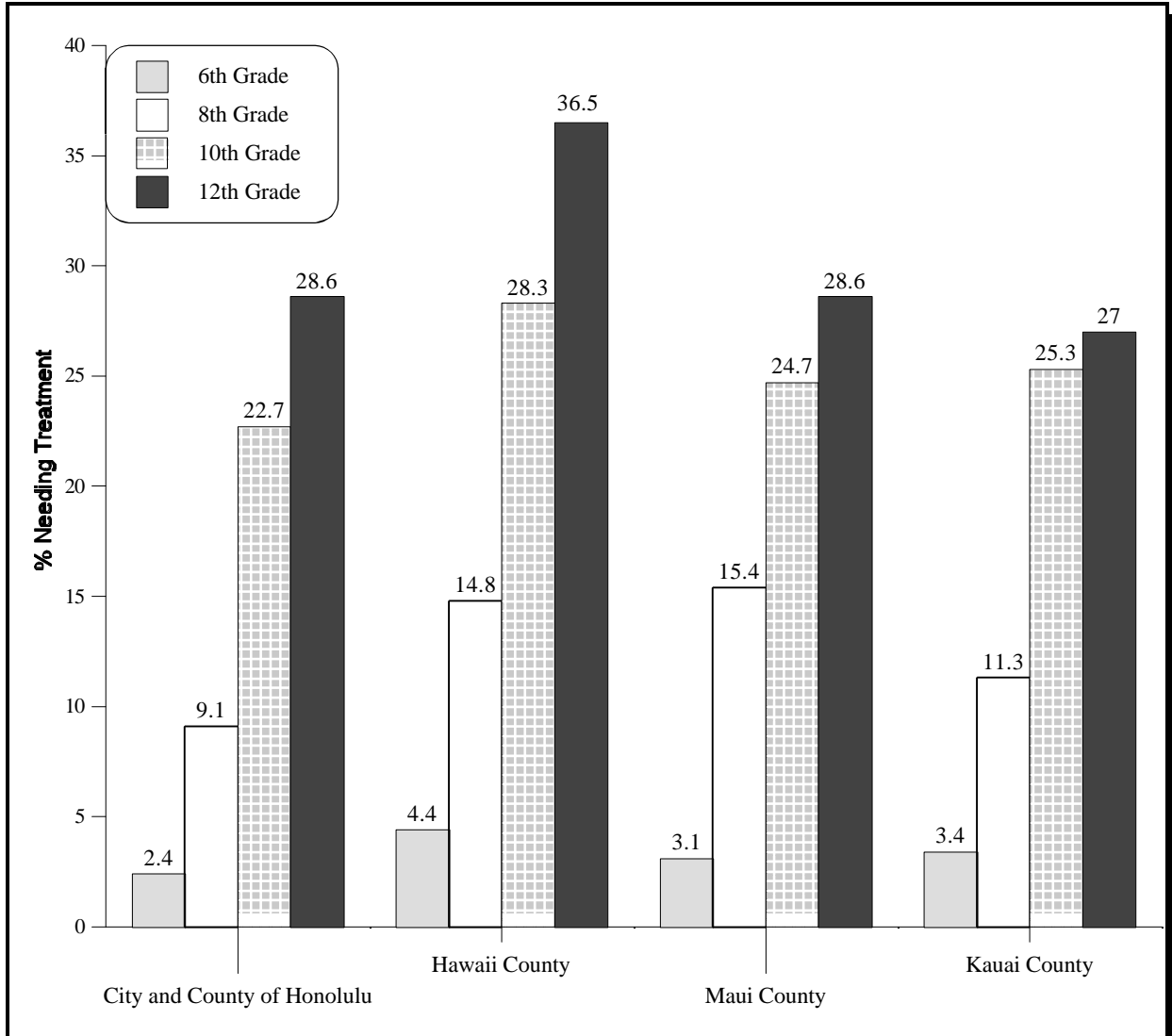
**NOTES:** "Abuse" refers to abuse of or dependency on a substance. Stimulants include cocaine, methamphetamine, or speed. Depressants include downers, sedatives, or heroin. The categories above are not mutually exclusive since students who abuse one substance may also abuse another substance (e.g., a student may need treatment for both alcohol and marijuana). Thus, total treatment needs cannot be determined by adding across substances. Refer to Table 3 for total treatment needs.

**FIGURE 9**  
**Trends in Hawaii Statewide Treatment Needs, by Grade (1996-1998)**  
(Entries are percentages)



**FINDINGS:** Although treatment needs changed very little from 1996 to 1998 for sixth and eighth graders, treatment needs for tenth graders are up nine percentage points and treatment needs for twelfth graders have doubled. Increases are largely a function of more tenth and twelfth grade students reporting that various abuse and dependence symptoms are occurring more often in a single month or several times during the past year, rather than students reporting that they fit more symptoms. Treatment needs are based on both the number of symptoms present and how often the symptom occurs.

**FIGURE 10**  
**County Treatment Needs for The State of Hawaii in 1998**  
**Using the DSM-III-R Criteria, by Grade**  
 (Entries are percentages)



**FINDINGS:** Treatment needs are generally highest in Hawaii County and lowest in the City and County of Honolulu. Appendix B, Table 4, shows that the greatest proportion of students with treatment needs in the City and County of Honolulu are from the Windward Oahu District. The percentage of students needing treatment for any substance abuse problem in Windward Oahu District are less than Hawaii County but nearly equal to Maui and Kauai Counties. All other districts from Oahu have a smaller proportion of students needing treatment than in Hawaii, Maui, or Kauai Counties.

**NOTES:** “Any Substance Abuse” includes students who are classified as either dependent on or abusers of alcohol, illicit drugs (marijuana, stimulants, depressants, or hallucinogens), or both alcohol and illicit drugs according to the DSM-III-R criteria. Refer to Appendix B, Table 4, for district-level treatment needs.

## SECTION IV – FACTORS RELATED TO USE

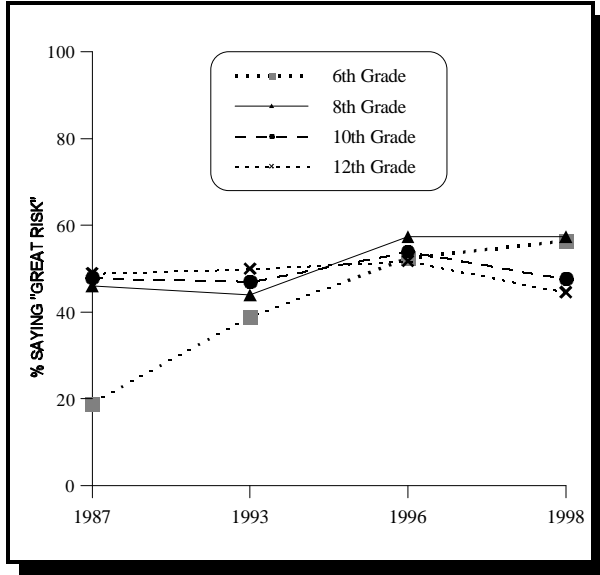
A number of variables were included in the survey because they have proven to be important predictors of substance use prevalence and trends. The key predictors discussed below include age of onset, educational ambitions of students, adolescent attitudes and beliefs about substances, peer and family influences, and ethnic background. Although previous Hawaii student alcohol and drug use studies have examined adolescent attitudes and beliefs about alcohol and drugs and exposure to substance use, the *1998 Hawaii Student Alcohol and Drug Use Study* examined additional variables that are believed to either increase the likelihood of a student using substances (risk factors) or mitigate risk effects (protective factors). These risk and protective factors were included to help identify populations most at risk and to determine which factors need to be addressed in various communities to reduce risk. The last section of the major report discusses factors that should be the focus of prevention efforts directed at various districts and subgroups. Listed below is a brief overview of key factors related to substance use.

- ! Alcohol and tobacco are generally initiated earlier than other drugs, and are significant predictors of subsequent drug use. *Age of onset* for alcohol and tobacco correlates with the use of every illicit drug surveyed, the total number of different drugs tried, amount of marijuana use, and substance abuse. Becoming a regular smoker and getting drunk at an early age are particularly robust predictors of subsequent drug use.
  
- ! *Onset of alcohol and tobacco use* occurs by the fourth grade for over 10% of the students and by the eighth grade for approximately 50% of the students (Appendix C, Table 5). The peak grade of alcohol initiation is between seventh and eighth grade, and the majority of the students who report drinking indicate that more serious alcohol abuse (getting drunk) occurs by the ninth grade. The peak grade of tobacco initiation varies by grade level of respondent, but is generally reported to occur around the sixth grade. Smoking cigarettes on a regular basis does not generally occur before the seventh or eighth grade.
  
- ! *Marijuana use* is initiated as early as the by sixth grade for 5% of the students, by the eighth grade for 20% of the students, and by the tenth grade for nearly 40% of the students (Appendix C, Table 5). Peak initiation for marijuana use is during the seventh or eighth grade.
  
- ! Given the early onset of substance use, it is not surprising that the majority of the students believe that *alcohol and drug education* should occur prior to the fourth grade. The impact of early alcohol and drug education may be limited by the quality of that education. Less than 50% of eighth, tenth, and twelfth graders provided “good” or “excellent” ratings to their school’s substance education programs, and the ratings are down from 1996. Of those students who abuse substances, approximately three-quarters reported school alcohol and drug education programs needed improvement. Family substance abuse education efforts also received poor ratings by over 40% of eighth, tenth, and twelfth graders with fewer students in 1998 than in 1996 providing favorable ratings to family efforts. Students who rated their family substance education efforts as “good” or “excellent” were much more likely to resist offers to use substances and abstain from substance use. Thus, improvements in alcohol and drug education must occur at *both* the school and family level.

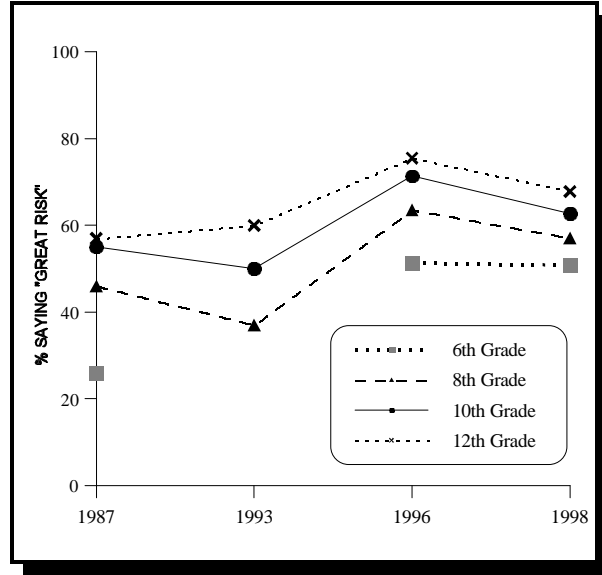
- ! Students' *educational ambitions* are related to substance use such that students who expect to graduate from a 4-year college have lower illicit drug, alcohol, and tobacco use rates than those who don't expect to graduate from a 4-year college. Monthly and daily prevalence reports for any illicit drug and tobacco use are twice as high for non-college-bound as for college-bound students.
- ! *Risk perceptions* associated with alcohol and cigarette use continue to rise in Hawaii (Figures 11a and 11d) and remain higher than nationwide reports (Appendix C, Table 6). Risk perceptions for illicit drugs, however, decreased in 1998 for Hawaii eighth, tenth, and twelfth graders (Figures 11a and 11b). These risk perceptions are still higher than those reported nationwide (Appendix C, Table 6). The relationship between risk perceptions and substance use generally accounts for less than 10% of variance in substance use.
- ! Students in Hawaii perceive alcohol, tobacco, and illicit drugs as less obtainable than students nationwide (Appendix C, Table 7) and *perceptions of availability* have continued to decrease over the years. Perceived availability of substances is a slightly better predictor of substance use than risk perceptions. Students are more likely to use a substance the easier it is to obtain.
- ! In 1997, the State of Hawaii initiated several tobacco "stings" in an effort to decrease merchant sales of cigarettes to minors. As a result, Hawaii students' ability to *purchase tobacco and alcohol* has declined since 1996 for all grade levels except twelfth grade (Figures 12 and 13). Nearly half as many sixth and eighth graders report being able to buy tobacco and alcohol from an employee at a store, from a bar, and from a restaurant. The ability of tenth graders to purchase these substances also went down, but not as drastically. Fewer twelfth graders in 1998, compared to 1996, were able to purchase alcohol from an employee at a store, but more twelfth graders in 1998 were able to purchase tobacco from an employee at a store (Figures 12a and 13a).
- ! Although substance use has generally declined since 1996, a greater proportion of students in 1998 than in 1996 believe that their classmates use alcohol, tobacco, and illicit drugs (Figure 14; Appendix C, Table 8). Over half of the students in all grades believe that family members use alcohol, nearly half believe that family members use tobacco, and approximately one-fourth believe that family members or other relatives use illicit drugs. Normative beliefs (e.g., *perceived peer and family use*) are strongly related to substance use. The more substance use is perceived to be normative, the more likely a student will use a substance. Alcohol and drug prevention efforts need to focus on decreasing students' beliefs that others are using various substances. The only risk factor more critical than perceived use by others is actual exposure to use.
- ! Frequent *exposure to others' alcohol and illicit drug use* has gone down in all grades since 1996, whereas frequent *exposure to others' tobacco use* has gone up in grades eight and above (Appendix C, Table 9). Of concern, however, is the large percentage of students (approximately 30% of sixth graders, 40% of eighth graders, and over 50% of tenth and twelfth graders) who report frequent exposure (once a week or more) to someone in their environment who uses tobacco and alcohol. Approximately one-fifth of tenth and twelfth graders are frequently exposed to someone who uses illicit drugs.

**FIGURE 11**  
**Trends in Hawaii Students' Perceived "Great Risk"**  
**Associated with Various Substances (1987-1998)**

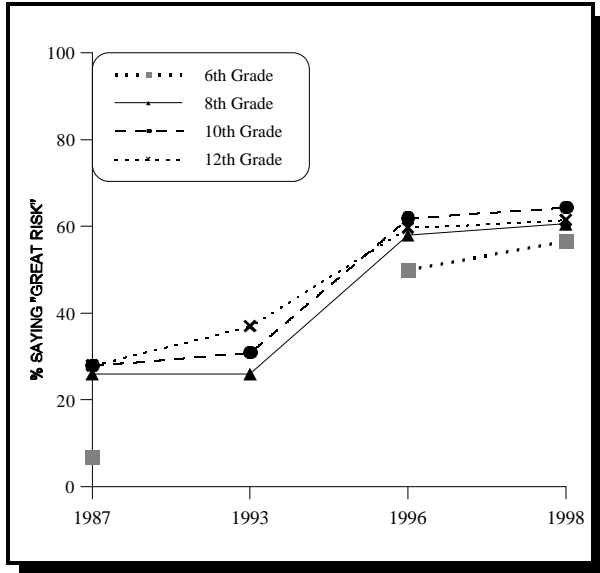
**Figure 11a:**  
**Using Marijuana Once or Twice**



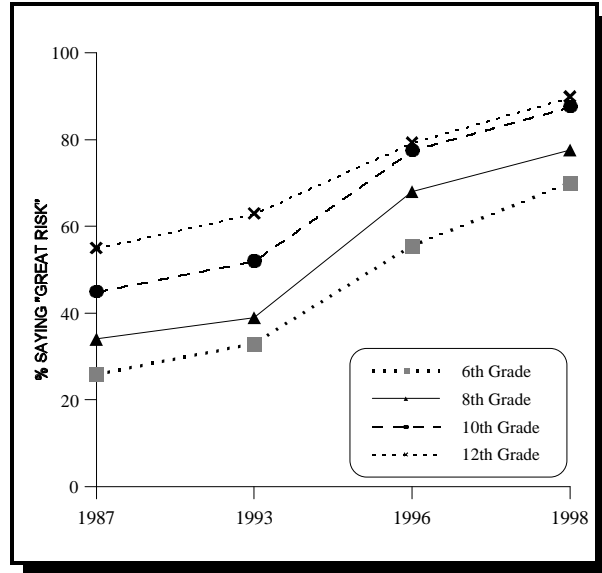
**Figure 11b:**  
**Using Cocaine Once or Twice**



**Figure 11c:**  
**Having Five or More Drinks Per Weekend**



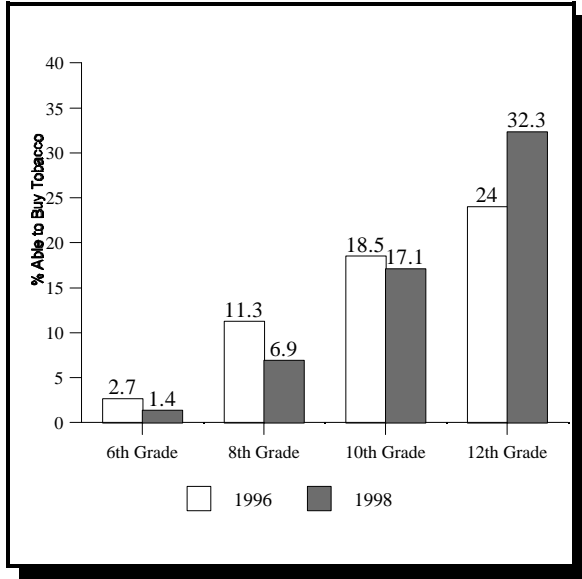
**Figure 11d:**  
**Smoking One or More Packs Per Day**



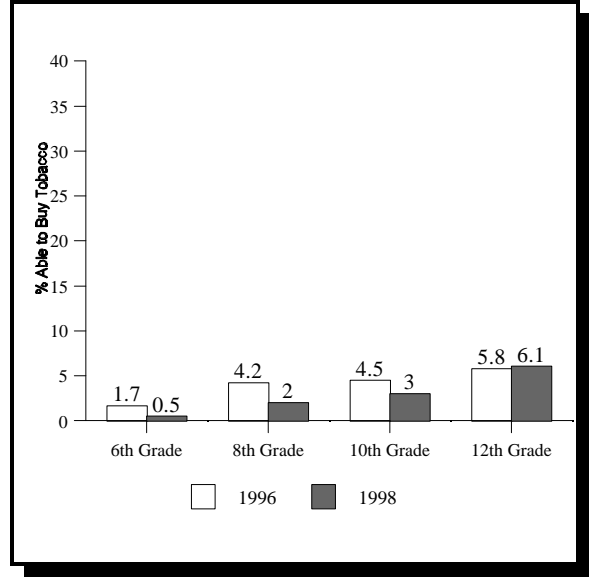
**FINDINGS:** Risk perceptions continued to rise in 1998 for alcohol and cigarette use at all grade levels. From 1996 to 1998, risk perceptions for marijuana use continued to increase for sixth graders, but decreased for tenth and twelfth graders and remained relatively stable for eighth graders. Risk perceptions related to cocaine use increased drastically in 1996 but then fell in 1998 for all grades except sixth.

**FIGURE 12**  
**Trends in Hawaii Student's Ability to Buy Tobacco, by Grade (1996-1998)**  
 (Entries are percentages)

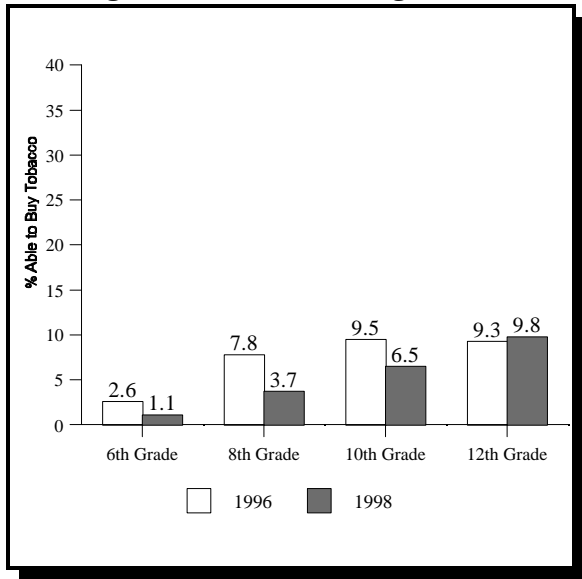
**Figure 12a: From An Employee at a Store**



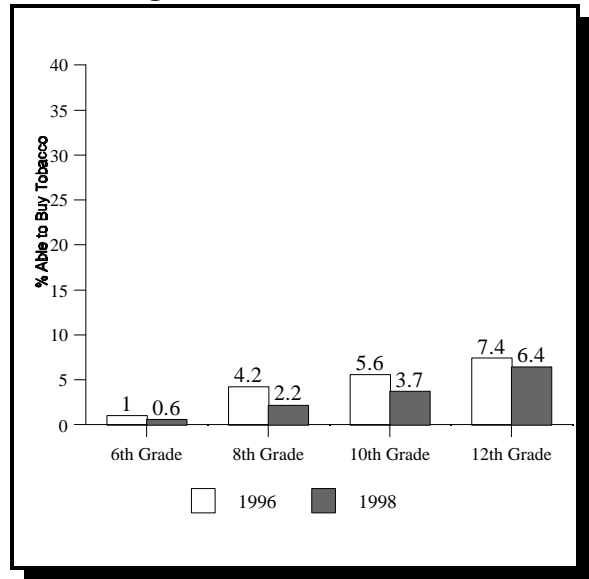
**Figure 12b: From a Bar**



**Figure 12c: From a Vending Machine**



**Figure 12d: From a Restaurant**

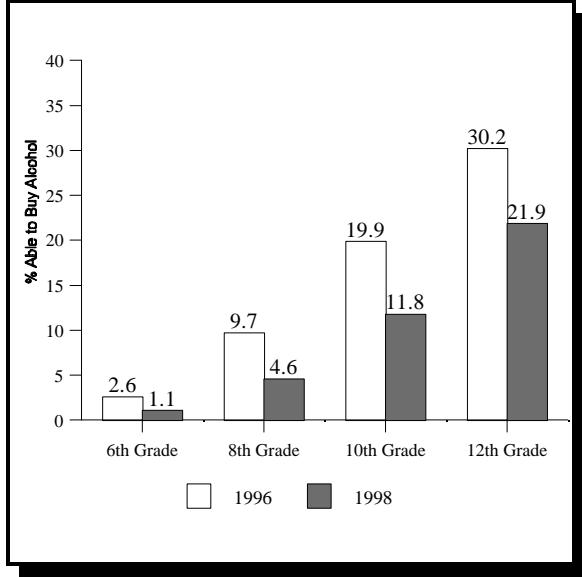


**FINDINGS:** Ability to purchase tobacco from vending machines, store employees, bars, and restaurants decreased in 1998 for sixth, eighth, and tenth graders. More twelfth graders report being able to purchase tobacco from store employees in 1998 than in 1996.

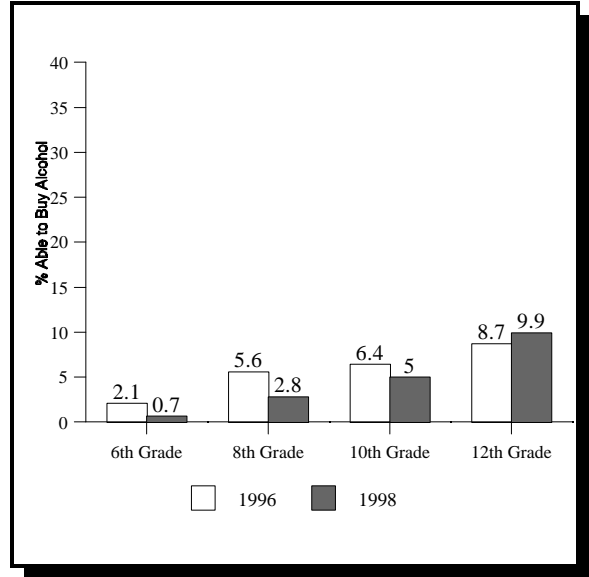


**FIGURE 13**  
**Trends in Hawaii Student's Ability to Buy Alcohol by Grade (1996-1998)**  
 (Entries are percentages)

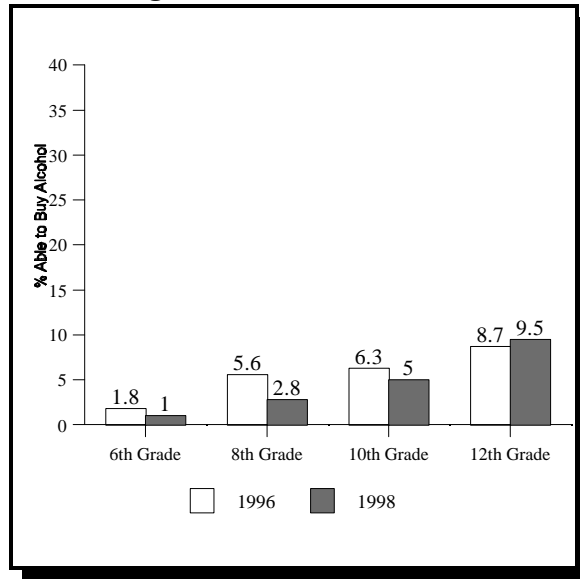
**Figure 13a: From an Employee at a Store**



**Figure 13b: From a Bar**



**Figure 13c: From a Restaurant**

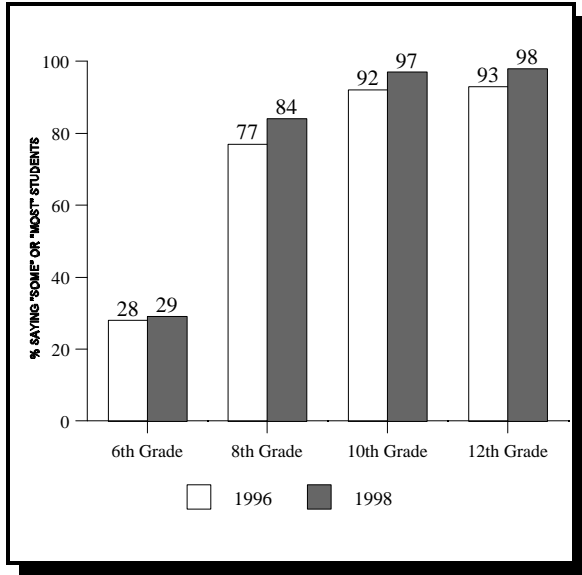


**FINDINGS:** Fewer students in 1998 than in 1996 report being able to purchase alcohol from a store employee. Ability to obtain alcohol from a bar and ability to obtain alcohol from a restaurant have also decreased for sixth, eighth, and tenth graders.

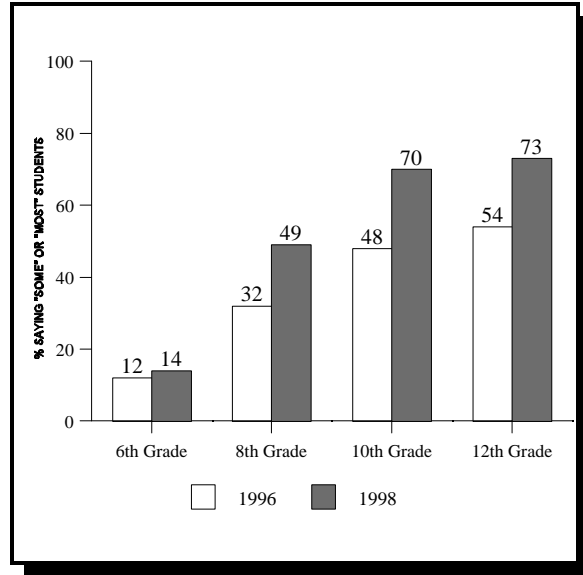
**FIGURE 14**  
**Trends in the Proportion of Hawaii Students Who Believe “Some” or “Most”**  
**Classmates Have Tried Various Illicit Drugs, by Grade, 1996-1998**

(Entries are percentages)

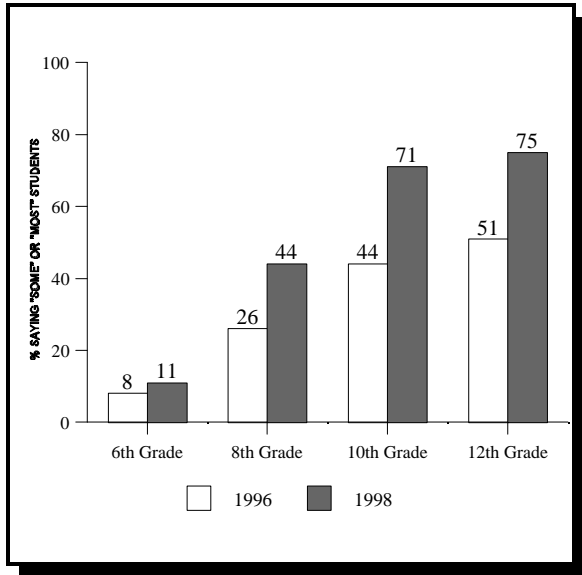
**Figure 14a: Marijuana**



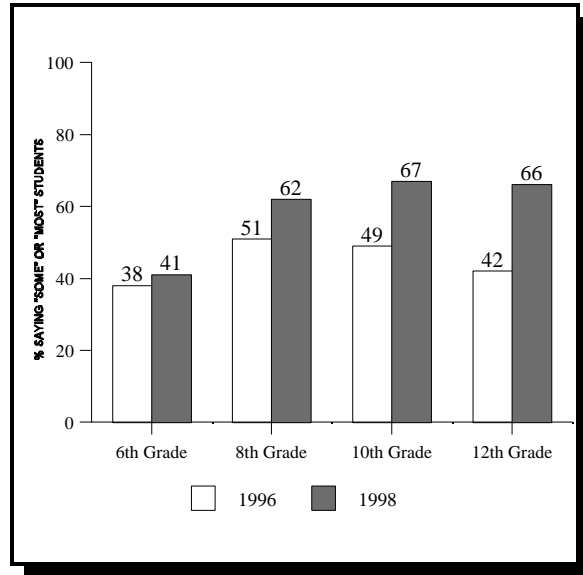
**Figure 14b: Cocaine**



**Figure 14c: Methamphetamine**



**Figure 14d: Inhalants**

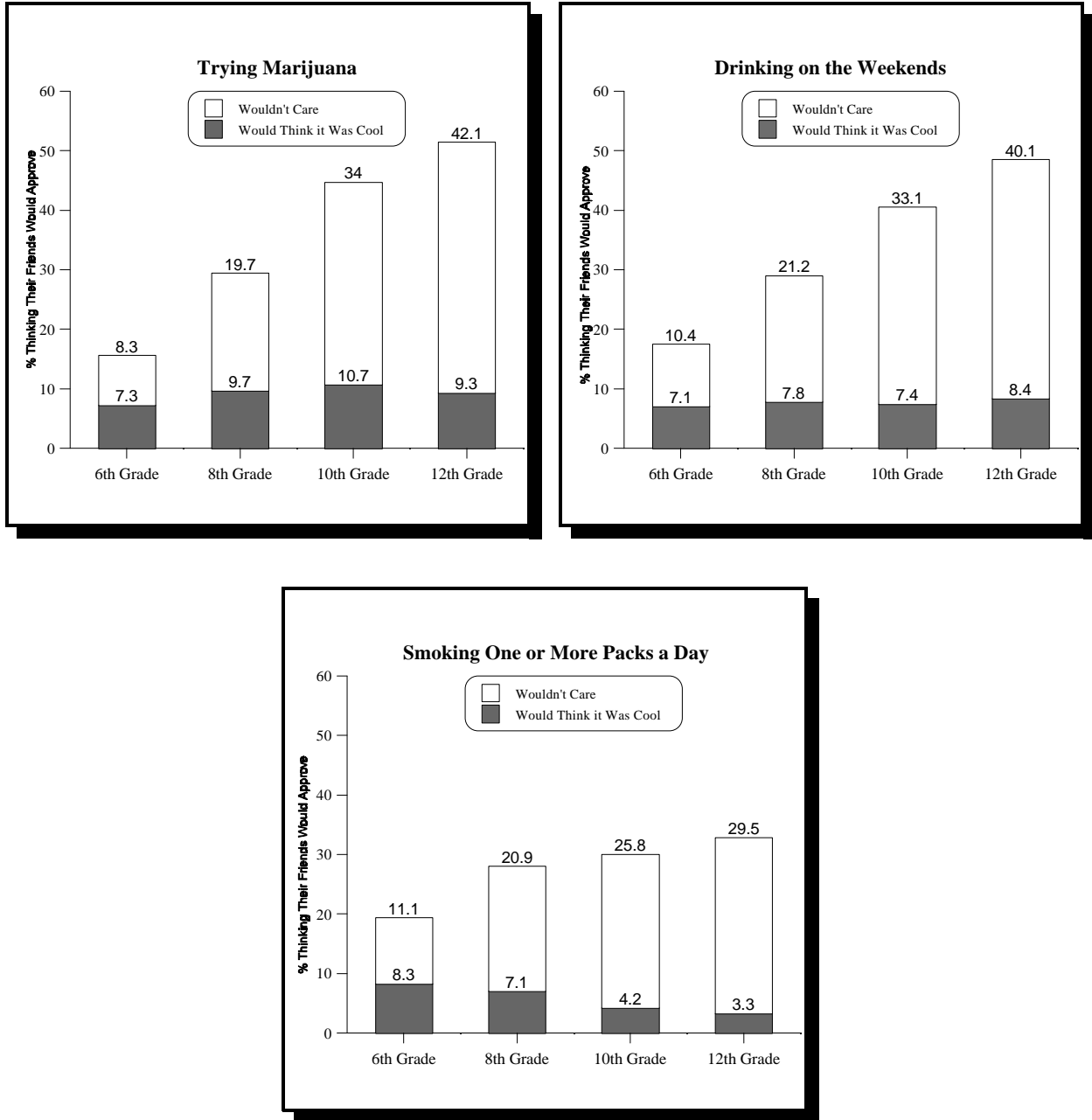


**FINDINGS:** In 1998, a greater percentage of students, in all grades, perceive “some” or “most” classmates to have tried various substances. See Appendix C, Table 8, for perceptions of classmates’ use of other substances which follow similar trends.

- ! Two variables most likely to protect an adolescent from substance abuse are *peer disapproval perceptions* and *parental substance use sanctions*. Although the great majority of students believe their friends would not condone the use of illicit drugs (Appendix C, Table 10), approximately 10% of the students in all grades reported that their friends would think it was “cool” if they used marijuana and nearly half of the tenth and twelfth graders reported that their friends would either think it was cool or wouldn’t care if they used marijuana (Figure 15). Most students report that their family members have told them not to use tobacco, alcohol, and illicit drugs.
- ! Certain subgroups are associated with greater alcohol, cigarette, and other drug use. Students from different *ethnic backgrounds* exhibit different patterns of alcohol and other drug use. Native Hawaiian and Caucasian students report the highest substance use; Chinese students report the lowest. *Female* prevalence reports for illicit drug use are generally lower than their *male* counterparts. Daily cigarette use is slightly higher for females and daily alcohol use tends to be lower for females than males.
- ! Districts and ethnic and gender subgroups were compared to the statewide sample to determine which risk and protective factors should be targeted in prevention campaigns directed at various communities. While numerous factors were initially proposed, 14 risk factors and six protective were empirically shown to be related to substance use and were used to address prevention needs (see correlations in Table 11). Appendix D provides tables that list each of the risk and protective factors and how various communities compare to statewide samples. Table 12 provides a quick overview of risk and protective factors that should be the focus of prevention efforts at the district level; Table 13 provides a quick overview of risk and protective factors that should be the focus of prevention efforts directed at different ethnic groups and males versus females. Tables 14 through 17 compare student percentage in each subgroup to statewide percentages for risk and protective factors. Prevention efforts should focus on decreasing risk factors that are above the statewide sample and enhancing protective factors that are below the statewide sample.
- ! Scholars over the years have argued that it is the accumulation of multiple risk factors that increase substance use and the accumulation of multiple protective factors that protect an adolescent from substance use. The greater the number of risk factors an individual is exposed to, the greater likelihood he or she will use or abuse substances. The greater the number of protective factors an individual is exposed to, the greater the likelihood he or she will abstain from substance use. Table 12 in Appendix D lists the average number of risk and protective factors that students are exposed to in each district. Students in Hawaii, Maui, Kauai, and Windward Oahu Districts are, on average, exposed to more risk factors than students from other districts. Students in Hawaii and Kauai Districts are, on average, exposed to fewer protective factors. Thus, students in these districts are most at risk.
- ! Native Hawaiian and Caucasian students are, on average, exposed to more risk factors and fewer protective factors than students from other ethnic groups. Japanese and Chinese students are, on average, exposed to fewer risk factors and more protective factors than students from other ethnic groups. Males are exposed to more risk factors and fewer protective factors than female students (Appendix D, Table 13).

**FIGURE 15**  
**Proportion of Hawaii Students Who Think Their Friends Would Approve of Them Using Marijuana, Alcohol, and Cigarettes, by Grade, 1996**

(Entries are percentages)



**FINDINGS:** Nearly half of the tenth and twelfth grade students report that they thought their friends “*Would think it was cool*” or “*Wouldn’t care*” if they tried marijuana or drank on the weekends. More than one-fourth of eighth, tenth, and twelfth graders believe their friends would approve of them smoking one or more packs of cigarettes a day. More sixth and eighth graders than tenth and twelfth graders report that their friends “*would think it was cool*” if they smoked one or more packs a day.

## CONCLUSION

The results of the *1998 Hawaii Student Alcohol and Drug Use Study* indicate that substance use continues to be a significant problem affecting the youth of Hawaii. Alcohol remains the most prevalent substance but lifetime prevalence rates for this substance have stabilized over the years. Lifetime prevalence reports for cigarette use, on the other hand, have started to show a downward decline in some grades. Lifetime prevalence rates for illicit drugs continue to climb slightly for tenth and twelfth graders but have decreased for eighth graders and stabilized for sixth graders. Increases at the tenth and twelfth grade level are largely due to marijuana use with all other illicit drug use declining or stabilizing since 1996. Monthly and daily prevalence reports for nearly all substances increased drastically from 1993 to 1996. In 1998, monthly and daily prevalence reports for each substance, at each grade, generally dropped or leveled. Although 1998 witnessed decreases in prevalence reports for all substances, the rates are still higher than in 1993.

Perhaps the most alarming finding of the 1998 study is the increase in statewide adolescent treatment need estimates for alcohol and/or drugs. The proportion of seniors needing treatment nearly doubled since 1996. At least 16% of the students statewide in grades six through twelve are estimated to need treatment for either alcohol or drug abuse. The greatest needs are in Hawaii County where 21% of the students are estimated to need treatment. Although treatment needs are high, utilization of treatment facilities needs to be improved by clearly communicating to students that substance abuse treatment is completely confidential. This was the most commonly reported obstacle to seeking help.

## RECOMMENDATIONS

Although the alcohol and other drug use study was in a school setting, an examination of factors related to adolescent substance use and abuse show that effective prevention and treatment programs must extend well beyond the school campus. Effective prevention and treatment programs require the combined efforts of communities, law enforcement, families, media, and ongoing school-based substance abuse programs. The Hawaii Department of Health, Alcohol and Drug Abuse Division (ADAD), makes the following recommendations based on the findings from *The 1998 Hawaii Student Alcohol and Drug Use Study (1991-1998): Hawaii Adolescent Treatment Needs Assessment* (Klinge & Miller, 1999).

- ! **ENSURE THAT EVERY ADOLESCENT WHO HAS SUBSTANCE ABUSE PROBLEMS GETS TREATMENT.** Although substance abuse is a community problem, school-based treatment programs make treatment easily accessible to youth who need treatment. Accessible school-based substance treatment programs should be sustained and expanded to all high schools and intermediate schools. Material about substance abuse treatment and counseling programs must be distributed more widely in schools and must thoroughly emphasize the fact that these services are strictly confidential.
  
- ! **MAKE SUBSTANCE ABUSE PREVENTION A PRIORITY IN EVERY COMMUNITY.** Perceived availability of substances and exposure to people using substances are critical risk factors in substance use and abuse. Thus, community efforts to reduce availability through voluntary efforts by merchants and through community enforcement of merchant compliance with Federal and State Laws prohibiting sales of alcohol and tobacco products to minors must be continued and increased. Tightening of local ordinances restricting cigarette smoking and drinking in public settings are needed to decrease exposure to substance use.

- ! **STRENGTHEN THE FAMILY’S ROLE AND SKILLS IN SUBSTANCE ABUSE PREVENTION EFFORTS.** Parents and family members must recognize that exposure to substance use by family members puts children and adolescents at great risk for substance use and abuse. Parents’ expressed disapproval of substance use is a powerful deterrent against substance use and abuse by children. The risk and protective factors addressed in this study suggest that parents need to take an active role in their children’s lives, including talking to them about the dangers of substance use, monitoring their activities, understanding their problems, and being prepared to support their need to receive treatment for substance abuse.
  
- ! **INCREASE MASS MEDIA COVERAGE ON SUBSTANCE ABUSE PREVENTION AND TREATMENT.** Community efforts must include extensive mass media coverage designed to alter the myth that substance use is normative behavior (e.g., “everyone is using substances”), educate parents regarding their critical role in substance use prevention and treatment, teach parents skills for better family communication, and increase public awareness regarding substance abuse symptoms and treatment programs. Components of a comprehensive media campaign could include television public service announcement, featured news stories, and radio programming. Additionally, distribution of printed material in workplaces, physicians’ offices, and health care agencies could be used to increase public awareness and to teach community members skills they could use to modify their substance use behaviors and behaviors of others.
  
- ! **STRENGTHEN SCHOOL-BASED SUBSTANCE ABUSE PREVENTION PROGRAMS IN EVERY GRADE.** A comprehensive school-based substance abuse prevention programs must begin no later than the fourth grade. School prevention efforts must continue to address the dangers and risk of tobacco, alcohol, and illicit drug use, but more importantly, students must also be educated that the majority of their peers are not using substances. Peers are important influences in both prevention and treatment of substance abuse. Existing school-based prevention programs could be enhanced by developing components designed to alter the myth that “everyone is doing drugs,” enact positive peer pressure, and educate students of the warning signs of substance abuse so they can encourage and influence their peers who need treatment. As educational ambitions of students rise, substance use drops. Thus, school efforts to increase the educational aspirations of students at an earlier grade will have a positive effect on substance abstinence.

## APPENDIX A

### PREVALENCE TABLES

Table 1: Trends in Prevalence of Various Substances for Hawaii Sixth, Eighth, Tenth, and Twelfth Grade Students, 1991-1998.

*The table lists the percentage of students, in each grade, using various substances at least once in their lives, in the previous thirty days, and on a daily basis. The table provides data from the 1991, 1993, 1996, and 1998 Hawaii Student Alcohol and Drug Use Study and records the percentage point change in prevalence reports from 1996 to 1998.*

Table 2: Typical Daily Usage of Various Types of Substances for Hawaii Sixth, Eighth, Tenth, and Twelfth Grade Students, 1998.

*Table 2 indicates the percentage of students, in each grade, reporting how much of a substance is typically used on the days they use the substance. Typical daily usage reports are included for marijuana, cocaine, methamphetamine, cigarettes, smokeless tobacco, and alcohol.*

**TABLE 1**  
**Trends in Prevalence of Various Substances**  
**for Hawaii Sixth, Eighth, Tenth, and Twelfth Grade Students, 1991-1998**

(Entries are percentages)

	Lifetime					30-Day					Daily		
	1991	1993	1996	1998	'96-'98 change	1991	1993	1996	1998	'96-'98 change	1996	1998	'96-'98 change
<b>ANY DRUG, INCLUDING INHALANTS <sup>a</sup></b>													
6th Grade	9.2	12.4	13.4	13.7	+0.3	1.5	2.1	7.7	6.7	-1.0	1.2	1.0	-0.2
8th Grade	21.6	27.3	29.6	26.3	-3.3	7.4	10.5	18.4	14.7	-3.7	4.0	3.4	-0.6
10th Grade	33.5	38.7	41.3	42.9	+1.6	14.7	18.6	22.7	23.6	+0.9	5.2	5.3	+0.1
12th Grade	39.3	42.0	47.7	50.3	+2.6	16.5	19.7	26.3	24.5	-1.8	7.3	5.7	-1.6
<b>ANY ILLICIT DRUG, EXCLUDING INHALANTS <sup>b</sup></b>													
6th Grade	----	----	6.4	6.6	+0.2	----	----	4.3	3.7	-0.6	0.8	0.7	-0.1
8th Grade	----	----	23.0	20.9	-2.1	----	----	15.7	13.0	-2.7	3.6	3.1	-0.5
10th Grade	----	----	37.8	40.7	+2.9	----	----	22.0	23.3	+1.3	4.9	5.2	+0.3
12th Grade	----	----	45.9	48.9	+3.0	----	----	25.9	24.3	-1.6	6.7	5.7	-1.0
<b>Marijuana</b>													
6th Grade	1.7	2.4	5.1	4.9	-0.2	0.4	0.5	3.4	2.6	-0.8	0.7	0.4	-0.3
8th Grade	12.3	16.7	21.5	19.2	-2.3	4.9	7.5	14.8	11.8	-3.0	3.1	2.4	-0.7
10th Grade	25.7	31.4	36.5	39.2	+2.7	12.7	16.0	21.2	22.3	+1.1	4.2	4.7	+0.5
12th Grade	34.3	37.1	44.7	47.7	+3.0	14.6	17.9	25.0	23.0	-2.0	6.4	5.2	-1.2
<b>Cocaine</b>													
6th Grade	0.7	1.0	1.9	2.0	+0.1	0.2	0.3	1.3	1.3	0.0	0.4	0.2	-0.2
8th Grade	3.4	4.0	5.3	4.2	-1.1	1.3	1.6	3.4	2.6	-0.8	1.1	0.6	-0.5
10th Grade	6.4	7.2	5.8	5.3	-0.5	2.4	2.7	2.7	2.3	-0.4	0.8	0.6	-0.2
12th Grade	9.1	8.2	7.9	6.0	-1.9	3.5	2.4	3.6	1.8	-1.8	0.9	0.1	-0.8
<b>Inhalants</b>													
6th Grade	7.2	9.4	9.7	10.1	+0.4	0.9	1.3	5.1	4.5	-0.6	0.5	0.5	0.0
8th Grade	12.7	16.6	15.2	12.5	-2.7	2.6	3.7	7.2	4.8	-2.4	1.3	0.7	-0.6
10th Grade	14.2	15.6	11.2	10.2	-1.0	2.8	3.0	3.1	2.4	-0.7	0.7	0.6	-0.1
12th Grade	10.2	12.0	7.9	8.1	+0.2	1.8	2.1	2.4	1.4	-1.0	0.6	0.3	-0.3

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**TABLE 1 (continued)**  
**Trends in Prevalence of Various Substances**  
**for Hawaii Sixth, Eighth, Tenth, and Twelfth Grade Students, 1991-1998**

(Entries are percentages)

	Lifetime					30-Day					Daily		
	1991	1993	1996	1998	'96-'98 change	1991	1993	1996	1998	'96-'98 change	1996	1998	'96-'98 change
<b>Methamphetamine</b>													
6th Grade	1.0	1.3	1.4	1.8	+0.4	0.2	0.3	1.0	1.0	0.0	0.2	0.1	-0.1
8th Grade	4.3	4.9	4.4	4.6	+0.2	1.6	1.9	3.0	3.1	+0.1	0.9	0.5	-0.4
10th Grade	7.0	7.8	5.9	6.7	+0.8	2.9	3.2	2.8	3.0	+0.2	0.8	0.6	-0.2
12th Grade	8.9	8.4	7.5	7.7	+0.2	3.4	3.1	2.8	2.3	-0.5	0.6	0.4	-0.2
<b>Heroin or Other Opiates</b>													
6th Grade	0.6	0.8	1.3	1.4	+0.1	0.1	0.2	1.0	0.8	-0.2	0.3	0.1	-0.2
8th Grade	2.4	2.7	3.4	2.7	-0.7	1.0	1.0	2.4	1.8	-0.6	0.9	0.4	-0.5
10th Grade	4.1	4.1	1.9	2.3	+0.4	1.3	1.5	1.4	1.4	0.0	0.7	0.4	-0.3
12th Grade	4.6	5.1	2.7	2.0	-0.7	1.4	1.4	1.7	0.7	-1.0	0.6	0.1	-0.5
<b>Sedatives/Tranquilizers</b>													
6th Grade	0.8	0.9	1.4	1.6	+0.2	0.3	0.3	0.9	0.7	-0.2	0.3	0.2	-0.1
8th Grade	2.5	2.7	3.6	3.0	-0.6	1.1	0.9	2.5	2.1	-0.4	0.9	0.4	-0.5
10th Grade	4.2	4.0	3.9	3.9	0.0	1.1	1.5	1.9	1.7	-0.2	0.7	0.4	-0.3
12th Grade	4.2	4.3	4.8	3.9	-0.9	1.0	0.9	2.0	1.6	-0.4	0.6	0.2	-0.4
<b>Ecstasy/MDMA</b>													
6th Grade	----	----	----	1.4	----	----	----	----	0.7	----	----	0.1	----
8th Grade	----	----	----	2.9	----	----	----	----	2.0	----	----	0.5	----
10th Grade	----	----	----	4.1	----	----	----	----	1.9	----	----	0.5	----
12th Grade	----	----	----	5.3	----	----	----	----	1.7	----	----	0.2	----
<b>Hallucinogens</b>													
6th Grade	0.8	1.2	1.6	1.9	+0.3	0.2	0.4	1.0	0.9	-0.1	0.3	0.1	-0.2
8th Grade	3.5	4.5	6.5	4.6	-1.9	1.3	1.5	4.2	2.8	-1.4	1.1	0.5	-0.6
10th Grade	7.1	9.1	7.8	9.2	+1.4	2.9	3.4	4.3	3.6	-0.7	0.6	0.6	0.0
12th Grade	8.6	10.8	12.0	11.6	-0.4	2.8	3.5	5.3	3.1	-2.2	0.8	0.3	-0.5
<b>Steroids</b>													
6th Grade	2.2	1.9	1.5	2.0	+0.5	0.6	0.5	1.0	1.1	+0.1	0.3	0.3	0.0
8th Grade	3.1	3.1	2.8	2.6	-0.2	1.4	1.1	2.2	1.8	-0.4	1.0	0.4	-0.6
10th Grade	3.8	3.7	2.2	2.1	-0.1	1.7	1.9	1.4	1.3	-0.1	0.7	0.4	-0.3
12th Grade	3.5	3.3	2.4	1.6	-0.8	1.2	1.7	1.7	1.0	-0.7	0.7	0.3	-0.4

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**TABLE 1 (continued)**  
**Trends in Prevalence of Various Substances**  
**for Hawaii Sixth, Eighth, Tenth, and Twelfth Grade Students, 1991-1998**

(Entries are percentages)

	Lifetime					30-Day					Daily		
	1991	1993	1996	1998	'96-'98 change	1991	1993	1996	1998	'96-'98 change	1996	1998	'96-'98 change
<b>Diuretics/Laxative</b>													
6th Grade	----	----	2.3	2.4	+0.1	----	----	1.3	1.2	-0.1	0.4	0.3	-0.1
8th Grade	----	----	5.4	4.4	-1.0	----	----	3.9	2.6	-1.3	1.1	0.7	-0.4
10th Grade	----	----	6.5	5.4	-1.1	----	----	3.2	2.5	-0.7	1.0	0.6	-0.4
12th Grade	----	----	7.2	6.5	-0.7	----	----	3.3	2.1	-1.2	0.9	0.4	-0.5
<b>ANY ALCOHOL</b>													
6th Grade	31.1	34.9	29.8	31.6	+1.8	2.8	2.5	14.4	12.0	-2.4	0.9	0.9	0.0
8th Grade	55.8	57.4	54.0	52.6	-1.4	14.0	15.2	30.2	25.3	-4.9	3.1	2.8	-0.3
10th Grade	72.9	73.3	73.4	72.3	-1.1	28.3	28.8	41.2	37.6	-3.6	3.8	3.8	0.0
12th Grade	79.8	79.2	79.7	81.2	+1.5	38.6	35.4	46.3	45.0	-1.3	4.7	3.2	-1.5
<b>Beer or Wine <sup>c</sup></b>													
6th Grade	22.0	24.5	28.5	30.3	+1.8	1.7	1.6	13.7	11.4	-2.3	0.8	0.7	-0.1
8th Grade	47.8	48.5	52.1	50.3	-1.8	10.3	11.5	28.6	23.9	-4.7	2.8	2.4	-0.4
10th Grade	65.4	64.7	71.2	69.7	-1.5	22.2	22.9	38.8	34.6	-4.2	3.4	3.2	-0.2
12th Grade	71.8	69.7	77.7	78.7	+1.0	31.2	29.4	43.6	41.7	-1.9	4.1	2.7	-1.4
<b>Hard Liquor</b>													
6th Grade	7.3	8.7	9.4	9.3	-0.1	0.5	0.7	6.5	5.4	-1.1	0.7	0.5	-0.2
8th Grade	25.9	28.9	32.9	31.1	-1.8	6.3	7.8	22.1	17.6	-4.5	2.7	2.2	-0.5
10th Grade	47.3	49.2	56.8	56.0	-0.8	16.0	16.7	31.5	29.1	-2.4	2.9	3.0	+0.1
12th Grade	57.7	57.6	68.2	69.8	+1.6	21.4	20.2	36.5	35.1	-1.4	3.4	2.3	-1.1
<b>Get Drunk</b>													
6th Grade	----	----	5.6	5.8	+0.2	----	----	----	----	----	----	----	----
8th Grade	----	----	22.9	20.4	-2.5	----	----	----	----	----	----	----	----
10th Grade	----	----	40.1	40.7	+0.6	----	----	----	----	----	----	----	----
12th Grade	----	----	52.2	55.4	+3.2	----	----	----	----	----	----	----	----

(Table continued on next page)

**TABLE 1 (continued)**  
**Trends in Prevalence of Various Substances**  
**for Hawaii Sixth, Eighth, Tenth, and Twelfth Grade Students, 1991-1998**  
(Entries are percentages)

	Lifetime					30-Day					Daily		
	1991	1993	1996	1998	'96-'98 change	1991	1993	1996	1998	'96-'98 change	1996	1998	'96-'98 change
<b>USE OF ANY TOBACCO</b>													
6th Grade	----	----	24.2	22.2	-2.0	----	----	11.2	8.6	-2.6	1.1	0.9	-0.2
8th Grade	----	----	46.6	44.1	-2.5	----	----	26.1	19.1	-7.0	6.6	4.9	-1.7
10th Grade	----	----	58.4	58.0	-0.4	----	----	26.7	24.9	-1.8	10.8	10.6	-0.2
12th Grade	----	----	64.7	63.6	-1.1	----	----	28.9	29.7	+0.8	14.5	14.5	0.0
<b>Cigarettes</b>													
6th Grade	9.6	12.6	23.6	21.5	-2.1	1.5	2.1	10.8	8.1	-2.7	1.1	0.9	-0.2
8th Grade	33.2	37.4	45.9	43.1	-2.8	11.3	14.3	25.5	18.7	-6.8	6.5	4.8	-1.7
10th Grade	45.6	49.3	57.4	57.0	-0.4	19.7	22.2	25.8	24.1	-1.7	10.6	10.4	-0.2
12th Grade	49.6	50.7	62.7	62.4	-0.3	22.1	23.0	27.9	28.9	-1.0	14.3	14.2	-0.1
<b>Regularly Smoke Cigarettes<sup>d</sup></b>													
6th Grade	----	----	6.3	6.1	-0.2	----	----	----	----	----	----	----	----
8th Grade	----	----	19.9	18.6	-1.3	----	----	----	----	----	----	----	----
10th Grade	----	----	26.6	28.3	+1.7	----	----	----	----	----	----	----	----
12th Grade	----	----	29.5	31.4	+1.9	----	----	----	----	----	----	----	----
<b>Smokeless Tobacco</b>													
6th Grade	2.8	3.1	3.5	3.1	-0.4	0.5	0.5	1.9	1.5	-0.4	0.2	0.1	-0.1
8th Grade	6.8	7.1	8.1	5.9	-2.2	1.7	2.0	4.5	2.9	-1.6	1.1	0.7	-0.4
10th Grade	10.0	10.1	10.6	10.2	-0.4	2.7	2.8	3.7	3.0	-0.7	0.8	0.7	-0.1
12th Grade	13.7	13.0	16.8	15.9	-0.9	3.5	3.6	5.2	3.1	-2.1	1.4	0.5	-0.9

Approximate Ns for 1998: 6th grade = 9,218; 8th grade = 6,644; 10th grade = 5,153; 12th grade = 3,771.

NOTES: '----' indicates data not available. "Lifetime" indicates substance use at least once in a student's lifetime; "30-Day" indicates substance use at least once in the previous 30-days; "Daily" indicates substance use on 20 or more occasions in the previous 30-days.

<sup>a</sup> "Any Drug, Including Inhalants" includes the use of marijuana, cocaine, inhalants, methamphetamine, heroin, tranquilizers, ecstasy, hallucinogens, or steroids. Ecstasy was not included in the 1991-1996 reports.

<sup>b</sup> "Any Illicit Drug, Excluding Inhalants" includes the use of marijuana, cocaine, methamphetamine, heroin, tranquilizers, ecstasy, hallucinogens, or steroids. Ecstasy was not included in the 1991-1996 reports.

<sup>c</sup> In 1991-1993, beer and wine were measured separately. This table reports the higher number for the beer and wine percent reported in the 1991-1993 report.

<sup>d</sup> Students were asked if they have ever smoked cigarettes on a regular basis. Students in this category may not be regular smokers anymore.

**TABLE 2**  
**Typical Daily Usage of Various Types of Substances**  
**for Hawaii Sixth, Eighth, Tenth, and Twelfth Grade Students, 1998**  
(Entries are percentages)

<i>“On the days that you use the following, how much do you typically use?”</i>	<b>6th Grade</b>	<b>8th Grade</b>	<b>10th Grade</b>	<b>12th Grade</b>
<b>Smoke Marijuana</b>				
1 joint or less	2.4	7.9	15.6	20.8
2-4 joints	1.3	5.5	12.8	12.9
5 joints	0.2	1.0	1.5	1.4
more than 5 joints	0.5	3.2	4.7	4.4
<i>Never Used</i>	95.6	82.5	65.4	60.5
<b>Lines of Cocaine</b>				
1 line or less	0.7	1.5	1.5	1.6
2-4 lines	0.2	0.8	0.9	1.7
5 lines	0.1	0.2	0.2	0.1
above 5 lines	0.1	0.6	0.5	0.3
<i>Never Used</i>	98.8	97.0	96.9	96.4
<b>Rocks of Cocaine</b>				
1 dose	0.5	1.3	1.1	1.1
2-4 doses	0.2	0.6	0.8	0.9
5 doses	0.1	0.3	0.3	0.2
above 5 doses	0.1	0.5	0.5	0.3
<i>Never Used</i>	99.1	97.3	97.4	97.5
<b>Crystal Methamphetamine</b>				
1 dose	0.6	1.7	1.9	2.0
2-4 doses	0.2	0.9	1.5	1.5
5 doses	0.1	0.3	0.4	0.4
above 5 doses	0.2	0.7	0.9	1.0
<i>Never Used</i>	99.0	96.5	95.4	95.0
<b>Smoke Cigarettes</b>				
5 cigarettes or less	13.8	26.0	29.5	28.8
½ a pack	1.1	3.6	5.4	8.0
1 pack	0.7	1.8	3.0	3.9
2 or more packs	0.7	1.6	1.1	0.8
<i>Never Used</i>	83.8	67.0	61.0	58.6
<b>Use Smokeless Tobacco</b>				
1 dip	1.1	2.4	3.2	5.0
2-4 dips	0.5	0.8	1.0	2.1
5 dips	0.1	0.3	0.2	0.2
more than 5 dips	0.1	0.4	0.5	0.2
<i>Never Used</i>	98.2	96.2	95.1	92.5
<b>Alcohol <sup>a</sup></b>				
1 drink or less	18.8	23.0	20.9	17.5
2-4 drinks	4.5	11.9	20.4	24.5
5 drinks	0.8	2.4	5.6	7.5
above 5 drinks	1.2	5.4	12.9	19.7
<i>Never Used</i>	74.7	57.3	40.1	30.9

Approximate Ns for 1998: 6th grade=9,218; 8th grade=6,644; 10th grade=5,153; 12th grade=3,771.

<sup>a</sup> A “drink” is defined as a glass of wine, a bottle of beer, a wine cooler, a shot glass of liquor, or a mixed drink.

## APPENDIX B

### TREATMENT NEEDS TABLES

Table 3: Hawaii Statewide Treatment Needs Based on the DSM-III-R Criteria for Sixth, Eighth, Tenth, and Twelfth Graders, 1998.

*The table first presents alcohol treatment needs for each grade-level by listing the percentage of students who fit either an alcohol dependence (most severe diagnosis and includes both physiological symptoms, such as tolerance and withdrawal, and behavioral symptoms, such as impaired control over the use of a substance) or abuse diagnosis (a residual category for those who don't meet the criteria of dependence but who use substances in dangerous situations or who use substances despite having physical, social, psychological, or occupational problems related to their substance use) according to DSM-III-R criteria, followed by the percentage of students for each of these categories. Adolescents who meet either a dependence or an abuse diagnosis are considered needing substance abuse treatment. The percentage of students fitting either a drug dependence or abuse diagnosis, for any illicit drug, is presented next. The percentage of students fitting drug abuse and dependence diagnoses for each drug classification is also presented. Next a summary of treatment needs is presented which includes the percentage of students at each grade-level who need treatment for alcohol use only, drug use only, both alcohol and drug use, and total treatment needs (alcohol and/or drug use).*

Table 4: Summary of Hawaii Statewide Treatment Needs for Students in Grades Six through Twelve, by County, District, and School Type: Estimated Number of Students Needing Treatment for Alcohol and Drug Abuse, 1998.

*The table summarizes county, district, and statewide treatment needs estimates for Hawaii students in grades six through twelve. The column "Any Substance Abuse Treatment Needs" shows that at least 16% of Hawaii students in grades six through twelve need treatment for alcohol, drugs, or both alcohol and drugs. Estimates are slightly higher for public school students than private school students. Not all private schools participated in the study. Thus, any differences between public and private schools may reflect a sampling bias.*

**TABLE 3**  
**Hawaii Statewide Treatment Needs Based on the DSM-III-R Criteria for**  
**Sixth, Eighth, Tenth, and Twelfth Graders, 1998**

(Entries are percentages fitting criteria for specific diagnosis)

STATEWIDE TREATMENT NEEDS BASED ON THE DSM-III-R CRITERIA	6th Grade	8th Grade	10th Grade	12th Grade
<b><i>ALCOHOL TREATMENT NEEDS</i></b> (abuse or dependency of alcohol)	<b>2.0</b>	<b>7.0</b>	<b>14.9</b>	<b>22.1</b>
<i>Alcohol Abuse</i>	0.3	0.9	1.6	2.7
<i>Alcohol Dependence</i>	1.7	6.0	13.2	19.3
<b><i>DRUG TREATMENT NEEDS</i></b> (abuse or dependency of any illicit drug)	<b>1.6</b>	<b>7.8</b>	<b>17.5</b>	<b>20.3</b>
<b>1. Marijuana Treatment Needs</b> (abuse or dependency)	<b>1.4</b>	<b>7.1</b>	<b>16.3</b>	<b>18.8</b>
<i>Marijuana Abuse</i>	0.2	1.1	2.8	3.2
<i>Marijuana Dependence</i>	1.2	6.0	13.5	15.6
<b>2. Stimulant Treatment Needs</b> (abuse or dependency)	<b>0.6</b>	<b>2.0</b>	<b>2.7</b>	<b>3.3</b>
<i>Stimulant Abuse</i>	0.1	0.4	0.3	0.3
<i>Stimulant Dependence</i>	0.5	1.6	2.4	3.0
<b>3. Depressant Treatment Needs</b> (abuse or dependency)	<b>0.6</b>	<b>1.6</b>	<b>1.5</b>	<b>1.4</b>
<i>Depressant Abuse</i>	0.1	0.2	0.3	0.2
<i>Depressant Dependence</i>	0.4	1.4	1.2	1.2
<b>4. Hallucinogen Treatment Needs</b> (abuse or dependency)	<b>0.6</b>	<b>1.7</b>	<b>2.4</b>	<b>2.9</b>
<i>Hallucinogen Abuse</i>	0.1	0.3	0.5	0.7
<i>Hallucinogen Dependence</i>	0.5	1.4	1.9	2.2
<b><i>SUMMARY OF TREATMENT NEEDS</i></b>				
Alcohol Treatment Needs <i>Only</i>	1.0	2.6	4.4	8.5
Drug Treatment Needs <i>Only</i>	0.6	3.1	6.3	5.3
Both Alcohol and Drug Treatment Needs	1.1	4.6	11.1	14.6
<b>Total Treatment Needs (Alcohol and/or Drug)</b>	<b>2.7</b>	<b>10.4</b>	<b>21.8</b>	<b>28.5</b>
Number of Students Completing Survey	9,218	6,644	5,153	3,771
Total Student Population in Public and Private Schools	15,137	15,272	15,507	11,928

Notes: Two types of diagnoses are distinguished by the DSM-III-R criteria: dependence and abuse. Dependence is the most severe diagnosis and includes both physiological symptoms, such as tolerance and withdrawal, and behavioral symptoms, such as impaired control over the use of a substance. Abuse is a residual category for those who don't meet the criteria of dependence but who use substances in dangerous situations or who use substances despite having physical, social, psychological, or occupational problems related to their substance use. Because of the high likelihood of substance abuse by adolescents turning into a dependency problem, students are considered needing treatment, or at least screening for treatment, if they are diagnosed as dependent on or abusers of any of the five substances above.



**TABLE 4**

**Summary of Hawaii Statewide Treatment Needs for Students in Grades Six through Twelve, by County, District, and School Type:  
Estimated Number and Percentage of Students Needing Treatment for Alcohol and Drug Abuse, 1998**

COUNTY/DISTRICT INFORMATION		Alcohol Abuse Only Treatment Needs		Drug Abuse Only Treatment Needs		Both Alcohol and Drug Abuse Treatment Needs		ANY SUBSTANCE ABUSE TREATMENT NEEDS		Any Alcohol Abuse Treatment Needs		Any Drug Abuse Treatment Needs	
County/District	Total N	%	n	%	n	%	n	%	n	%	n	%	n
<b>City and County of Honolulu</b>	56708	3.7%	2099	4.4%	2471	7.3%	4149	15.3%	8701	10.6%	6022	11.7%	6662
◆ Honolulu District	16077	3.9%	621	4.1%	652	6.3%	1015	14.2%	2282	9.9%	1588	10.4%	1679
◆ Central District	15882	3.0%	482	4.1%	659	7.4%	1172	14.6%	2312	10.0%	1595	11.6%	1842
◆ Leeward District	15645	4.0%	624	4.2%	663	7.7%	1210	15.9%	2484	11.2%	1756	12.0%	1883
◆ Windward District	9104	4.1%	372	5.5%	497	8.3%	752	17.8%	1623	11.9%	1083	13.8%	1258
<b>Hawaii County/District</b>	13842	5.3%	738	4.7%	657	10.6%	1472	20.7%	2867	15.3%	2117	15.6%	2158
<b>Maui County/District</b>	10200	3.5%	362	5.3%	542	9.0%	917	17.8%	1819	12.0%	1228	14.3%	1462
<b>Kauai County/District</b>	5118	2.9%	147	4.1%	212	9.9%	509	17.0%	869	12.0%	615	14.1%	722
<b>All Public Schools</b>	85868	3.9%	3346	4.5%	3882	8.2%	7047	16.6%	14256	11.6%	9982	12.8%	11004
<b>Private Schools</b>	18804	4.0%	745	2.6%	498	6.4%	1200	13.0%	2445	9.9%	1865	9.1%	1716
<b>TOTAL STATEWIDE</b>	104672	3.9%	4091	4.2%	4380	7.9%	8247	16.0%	16701	11.3%	11847	12.2%	12720

Calculations of Treatment Needs: A substance abuse/dependency diagnosis is calculated based on the student's responses to items that correspond with the DSM-III-R criteria which assess a variety of negative consequences related to substance use. Students responded to abuse and dependency questions for each of the following substances: alcohol, marijuana, stimulants (cocaine, methamphetamine, speed), depressants or downers (sedatives, heroin), and hallucinogens. Substance abuse is indicated by at least one of the following: (1) continued use of the substance despite knowledge of having a persistent or recurrent problem(s) at school, home, work, or with friends because of the substance (e.g., lower grades, fight with parents/friends, get in trouble at work, have problems concentrating, or physical problems), (2) substance use in situations in which use is physically hazardous (e.g., drinking or using drugs when involved in activities that could have increased the students chance of getting hurt – for instance, using a knife, climbing, swimming, or driving a vehicle). For the student to be classified as abusing a substance, at least one of the two abuse symptoms must have occurred more than once in a single month or several times within the last year. In addition, the student must not meet the criteria for dependency on that substance. Substance dependency is the most severe diagnosis. Substance dependency is indicated by the student's responses to nine different diagnostic criteria for dependency (e.g., marked tolerance, withdrawal symptoms, use of substances to relieve/avoid withdrawal symptoms, persistent desire or effort to stop use, using more than intended, neglect of activities, great deal of time spent using/obtaining the substance, inability to fulfill roles, drinking or using substances despite having problems). A student is considered dependent on a substance if he/she marked "yes" to at least three DSM-III-R symptoms and for at least two of the symptoms, he/she indicated that it occurred several times. The abuse estimates above include students who *either* abuse or are dependent on a particular substance.



## APPENDIX C

### FACTORS RELATED TO USE TABLES

- Table 5: Incidence of Use for Various Types of Substances: A Comparison of Responses from Hawaii Sixth, Eighth, Tenth, and Twelfth Graders, 1998.

*Students were asked to provide retrospective reports regarding what grade, if ever, they first used various substances. Table 6 addresses age of onset by indicating the percentage of students who have used various substances by certain grade levels.*

- Table 6: Perceived Harmfulness of Various Substances as Perceived by Sixth, Eighth, Tenth, and Twelfth Graders in Hawaii versus Nationwide, 1998.

*Students were asked to indicate how much they think people risk harming themselves (physically or in other ways) if they engage in various substance use activities. Table 6 lists the percentage of students in Hawaii versus Nationwide that associate “great risk” with various substances.*

- Table 7: Perceived Availability of Various Substances as Perceived by Sixth, Eighth, Tenth, and Twelfth Graders in Hawaii versus Nationwide, 1998.

*A set of questions asked students to indicate how difficult they thought it would be for them to get various substances, if they wanted some. The table compares the percentage of student in Hawaii to those Nationwide that indicated that obtaining substances is “fairly easy.”*

- Table 8: Trends in Hawaii Student Perceptions of Classmates’ Tobacco, Alcohol, and Illicit Drug Use as Estimated by Sixth, Eighth, Tenth, and Twelfth Graders, 1996-1998.

*Normative beliefs are thought to play a major role in adolescent substance use behaviors. Normative beliefs were assessed by asking students how many students in their grade engage in various substance use behaviors. The table lists the percentage of students responding “some students” versus “most students.”*

- Table 9: Trends in Frequent Exposure to People Who Use Tobacco, Alcohol, and Other Drugs as Reported by Hawaii Sixth, Eighth, Tenth, and Twelfth Graders, 1996-1998.

*Actual exposure to substance use behavior provides a social-learning context for adolescents to develop substance-use behaviors. Students were asked how frequently they are exposed to tobacco, alcohol, and other drugs by various people in their environment. Table 9 lists the percentage of students indicating frequent exposure (once a week or more) to people who use various substances.*

- Table 10: Trends in the Proportion of Hawaii Students Indicating that Friends Would Disapprove of Them Using Various Substances: For Sixth, Eighth, Tenth, and Twelfth Graders, 1996-1998.

*Peer disapproval of substance use is a powerful deterrent for adolescents. Students were asked how they think their closest friends feel, or would feel, if they participated in various substance use behaviors. Table 10 lists the percentage of students indicating that their friends*

*would disapprove of them using various substances.*

**TABLE 5**  
**Incidence of Use for Various Types of Substances:**  
**A Comparison of Responses from Hawaii Sixth, Eighth, Tenth, and Twelfth Graders, 1998**  
(Entries are percentages)

<b>Percent who used by the 4th Grade</b>										
Grade level of respondents	Marijuana	Cocaine	Inhalants	Methamphetamine	Heroin or other Opiates	Sedatives or Tranquilizers	Ecstasy	Hallucinogens	Steroids	Diuretics or Laxatives
<b>6th Grade</b>	1.5	0.7	5.8	0.6	0.4	0.6	0.6	0.6	0.7	0.6
<b>8th Grade</b>	2.5	0.8	4.3	0.8	0.7	0.7	0.7	0.8	0.7	0.6
<b>10th Grade</b>	2.0	0.6	2.3	0.3	0.4	0.4	0.3	0.4	0.5	0.4
<b>12th Grade</b>	1.1	0.3	1.5	0.2	0.2	0.2	0.3	0.3	0.2	0.2

<b>Percent who used by the 6th Grade</b>										
<b>6th Grade</b>	4.9	2.0	10.1	1.8	1.4	1.6	1.4	1.9	2.0	2.4
<b>8th Grade</b>	7.8	1.6	8.5	1.8	1.4	1.5	1.4	1.7	1.3	1.5
<b>10th Grade</b>	6.2	1.1	4.4	0.9	0.7	1.0	0.8	1.1	0.8	0.9
<b>12th Grade</b>	3.5	0.4	2.8	0.3	0.3	0.4	0.3	0.4	0.2	0.5

<b>Percent who used by the 8th Grade</b>										
<b>8th Grade</b>	19.2	4.2	12.5	4.6	2.7	3.0	2.9	4.6	2.6	4.4
<b>10th Grade</b>	24.1	2.9	8.4	2.8	1.4	2.4	2.1	4.3	1.2	2.4
<b>12th Grade</b>	16.4	1.4	5.5	1.4	0.6	1.2	0.9	2.1	0.3	2.0

<b>Percent who used by the 10th Grade</b>										
<b>10th Grade</b>	39.2	5.3	10.2	6.7	2.3	3.9	4.1	9.2	2.1	5.4
<b>12th Grade</b>	37.6	4.2	7.6	4.7	1.4	2.9	3.3	7.3	0.8	4.4

<b>Percent who used by the 12th Grade</b>										
<b>12th Grade</b>	47.6	6.1	8.2	7.7	2.0	3.9	5.4	11.5	1.6	6.6

(Table continued on next page)

**TABLE 5 (continued)**  
**Incidence of Use for Various Types of Substances:**  
**A Comparison of Responses from Hawaii Sixth, Eighth, Tenth, and Twelfth Graders, 1998**  
(Entries are percentages)

<b>Percent who used by the 4th Grade</b>								
Grade level of respondents	<b>ALCOHOL: Any Use</b>	<b>Beer or Wine</b>	<b>Hard Liquor</b>	<b>Get Drunk</b>	<b>TOBACCO: Any Use</b>	<b>Smoke first Cigarette</b>	<b>Regularly Smoke Cigarettes</b>	<b>Smokeless Tobacco</b>
<b>6th Grade</b>	18.0	17.1	3.3	2.1	12.0	11.5	2.2	1.5
<b>8th Grade</b>	17.9	17.3	4.8	2.6	14.2	13.5	2.3	1.9
<b>10th Grade</b>	14.3	13.7	4.1	2.0	11.6	11.0	1.1	1.5
<b>12th Grade</b>	11.1	10.7	2.9	1.3	9.5	9.2	0.7	1.0

<b>Percent who used by the 6th Grade</b>								
<b>6th Grade</b>	31.6	30.3	9.3	5.8	22.2	21.5	6.1	3.1
<b>8th Grade</b>	34.5	33.3	13.4	6.9	30.7	30.0	7.4	3.6
<b>10th Grade</b>	26.2	25.0	10.3	4.5	26.8	25.9	4.3	3.2
<b>12th Grade</b>	19.2	18.6	7.3	3.6	22.6	22.1	2.5	2.3

<b>Percent who used by the 8th Grade</b>								
<b>8th Grade</b>	52.5	50.3	31.1	20.4	44.0	43.0	18.6	5.9
<b>10th Grade</b>	53.2	50.9	33.6	19.5	48.4	47.7	17.4	6.3
<b>12th Grade</b>	41.9	40.0	25.2	14.2	43.9	43.2	11.1	6.4

<b>Percent who used by the 10th Grade</b>								
<b>10th Grade</b>	72.3	69.7	56.0	40.7	58.0	57.0	28.3	10.2
<b>12th Grade</b>	68.6	66.2	53.7	38.4	57.5	56.6	23.1	12.9

<b>Percent who used by the 12th Grade</b>								
<b>12th Grade</b>	81.1	78.7	69.6	55.4	63.5	62.3	31.4	15.9

**TABLE 6**  
**Perceived Harmfulness of Various Substances as Perceived by**  
**Sixth, Eighth, Tenth, and Twelfth Graders in Hawaii versus Nationwide, 1998**

Percentage saying "great risk" <sup>a</sup>

<i>Q: How much do you think people risk harming themselves (physically or in other ways) if they...</i>	6th Grade <sup>b</sup>	8th Grade		10th Grade		12th Grade	
	Hawaii 1998	Nationwide 1998	Hawaii 1998	Nationwide 1998	Hawaii 1998	Nationwide 1998	Hawaii 1998
Try cigarettes once or twice	20.0	----	16.8	----	15.0	----	14.2
Smoke several cigarettes a week	46.8	----	48.2	----	49.0	----	47.0
Smoke one or more packs of cigarettes per day	70.0	54.3	77.6	61.9	87.6	70.8	89.9
Use snuff or chewing tobacco occasionally	45.6	36.5	42.8	42.8	40.0	40.9	36.2
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	24.6	12.1	21.2	10.1	16.6	8.0	14.4
Have one or two drinks of alcohol nearly every day	49.0	30.3	52.3	31.9	55.3	24.3	55.0
Have five or more drinks once or twice each weekend	56.6	56.0	60.6	52.5	64.5	42.8	61.5
Have four or five drinks of alcohol nearly every day	66.3	----	72.2	----	81.6	----	82.7
Use marijuana (hash., pakalolo, pot, weed) once or twice	48.2	28.1	43.4	19.6	30.1	16.7	26.9
Use marijuana occasionally	56.5	45.0	57.4	32.5	47.7	24.4	44.6
Use marijuana regularly	65.8	73.0	72.7	65.8	73.2	58.5	72.3
Use inhalants (glue, paint, sprays) once or twice	38.0	38.9	43.6	45.8	45.6	----	48.5
Use cocaine (powder, crack, coke, freebase) once or twice	50.9	44.0	57.1	50.9	62.7	68.7	67.8
Use cocaine occasionally	60.0	65.2	68.6	71.8	78.1	48.5	82.1
Use cocaine regularly	66.9	----	77.1	----	86.8	65.4	90.0
Use methamphetamine (crystal meth, speed, ice, batu, crank) once or twice	49.5	----	56.2	----	61.7	----	66.5
Use methamphetamine occasionally	57.1	----	67.1	----	76.4	----	80.5
Use methamphetamine regularly	63.3	----	74.6	----	84.9	----	88.0
Use ecstasy or MDMA occasionally	48.5	----	58.4	----	63.2	---	62.9
Use heroin/opiates occasionally	54.4	79.0	64.3	84.9	73.2	73.4	76.5
Use hallucinogens (LSD/PCP, mushrooms, acid) occasionally	52.4	34.9	61.6	43.5	67.2	37.4	69.2
Use tranquilizers (valium) or sedatives (barbiturates, reds/downers, quaaludes, sleeping pills) occasionally	50.1	----	57.4	----	62.4	----	64.2
Take steroids for body-building or improved athletic performance	50.9	----	60.0	----	65.5	68.1	68.7
Take diuretics (water loss pills) or laxatives to try to lose weight	47.6	----	54.8	----	59.1	----	62.0

NOTES: '----' indicates data not available. Nationwide refers to results from the 1998 *Monitoring the Future Study*.

<sup>a</sup> Answer alternatives were (1) No risk, (2) Some risk, (3) Great risk, (4) I don't know.

<sup>b</sup> Sixth graders are not surveyed in the *Monitoring the Future Study*.

**TABLE 7**  
**Perceived Availability of Various Substances as Perceived by**  
**Sixth, Eighth, Tenth, and Twelfth Graders in Hawaii versus Nationwide, 1998**

Percentage saying "fairly easy" to get <sup>a</sup>

	6th Grade	8th Grade		10th Grade		12th Grade	
	Hawaii 1998	Nationwide 1998	Hawaii 1998	Nationwide 1998	Hawaii 1998	Nationwide 1998	Hawaii 1998
<b>A. How difficult do you think it would be for you to get each of the following if you wanted some?</b>							
Any tobacco access	20.8	----	49.2	----	73.4	----	86.5
Cigarettes	19.7	73.6	48.3	88.1	72.6	----	86.1
Snuff or Chewing Tobacco	6.4	----	16.4	----	38.3	----	62.7
Any alcohol access	23.0	73.1	51.3	88.0	72.1	----	77.4
Alcohol (beer/wine)	21.8	----	50.0	----	71.0	----	76.6
Alcohol (liquor)	14.2	----	38.8	----	62.6	----	72.1
Marijuana (hash, pakalolo, pot, weed)	6.5	50.6	26.5	77.9	57.2	90.4	66.6
Cocaine (powder, crack, freebase, coke) <sup>c</sup>	4.4	26.1	8.4	36.6	15.0	44.8	18.5
Inhalants (glue, paint, sprays)	27.5	----	45.5	----	60.9	----	67.4
Methamphetamine (crystal meth, ice, speed, batu, crank)	4.0	16.0	8.2	22.1	17.4	29.8	22.2
Ecstasy/MDMA	3.4	----	6.2	----	14.9	----	22.4
Heroin, Methadone, other Opiates <sup>d</sup>	3.5	17.6	6.3	24.6	10.4	39.2	11.1
Sedatives (barbiturates, downers/reds, quaaludes, sleeping pills) <sup>e</sup>	7.0	21.1	14.8	32.7	25.8	40.7	30.6
Tranquilizers (valium)	4.0	18.1	6.8	26.5	11.6	36.2	14.4
Hallucinogens (LSD/PCP, mushrooms, acid) <sup>f</sup>	5.8	18.4	10.9	29.0	25.2	39.8	30.1
Steroids	5.2	22.3	8.4	33.0	15.0	44.5	18.1

NOTES: '----' indicates data not available. Nationwide refers to results from the 1998 *Monitoring the Future Study*.

<sup>a</sup> Answer alternatives were: (1) Very difficult, (2) Fairly difficult, (3) Fairly easy.

<sup>b</sup> Monitoring the Future does not survey 6th graders.

<sup>c</sup> *Monitoring the Future* survey measured both Crack and Cocaine Powder. The number reported in the table is the average of the two.

<sup>d</sup> *Monitoring the Future* survey measured Heroin and Other Opiates separately. The number reported in the table is the average of the two.

<sup>e</sup> *Monitoring the Future* survey measured Barbiturates rather than all sedatives.

<sup>f</sup> *Monitoring the Future* survey measured LSD and PCP separately. The number reported in the table is the average of the two.

**TABLE 8**  
**Trends in Hawaii Student Perceptions of Classmates' Tobacco, Alcohol, and Illicit Drug Use as Estimated by**  
**Sixth, Eighth, Tenth, and Twelfth Graders, 1996-1998**

(Entries are percentages)

	6th Grade			8th Grade			10th Grade			12th Grade		
	1996	1998	'96-'98 change	1996	1998	'96-'98 change	1996	1998	'96-'98 change	1996	1998	'96-'98 change
<b>Q: How many students in your grade do you think:</b>												
<b>Have tried cigarettes at least once</b>												
% saying some students	50.3	55.3	+5.0	32.9	43.5	+10.6	17.1	20.1	+3.0	15.3	16.2	+0.9
% saying most students	10.7	8.3	-2.4	59.6	51.9	-7.7	80.1	78.6	-1.5	81.7	82.8	+1.1
<b>Smoke one or more packs of cigarettes a day</b>												
% saying some students	16.0	17.5	+1.5	52.0	61.6	+9.6	65.3	72.3	+7.0	68.6	76.6	+8.0
% saying most students	2.3	1.7	-0.6	11.8	10.3	-1.5	16.1	17.4	+1.3	15.0	15.9	+0.9
<b>Use snuff or chewing tobacco</b>												
% saying some students	10.1	13.5	+3.4	23.7	39.7	+16.0	40.8	55.8	+15.0	51.4	65.5	+14.1
% saying most students	1.1	1.3	+0.2	4.6	4.9	+0.3	6.6	7.3	+0.7	6.8	6.1	-0.7
<b>Have tried beer or wine at least once</b>												
% saying some students	47.6	54.2	+6.6	31.8	41.5	+9.7	16.0	18.1	+2.1	12.2	13.5	+1.3
% saying most students	18.6	16.6	-2.0	54.4	51.9	-2.5	79.9	80.4	+0.5	84.7	85.7	+1.0
<b>Drink beer or wine once or twice a month</b>												
% saying some students	21.1	28.4	+7.3	43.3	56.0	+12.7	43.0	45.3	+2.3	34.9	38.9	+4.0
% saying most students	4.9	4.6	-0.3	22.6	24.3	+1.7	44.4	51.0	+6.6	56.4	59.4	+3.0
<b>Drink beer or wine more than twice a month</b>												
% saying some students	13.7	18.6	+4.9	36.4	51.8	+15.4	43.6	52.6	+9.0	39.1	49.0	+9.9
% saying most students	3.4	3.1	-0.3	20.1	19.9	-0.2	39.3	41.7	+2.4	49.1	48.3	-0.8
<b>Have tried liquor at least once</b>												
% saying some students	32.5	34.3	+1.8	39.1	55.1	+16.0	28.7	41.3	+12.6	21.4	33.6	+12.2
% saying most students	8.4	4.4	-4.0	36.8	27.1	-9.7	64.0	55.6	-8.4	71.9	64.5	-7.4
<b>Drink liquor more than twice a month</b>												
% saying some students	11.4	13.7	+2.3	36.7	50.5	+13.8	47.4	58.0	+10.6	44.1	56.8	+12.7
% saying most students	2.5	2.3	-0.2	16.3	14.8	-1.5	32.1	33.1	+1.0	40.5	38.7	-1.8
<b>Have tried marijuana once or twice</b>												
% saying some students	23.5	25.6	+2.1	46.8	54.5	+7.7	43.7	39.7	-4.0	40.7	39.1	-1.6
% saying most students	4.9	3.6	-1.3	30.2	29.3	-0.9	48.3	57.1	+8.8	52.1	58.6	+6.5
<b>Have used marijuana several times</b>												
% saying some students	16.2	16.6	+0.4	44.2	53.3	+9.1	51.3	50.6	-0.7	48.9	54.3	+5.4
% saying most students	3.4	2.4	-1.0	23.0	21.4	-1.6	35.5	44.2	+8.7	40.2	42.4	+2.2

(Table continued on next page)

**TABLE 8 (continued)**  
**Trends in Hawaii Student Perceptions of Classmates' Tobacco, Alcohol, and Illicit Drug Use as Estimated by**  
**Sixth, Eighth, Tenth, and Twelfth Graders, 1996-1998**

(Entries are percentages)

	6th Grade			8th Grade			10th Grade			12th Grade		
	1996	1998	'96-'98 change	1996	1998	'96-'98 change	1996	1998	'96-'98 change	1996	1998	'96-'98 change
<b>Q: How many students in your grade do you think:</b>												
<b>Use marijuana regularly</b>												
% saying some students	8.5	9.5	+1.0	36.5	46.1	+9.6	55.2	60.2	+5.0	58.2	67.9	+9.7
% saying most students	1.8	1.8	0.0	13.0	13.3	+0.3	19.7	27.1	+7.4	20.7	23.0	+2.3
<b>Have tried cocaine once or twice</b>												
% saying some students	10.4	12.8	+2.4	27.6	43.1	+15.5	43.6	64.4	+20.8	50.6	68.8	+18.2
% saying most students	1.3	1.5	+0.2	4.1	5.4	+1.3	4.1	5.9	+1.8	3.7	4.4	+0.7
<b>Have used cocaine several times</b>												
% saying some students	6.5	8.0	+1.5	19.3	33.8	+14.5	35.6	55.1	+19.5	39.0	56.9	+17.9
% saying most students	1.2	1.1	-0.1	3.2	3.8	+0.6	3.0	4.2	+1.2	2.9	3.2	+0.3
<b>Have tried methamphetamine once or twice</b>												
% saying some students	6.9	9.9	+3.0	21.7	38.8	+17.1	38.8	63.8	+25.0	46.9	69.0	+22.1
% saying most students	1.0	1.1	+0.1	3.8	5.3	+1.5	4.8	6.9	+2.1	3.8	5.6	+1.8
<b>Have tried crystal meth several times</b>												
% saying some students	4.3	6.4	+2.1	15.6	29.6	+14.0	31.8	53.4	+21.6	36.2	57.9	+21.7
% saying most students	0.7	0.9	+0.2	2.9	3.5	+0.6	3.7	4.8	+1.1	3.3	3.9	+0.6
<b>Have tried other illegal drugs</b>												
% saying some students	9.1	11.2	+2.1	22.7	36.5	+13.8	39.4	60.2	+20.8	43.6	67.0	+23.4
% saying most students	1.3	1.5	+0.2	5.0	5.3	+0.3	5.8	6.2	+0.4	5.2	5.6	+0.4
<b>Have used inhalants</b>												
% saying some students	31.4	34.2	+2.8	40.5	50.2	+9.7	42.0	59.0	+17.0	37.7	61.3	+23.6
% saying most students	7.0	6.6	-0.4	10.0	11.9	+1.9	7.1	8.2	+1.1	3.8	5.0	+1.2
<b>Use steroids for body building or improved athletic performance</b>												
% saying some students	7.1	12.6	+5.5	11.1	22.5	+11.4	25.1	44.4	+19.3	29.8	49.1	+19.3
% saying most students	1.4	1.7	+0.3	2.3	3.1	+0.8	2.5	3.8	+1.3	2.9	3.3	+0.4
<b>Use diuretics or laxatives to lose weight</b>												
% saying some students	11.3	15.3	+4.0	23.3	35.7	+12.4	34.6	54.5	+19.9	35.3	60.3	+25.0
% saying most students	1.8	1.9	+0.1	3.7	4.6	+0.9	4.2	5.5	+1.3	3.6	4.2	+0.6

NOTE: Answer alternatives were (1) No Students, (2) Some Students, (3) Most Students.



**TABLE 9**  
**Trends in Frequent Exposure to People Who Use Tobacco, Alcohol, and Other Drugs**  
**as Reported by Hawaii Sixth, Eighth, Tenth, and Twelfth Graders, 1996-1998**

Percentage saying “once a week” or “every day”<sup>a</sup>

<i>Q. During the last 12 months, how often have you been around the following people when they were using tobacco, alcohol, or illegal drugs?</i>	6th Grade			8th Grade			10th Grade			12th Grade		
	1996	1998	'96-'98 change	1996	1998	'96-'98 change	1996	1998	'96-'98 change	1996	1998	'96-'98 change
<b>Tobacco:</b>												
Parents <sup>b</sup>	---	15.0	---	---	22.5	---	---	25.4	---	---	26.4	---
Brothers or Sisters <sup>b</sup>	---	3.2	---	---	6.9	---	---	10.4	---	---	11.8	---
Other Relatives	11.9	11.2	-0.7	15.2	15.7	+0.5	19.8	17.9	-1.9	18.4	16.8	-1.6
Your 10 Closest Friends <sup>c</sup>	6.2	2.4	-3.8	19.7	13.3	-6.4	35.0	27.2	-7.8	43.1	37.6	-5.5
Teachers/Coaches	4.8	2.8	-2.0	5.9	4.3	-1.6	7.9	4.4	-3.5	9.5	4.6	-4.9
Other People	14.4	15.9	+1.5	22.1	28.6	+6.5	35.6	43.5	+7.9	37.5	47.4	+9.9
<b>Alcohol:</b>												
Parents	---	17.5	---	---	24.4	---	---	25.6	---	---	25.8	---
Brothers or Sisters	---	2.1	---	---	4.1	---	---	6.5	---	---	6.8	---
Other Relatives	14.0	12.3	-1.7	15.3	15.1	-0.2	16.3	14.8	-1.5	14.9	12.8	-2.1
Your 10 Closest Friends	4.5	1.6	-2.9	10.8	7.3	-3.5	18.9	15.0	-3.9	27.1	24.2	-2.9
Teachers/Coaches	3.7	2.1	-1.6	4.3	2.8	-1.5	4.3	2.7	-1.6	4.6	2.5	-2.1
Other People	13.2	12.9	-0.3	16.3	16.5	+0.2	16.3	19.4	+3.1	18.7	21.9	+3.2
<b>Illegal Drugs:</b>												
Parents	---	1.4	---	---	2.4	---	---	3.1	---	---	2.2	---
Brothers or Sisters	---	1.0	---	---	2.7	---	---	3.5	---	---	2.7	---
Other Relatives	2.5	1.8	-0.7	5.1	3.3	-1.8	3.4	3.7	+0.3	3.4	2.8	-0.6
Your 10 Closest Friends	2.5	1.1	-1.4	3.7	6.7	+3.0	16.2	14.9	-1.3	21.5	16.4	-5.1
Teachers/Coaches	0.8	0.5	-0.3	9.7	1.4	-8.3	1.4	1.5	+0.1	2.2	0.9	-1.3
Other People	4.3	3.3	-1.0	2.5	6.1	+3.6	12.0	12.1	+0.1	13.6	11.3	-2.3
Frequent exposure to <i>at least one person</i> who uses <b>tobacco</b>	31.8	30.6	-1.2	42.7	45.3	+2.6	58.5	60.6	+2.1	60.8	66.7	+5.9
Frequent exposure to <i>at least one person</i> who uses <b>alcohol</b>	37.1	29.7	-7.4	43.2	37.9	-5.3	50.9	43.8	-7.1	53.0	48.2	-4.8
Frequent exposure to <i>at least one person</i> who uses <b>drugs</b>	7.8	5.5	-2.3	15.1	12.0	-3.1	20.6	20.7	+0.1	25.1	21.7	-3.4

<sup>a</sup> Answer alternatives were (1) Not at all, (2) A few times a year, (3) Once or twice a month, (4) At least once a week, (5) Almost every day.

<sup>b</sup> In 1996, students reported on exposure to family members. In 1998, students reported on exposure to parents and to brothers or sisters. Thus, the 1996 data is not comparable to the 1998 data.

<sup>c</sup> In 1996, students were asked to report on their *friends* rather than on their *10 closest friends*.

**TABLE 10**  
**Trends in the Proportion of Hawaii Students Indicating that Friends Would Disapprove of Them Using Various Substances:**  
**for Sixth, Eighth, Tenth, and Twelfth Graders, 1996-1998**

Percentage saying friends “disapprove” or “strongly disapprove” <sup>a</sup>

<i>Q. How do you think your close friends feel (or would feel) about you ...</i>	6th Grade			8th Grade			10th Grade			12th Grade		
	1996	1998	'96-'98 change	1996	1998	'96-'98 change	1996	1998	'96-'98 change	1996	1998	'96-'98 change
Smoking one or more packs of cigarettes a day	80.2	80.6	+0.4	71.2	71.9	+0.7	70.9	69.9	-1.0	69.6	67.1	-2.5
Using snuff or chewing tobacco	84.2	84.3	+0.1	78.5	77.9	-0.6	79.4	77.2	-2.2	77.6	73.8	-3.8
Have five or more alcoholic drinks once or twice every weekend	81.8	82.4	+0.6	70.2	70.9	+0.7	60.4	59.4	-1.0	56.2	51.5	-4.7
Taking one or two alcoholic drinks nearly every day	83.5	84.1	+0.6	74.8	75.2	+0.4	72.3	71.2	-1.1	72.3	69.1	-3.2
Trying marijuana once or twice	83.6	84.3	+0.7	68.9	70.5	+1.6	59.5	55.2	-4.3	54.1	48.4	-5.7
Using marijuana occasionally	85.5	85.5	0.0	73.3	74.9	+1.6	67.2	63.0	-4.2	62.0	58.8	-3.2
Using marijuana regularly	86.8	86.3	-0.5	77.2	78.1	+0.9	74.8	71.9	-2.9	73.2	71.3	-1.9
Using cocaine once or twice	86.1	86.2	+0.1	82.5	82.4	-0.1	87.0	86.8	-0.2	86.5	88.7	+2.2
Using cocaine occasionally	87.6	87.1	-0.5	84.5	84.1	-0.4	89.3	88.9	-0.4	88.8	90.9	+2.1
Trying inhalants	82.2	82.2	0.0	78.6	78.9	+0.3	85.4	84.1	-1.3	87.3	87.3	0.0
Using heroin, methadone, other opiates	87.2	86.9	-0.3	85.1	84.7	-0.4	89.8	89.1	-0.7	90.7	91.4	+0.7
Using hallucinogens	---	86.7	---	---	83.3	---	---	83.7	---	---	84.3	---
Using methamphetamine	87.9	87.1	-0.8	85.1	83.8	-1.3	89.4	88.0	-1.4	90.3	90.4	+0.1
Using ecstasy or MDMA	---	86.8	---	---	83.5	---	---	84.7	---	---	83.2	---
Using tranquilizers or sedatives	87.0	85.0	-2.0	84.5	82.3	-2.2	88.2	86.1	-2.1	89.0	87.2	-1.8
Taking steroids for body-building or improved athletic performance	83.7	82.9	-0.8	82.5	82.1	-0.4	85.9	86.2	+0.3	88.0	87.5	-0.5
Taking diuretics or laxatives to lose weight	81.2	82.0	+0.8	78.1	80.3	+2.2	80.8	83.9	+3.1	82.6	84.4	+1.8

NOTE: ‘—’ indicates data not available.

<sup>a</sup> Answer alternatives were (1) Would think it was cool, (2) Wouldn't care, (3) Would disapprove, and (4) Would strongly disapprove.

## APPENDIX D

### RISK AND PROTECTIVE FACTORS TABLES

Table 11: Correlations Between Risk/Protective Factors and Substance Use and Resistance Abilities, 1998

Table 12: Hawaii School District-Level Comparisons of Risk and Protective Factors: Identification of Factors that Should be the Focus of Prevention Efforts, 1998.

*Table 12 summarizes the information in Tables 14 and 15 and highlights specific risk and protective factors that should be the focus of prevention efforts in various districts.*

Table 13: Hawaii Ethnic and Gender Comparisons of Risk and Protective Factors: Identification of Factors that Should be the Focus Prevention Efforts, 1998.

*Table 13 summarizes the information in Tables 16 and 17 and highlights specific risk and protective factors that should be the focus of prevention efforts directed at specific subgroups.*

Table 14: Hawaii School District-Level Comparisons of Individual Risk Factors, 1998.

*Table 14 compares districts to the statewide sample. Prevention efforts should focus on decreasing risk factors at the district level that are above the statewide sample.*

Table 15: Hawaii School District-Level Comparisons of Individual Protective Factors, 1998.

*Table 15 compares districts to the statewide sample. Prevention efforts should focus on enhancing protective factors at the district level that are below the statewide sample.*

Table 16: Hawaii Ethnic and Gender Comparisons of Individual Risk Factors, 1998.

*Table 16 compares various subgroups to the statewide sample. Prevention efforts should focus on decreasing risk factors that are above the statewide sample.*

Table 17: Hawaii Ethnic and Gender Comparisons of Individual Protective Factors, 1998.

*Table 17 compares various subgroups to the statewide sample. Prevention efforts should focus on enhancing protective factors that are below the statewide sample.*

**Definition of Risk and Protective Factor Terms:** **Deviance:** unconventional attitudes such as beliefs that it is okay to cheat, beat up people, and take things without asking. **Sensation Seeking:** a personality trait involving a high need for arousal. **Low School Commitment:** a general dislike for school and not caring about what teachers think or about getting good grades. **Low Education Aspirations:** indicating a low likelihood of graduating from a four-year college. **Exposure to Substance Use:** exposure to alcohol, tobacco, and illicit drug use. **Perceived Substance Use:** normative perceptions of alcohol, tobacco, and illicit drug use. **Lack of Parental Support:** feelings that parents don't understand and aren't willing to help when needed. **Lack of Parental Awareness:** beliefs that parents aren't aware of what students are doing or who their friends are. **Low Family Connectedness:** not feeling that family members get along with one another and not feeling close or loved by family members. **Availability of Substances:** beliefs that substances are fairly easy to obtain. **Low School Connectedness:** not feeling close to the people at school, not getting along with people at school, and not feeling like you are treated fairly by people at school. **Religiosity:** believing that religion is important. **Academic Performance:** getting good grades. **Peer Disapproval:** perceptions that peers would disapprove of substance use. **Parental Substance Use Sanction:** beliefs that parents would punish students for using substances. **Prevention Efforts:** positive ratings of substance prevention efforts.

**TABLE 11**  
**Correlations Between Risk/Protective Factors and Substance Use and Resistance Abilities, 1998**  
(Entries are correlations)

Risk/Protective Factors	Tobacco Use			Alcohol Use			Illicit Drug Use				
	Tobacco Level Scale	Resist Friends' Tobacco Offers	Resist Strangers' Tobacco Offers	Drinking Level Scale	Resist Friends' Alcohol Offers	Resist Strangers' Alcohol Offers	Marijuana Level Scale	Resist Friends' Drug Offers	Resist Strangers' Drug Offers	Number of Drugs Used in Lifetime	Substance Abuse
<b>RISK FACTOR INDEX</b>	.55	-.39	-.51	.67	-.35	-.49	.56	-.42	-.49	.48	.53
Deviance	.35	-.22	-.34	.47	-.22	-.34	.36	-.27	-.34	.31	.35
Sensation Seeking	.24	-.16	-.19	.36	-.18	-.23	.26	-.18	-.21	.22	.25
Low School Commitment	.30	-.22	-.31	.38	-.18	-.29	.33	-.23	-.28	.30	.28
Low Educational Aspirations	.15	-.12	-.17	.12	-.06	-.14	.16	-.15	-.18	.15	.12
Exposure to Friends' Substance Use	.60	-.38	-.52	.69	-.33	-.47	.64	-.42	-.48	.49	.60
Perceived Peer Substance Use	.55	-.33	-.48	.67	-.30	-.44	.57	-.36	-.44	.45	.54
Exposure to Family Substance Use	.38	-.22	-.32	.47	-.18	-.28	.40	-.23	-.33	.33	.36
Perceived Family Substance Use	.34	-.19	-.26	.45	-.18	-.26	.36	-.22	-.28	.29	.33
Lack of Parental Support	.22	-.14	-.21	.27	-.12	-.17	.20	-.13	-.18	.20	.19
Lack of Parental Awareness	.28	-.20	-.28	.32	-.15	-.24	.25	-.18	-.24	.26	.25
Low Family Connectedness	.25	-.18	-.24	.27	-.13	-.19	.21	-.16	-.21	.23	.21
Exposure to Community Substance Use	.38	-.20	-.34	.48	-.17	-.28	.43	-.23	-.34	.39	.40
Availability of Substances	.36	-.21	-.28	.56	-.27	-.34	.38	-.20	-.24	.30	.37
Low School Connectedness	.23	-.14	-.22	.27	-.10	-.19	.23	-.16	-.19	.23	.20
<b>PROTECTIVE FACTOR INDEX</b>	-.36	.29	.36	-.45	.30	.37	-.33	.29	.33	-.28	-.31
Religiosity	-.09	.09	.15	-.10	.15	.16	-.10	.11	.16	-.08	-.07
Academic Performance	-.15	.11	.13	-.13	.06	.10	-.13	.11	.13	-.11	-.11
Peer Disapproval	-.36	.25	.40	-.45	.24	.40	-.40	.32	.40	-.34	-.36
Parental Substance Use Sanctions	-.27	.22	.33	-.30	.19	.32	-.28	.24	.32	-.27	-.25
Family Prevention Efforts	-.15	.15	.21	-.16	.14	.19	-.13	.15	.20	-.15	-.13
School Prevention Efforts	-.18	.12	.20	-.22	.13	.19	-.17	.14	.18	-.16	-.16

NOTES: All correlations in the table are significant at  $p < .0001$ . See notes on next page for explanation of predictor and outcome variables.

## NOTES FOR TABLE 11

Risk and Protective Factor Indexes: All fourteen risk factors were scored in a dichotomous manner: one if the risk factor criterion was met and zero if the risk factor criterion was not met. The fourteen risk factor scores were then summed into a single “risk factor index” that ranged from zero to fourteen. The protective factor index was created in the same fashion and ranged from zero to six.

Individual Risk Factors: Each risk factor is coded so that high numbers correspond with more risk. Thus, the positive correlations seen in Table 11 between the risk factor variables and substance use indicates that the higher the risk factor score, the greater the chance of using a substance. Negative correlations seen in Table 11 between the risk factor variables and resistance ability indicate that the higher the risk factor score, the less likely the student will be able to resist offers. For instance, the positive correlation between deviance and the tobacco-level scale means that greater deviance is associated with greater tobacco use. The positive correlation between low school commitment and the tobacco-level scale means that lower school commitment is associated with greater tobacco use. The negative correlation between low educational aspirations and ability to resist friends’ offers means that lower educational aspirations are associated with less ability to resist friends’ offers.

Individual Protective Factors: Each protective factor is coded so that high numbers correspond with more protection. Thus, the negative correlations seen in Table 11 between the protective factor variables and substance use indicate that the higher the protective factor score, the less likely the student will use a substance. Positive correlations seen in Table 11 between the protective factor variables and resistance ability indicate that the higher the protective factor score, the more likely the student will be able to resist offers. For instance, the negative correlation between religiosity and the alcohol-level scale means greater religiosity is associated with less alcohol use. The positive correlation between academic performance and ability to resist strangers’ offers means that high grades are associated with more ability to resist strangers’ offers.

Quantity-Frequency Measures of Use: The tobacco-level, alcohol-level, and marijuana-level scales measure quantity and frequency of use.

Resistance Ability: Students were asked if they had ever been offered tobacco, alcohol, and illicit drugs by various people. Response choices were (1) No, (2) Yes, and I’ve accepted, (3) Yes, and I’ve always refused. Only the students who answered that they had been offered various substances by friends and strangers are included in the analyses. The total number of students offered substances by various people are as follows:

(1) Tobacco Offers by Friends,	n=9,120
(2) Tobacco Offers by Strangers,	n=3,964
(3) Alcohol Offers by Friends,	n=9,514
(4) Alcohol Offers by Strangers,	n=3,691
(5) Drug Offers by Friends,	n=7,033
(6) Drug Offers by Strangers,	n=2,993

The Number of Illicit Drugs Used in a Student’s Lifetime: This variable ranged from 0 to 9 and included the use of marijuana, cocaine, inhalants, methamphetamine, heroin or other opiates, tranquilizers or sedatives, ecstasy/MDMA, hallucinogens, and steroids.

Substance Abuse: Substance abuse refers to abuse of or dependency on either alcohol or illicit drugs according to the DSM-III-R criteria.

**TABLE 12**  
**Hawaii School District-Level Comparisons of Risk and Protective Factors:**  
**Identification of Factors That Should Be the Focus of Prevention Efforts, 1998**

	Honolulu	Central	Leeward	Windward	Hawaii	Maui	Kauai
<b>RISK FACTORS</b> average number	<b>2.65</b>	<b>2.77</b>	<b>2.81</b>	<b>2.99</b>	<b>3.25</b>	<b>2.95</b>	<b>3.08</b>
1. Deviance					✓	✓	✓
2. Sensation Seeking		✓		✓	✓	✓	
3. Low School Commitment	✓	✓			✓	✓	✓
4. Low Educational Aspirations		✓	✓	✓	✓	✓	✓
5. Exposure to Friends' Substance Use		✓		✓	✓	✓	✓
6. Perceived Peer Substance Use		✓		✓	✓	✓	✓
7. Exposure to Family Substance Use			✓	✓	✓	✓	✓
8. Perceived Family Substance Use			✓	✓	✓	✓	✓
9. Lack of Parental Support	✓	✓	✓				
10. Lack of Parental Awareness	✓	✓	✓				
11. Low Family Connectedness	✓	✓	✓	✓			
12. Exposure to Community Substance Use				✓	✓	✓	✓
13. Availability of Substances				✓	✓	✓	✓
14. Low School Connectedness		✓	✓		✓	✓	✓
<b>PROTECTIVE FACTORS</b> average number	<b>2.68</b>	<b>1.87</b>	<b>1.95</b>	<b>1.89</b>	<b>1.66</b>	<b>1.86</b>	<b>1.71</b>
1. Religiosity	✓	✓			✓		✓
2. Academic Performance	✓	✓	✓				✓
3. Peer Disapproval				✓	✓		✓
4. Parental Substance Use Sanctions				✓	✓	✓	✓
5. Family Prevention Efforts	✓	✓			✓		
6. School Prevention Efforts	✓	✓		✓	✓	✓	✓

NOTES: The average number of risk factors can range from 0-14. On average, students statewide are exposed to 2.77 risk factors. Districts with risk factor means *above* 2.77 have more students at risk for developing a substance abuse problem than other districts (e.g., Hawaii, Kauai, Maui, and Windward Oahu are at greatest risk). The average number of protective factors can range from 0-6. On average, students statewide are exposed to 1.87 protective factors. Districts with protective factor means *below* 1.87 have more students at risk for developing a substance abuse problem than other districts (e.g., Hawaii, Maui, and Kauai are at greatest risk). Checks (✓) for risk factors indicate that the district has a *larger* proportion of students identified by that risk factor than the statewide sample. Checks (✓) for protective factors indicate that the district has a *smaller* proportion of students identified by that protective factor than the statewide sample. Prevention efforts should focus on decreasing risk factors that are above the statewide sample and enhancing protective factors that are below the statewide sample.

**TABLE 13**  
**Hawaii Ethnic and Gender Comparisons of Risk and Protective Factors:**  
**Identification of Factors That Should Be the Focus of Prevention Efforts, 1998**

	Ethnicity					Gender	
	Hawaiian	Filipino	Japanese	Chinese	Caucasian	Male	Female
<b>RISK FACTORS</b> average number	<b>2.92</b>	<b>2.35</b>	<b>1.96</b>	<b>1.74</b>	<b>2.72</b>	<b>2.65</b>	<b>2.34</b>
1. Deviance	✓					✓	
2. Sensation Seeking	✓				✓	✓	
3. Low School Commitment	✓				✓	✓	
4. Low Educational Aspirations	✓	✓				✓	
5. Exposure to Friends' Substance Use					✓		
6. Perceived Peer Substance Use					✓		
7. Exposure to Family Substance Use	✓						
8. Perceived Family Substance Use	✓						
9. Lack of Parental Support		✓					
10. Lack of Parental Awareness		✓		✓		✓	
11. Low Family Connectedness							✓
12. Exposure to Community Substance Use	✓				✓		
13. Availability of Substances					✓		
14. Low School Connectedness					✓	✓	
<b>PROTECTIVE FACTORS</b> average number	<b>1.87</b>	<b>1.98</b>	<b>2.10</b>	<b>2.11</b>	<b>1.92</b>	<b>1.84</b>	<b>2.10</b>
1. Religiosity			✓	✓	✓	✓	
2. Academic Performance	✓	✓				✓	
3. Peer Disapproval	✓			✓	✓	✓	
4. Parental Substance Use Sanctions	✓			✓	✓		
5. Family Prevention Efforts		✓	✓				
6. School Prevention Efforts				✓	✓		

NOTES: The average number of risk factors can range from 0-14. Subgroups with higher averages on the risk factor index are at greater risk for substance use/abuse than other subgroups (e.g., Native Hawaiians and Caucasians are at greatest risk). The average number of protective factors can range from 0-6. Subgroups with higher averages on the protective factor index are more protected from substance use/abuse than other subgroups (e.g., Japanese and Chinese are most protected). Checks (✓) for risk factors indicate that the subgroup has a *larger* or nearly equal proportion of students identified by that risk factor than the statewide sample (see Table 15). Checks (✓) for protective factors indicate that the subgroup has a *smaller* or nearly equal proportion of students identified by that protective factor than the statewide sample (see Table 16). Prevention efforts should focus on decreasing risk factors that are above the statewide sample and enhancing protective factors that are below the statewide sample.

**TABLE 14**  
**Hawaii School District-Level Comparisons of Individual Risk Factors, 1998**

(Entries are percentages)

Risk Factors	Statewide	Honolulu		Central		Leeward		Windward		Hawaii		Maui		Kauai	
	% statewide with risk factor	% in district	% different from statewide	% in district	% different from statewide	% in district	% different from statewide	% in district	% different from statewide	% in district	% different from statewide	% in district	% different from statewide	% in district	% different from statewide
<i><b>Psychobehavioral Influences</b></i>															
1. Deviance	19.9	18.2	-1.7	19.4	-0.5	17.4	-2.5	19.1	-0.8	22.2	+2.3	20.3	+0.4	22.8	+2.9
2. Sensation Seeking	20.5	16.6	-3.9	20.7	+0.2	20.2	-0.3	24.3	+3.8	21.4	+0.9	22.3	+1.8	19.2	-1.3
3. Low School Commitment	22.3	22.5	+0.2	22.5	+0.2	18.0	-4.3	19.3	-3.0	22.5	+0.2	23.0	+0.7	26.0	+3.7
4. Low Educational Aspirations	11.6	11.3	-0.3	12.2	+0.6	14.8	+3.2	14.1	+2.5	17.3	+5.7	15.5	+3.9	16.6	+5.0
<i><b>Interpersonal Influences</b></i>															
5. Exposure to Friends' Substance Use	21.8	20.3	-1.5	22.8	+1.0	20.4	-1.4	24.9	+3.1	28.3	+6.5	22.0	+0.2	27.4	+5.6
6. Perceived Peer Substance Use	15.8	14.9	-0.9	16.3	+0.5	13.2	-2.6	18.3	+2.5	22.4	+6.6	16.3	+0.5	19.0	+3.2
7. Exposure to Family Substance Use	19.2	17.7	-1.5	16.8	-2.4	21.0	+1.8	23.9	+4.7	28.0	+8.8	21.9	+2.7	26.1	+6.9
8. Perceived Family Substance Use	18.7	16.2	-2.5	15.6	-3.1	21.1	+2.4	23.4	+4.7	26.3	+7.6	21.9	+3.2	20.4	+1.7
9. Lack of Parental Support	17.0	18.3	+1.3	17.8	+0.8	20.7	+3.7	15.7	-1.3	16.2	-0.8	16.1	-0.9	16.9	-0.1
10. Lack of Parental Awareness	22.8	25.4	+2.6	24.4	+1.6	25.6	+2.8	21.4	-1.4	20.4	-2.4	20.6	-2.2	19.6	-3.2
11. Low Family Connectedness	20.1	20.6	+0.5	20.5	+0.4	23.4	+3.3	20.2	+0.1	19.3	-0.8	19.9	-0.2	19.8	-0.3
<i><b>Societal Influences</b></i>															
12. Exposure to Community Substance Use	20.0	18.4	-1.6	17.7	-2.3	19.2	-0.8	23.5	+3.5	26.7	+6.7	23.6	+3.6	24.4	+4.4
13. Availability of Substances	29.4	26.8	-2.6	29.2	-0.2	26.3	-3.1	33.9	+4.5	33.9	+4.5	30.0	+0.6	31.2	+1.8
14. Low School Connectedness	20.2	18.7	-1.5	22.7	+2.5	20.7	+0.5	20.0	-0.2	23.0	+2.8	23.3	+3.1	21.3	+1.1



**TABLE 15**  
**Hawaii School District-Level Comparisons of Individual Protective Factors, 1998**

(Entries are percentages)

Protective Factors	Statewide	Honolulu		Central		Leeward		Windward		Hawaii		Maui		Kauai	
	% statewide with protective factor	% in district	% different from statewide	% in district	% different from statewide	% in district	% different from statewide	% in district	% different from statewide	% in district	% different from statewide	% in district	% different from statewide	% in district	% different from statewide
<i><b>Psychobehavioral Influences</b></i>															
1. Religiosity	20.8	17.6	-3.2	19.9	-0.9	21.6	+0.8	21.4	+0.6	18.8	-2.0	22.7	+1.9	19.1	-1.7
2. Academic Performance	35.4	34.9	-0.5	35.1	-0.3	33.9	-1.5	38.8	+3.4	37.1	+1.7	42.8	+7.4	33.6	-1.8
<i><b>Interpersonal Influences</b></i>															
3. Peer Disapproval	33.2	35.8	+2.6	34.3	+1.1	36.0	+2.8	31.7	-1.5	25.8	-7.4	33.9	+0.7	31.0	-2.2
4. Parental Substance Use Sanctions	61.8	62.2	+0.4	63.7	+1.9	63.9	+2.1	60.9	-0.9	54.1	-7.7	61.3	-0.5	57.9	-3.9
5. Family Prevention Efforts	28.8	27.4	-1.4	28.5	-0.3	30.1	+1.3	28.8	0.0	26.6	-2.2	29.8	+1.0	29.4	+0.6
<i><b>Societal Influences</b></i>															
6. School Prevention Efforts	15.8	14.9	-0.9	14.4	-1.4	16.4	+0.6	15.4	-0.4	11.1	-4.7	11.5	-4.3	11.2	-4.6

**TABLE 16**  
**Hawaii School Ethnic and Gender Comparisons of Individual Risk Factors, 1998**

(Entries are percentages)

Risk Factors	Statewide % statewide with risk factor	Ethnicity										Gender			
		Hawaiian		Filipino		Japanese		Chinese		Caucasian		Male		Female	
		% in ethnic category	% different from statewide	% in ethnic category	% different from statewide	% in ethnic category	% different from statewide	% in ethnic category	% different from statewide	% in ethnic category	% different from statewide	% Male	% different from statewide	% Female	% different from statewide
<b><i>Psychobehavioral Influences</i></b>															
1. Deviance	19.9	20.0	+0.1	16.1	-3.8	15.4	-4.5	13.4	-6.5	18.1	-1.8	23.2	+3.3	12.6	-7.3
2. Sensation Seeking	20.5	23.8	+3.3	18.2	-2.3	12.2	-8.3	11.0	-9.5	25.3	+4.8	22.0	+1.5	17.3	-3.2
3. Low School Commitment	22.3	22.2	-0.1	14.5	-7.8	20.1	-2.2	16.7	-5.6	23.9	+1.6	24.0	+1.7	16.5	-5.8
4. Low Educational Aspirations	11.6	17.7	+6.1	11.7	+0.1	6.4	-5.2	4.2	-7.4	9.5	-2.1	14.4	+2.8	9.3	-2.3
<b><i>Interpersonal Influences</i></b>															
5. Exposure to Friends' Substance Use	21.8	20.5	-1.3	16.3	-5.5	14.2	-7.6	9.5	-12.0	22.2	+0.4	17.7	-4.1	18.0	-3.8
6. Perceived Peer Substance Use	15.8	15.4	-0.4	11.2	-4.6	10.1	-5.7	6.1	-9.7	16.4	+0.6	12.5	-3.3	13.3	-2.5
7. Exposure to Family Substance Use	19.2	26.0	+6.8	17.6	-1.6	12.3	-6.9	7.5	-12.0	16.0	-3.2	17.2	-2.0	18.1	-1.1
8. Perceived Family Substance Use	18.7	26.9	+8.2	15.5	-3.2	9.9	-8.8	6.1	-13.0	18.1	-0.6	16.4	-2.3	17.9	-0.8
9. Lack of Parental Support	17.0	15.1	-1.9	18.2	+1.2	14.0	-3.0	16.2	-0.8	10.8	-6.2	14.9	-2.1	15.6	-1.4
10. Lack of Parental Awareness	22.8	19.9	-2.9	25.2	+2.4	16.6	-6.2	22.7	-0.1	19.1	-3.7	24.2	+1.4	18.4	-4.4
11. Low Family Connectedness	20.1	19.1	-1.0	19.6	-0.5	15.4	-4.7	17.6	-2.5	17.7	-2.4	15.9	-4.2	20.7	+0.6
<b><i>Societal Influences</i></b>															
12. Exposure to Community Substance Use	20.0	21.5	+1.5	17.4	-2.6	13.3	-6.7	10.3	-9.7	21.6	+1.6	19.4	-0.6	16.8	-3.2
13. Availability of Substances	29.4	27.5	-1.9	17.3	-12.0	21.9	-7.5	18.8	-11.0	32.7	+3.3	24.5	-4.9	24.0	-5.4
14. Low School Connectedness	20.2	19.8	-0.4	18.4	-1.8	14.4	-5.8	14.8	-5.4	22.0	+1.8	21.6	+1.4	17.2	-3.0

**TABLE 17**  
**Hawaii Ethnic and Gender Comparisons of Individual Protective Factors, 1998**

(Entries are percentages)

Protective Factors	Statewide % statewide with protective factor	Ethnicity										Gender			
		Hawaiian		Filipino		Japanese		Chinese		Caucasian		Male		Female	
		% in ethnic category	% different from statewide	% in ethnic category	% different from statewide	% in ethnic category	% different from statewide	% in ethnic category	% different from statewide	% in ethnic category	% different from statewide	% Male	% different from statewide	% Female	% different from statewide
<i>Psychobehavioral Influences</i>															
1. Religiosity	20.8	23.2	+2.4	24.0	+3.2	13.7	-7.1	14.2	-6.6	20.2	-0.6	20.5	-0.3	21.7	+0.9
2. Academic Performance	35.4	24.9	-11.0	34.1	-1.3	44.6	+9.2	47.6	+12.2	40.4	+5.0	28.0	-7.4	41.0	+5.6
<i>Interpersonal Influences</i>															
3. Peer Disapproval	33.2	33.4	+0.2	35.9	+2.7	40.9	+7.7	43.7	+10.5	33.2	0.0	32.9	-0.3	39.6	+6.4
4. Parental Substance Use Sanctions	61.8	61.8	0.0	65.6	+3.8	71.0	+9.2	70.5	+8.7	61.9	+0.1	63.2	+1.4	67.6	+5.8
5. Family Prevention Efforts	28.8	34.5	+5.7	29.2	+0.4	28.3	-0.5	25.3	-3.5	30.2	+1.4	31.3	+2.5	30.1	+1.3
<i>Societal Influences</i>															
6. School Prevention Efforts	15.8	21.3	+5.5	19.3	+3.5	18.2	+2.4	17.0	+1.2	14.2	-1.6	19.0	+3.2	17.7	+1.9