

Fiscal Year 2017

Prevention Outcomes Annual Report



South Carolina
DAODAS
Department of Alcohol and Other Drug Abuse Services



Pacific Institute for Research and Evaluation

Al Stein-Seroussi, PhD
Mikella D. Allen
Michael D. George, PhD
Sean Hanley, PhD

TABLE OF CONTENTS

EXECUTIVE SUMMARY	3
EVALUATION REPORT OVERVIEW	6
State Prevention Evaluation Efforts	6
Contents of This Report.....	6
Focusing on State Data Indicators.....	7
SECTION I: CHANGES IN SUBSTANCE USE AND RISK FACTORS AMONG PROGRAM PARTICIPANTS	8
The Pre-Post Test Outcome Evaluation Instrument.....	9
Matched Participants	10
Demographic Breakdown	11
Substance Use Prevention and Reduction	14
Age of First Use	16
Parent-Child Communication and Youth Exposure to Prevention Messages	16
Prevention Programs.....	17
Evidence-Based vs. Non-Evidence-Based Programs.....	18
Summary of Section I	18
SECTION II: ALCOHOL AND TOBACCO ENVIRONMENTAL PREVENTION STRATEGIES.....	20
Alcohol and Tobacco Compliance Checks	20
Bar Checks	28
Shoulder Taps.....	29
Public Safety Checkpoints/Saturation Patrols	29
Controlled Party Dispersals/Party Patrols	30
Multi-Jurisdictional Law Enforcement Agreements	30
Merchant Education	30
Alcohol Enforcement Team Awareness Activities	31
Alcohol Enforcement Team Training	31
Summary of Section II	32
SECTION III: YOUTH ACCESS TO TOBACCO STUDY (SYNAR).....	33
SECTION IV: OTHER PREVENTION INTERVENTIONS.....	37
SECTION V: STATEWIDE YOUTH SUBSTANCE USE TRENDS.....	38

APPENDIX A: ADDITIONAL DATA TABLES.....	42
APPENDIX B: METHODOLOGY AND ANALYSIS ISSUES	54
Evaluation Design Issues	54
Program Implementation Issues	55
Data Analysis Methods.....	56
APPENDIX C: DAODAS STANDARD SURVEY	58

EXECUTIVE SUMMARY

This report summarizes prevention outcomes generated by the South Carolina county authority substance abuse prevention system in Fiscal Year 2017 (July 1, 2016 – June 30, 2017). Much of the report focuses on prevention outcomes generated through pre- and post-testing of middle and high school youth who participated in prevention programs. The report also includes data related to county alcohol and tobacco environmental strategies (e.g., compliance checks, bar checks, and merchant education), the Youth Access to Tobacco Study (Synar), and the distribution of prevention services.

The key outcome findings from the **youth prevention curricula** are:

- There were 2,488 participants with matched pre- and post-tests. Most (98.4%) participants were between the ages of 10 and 17. There was a slightly higher proportion of females (51.6%) than males (48.4%). Most participants identified as White (50.7%) or Black/African American (34.1%).
- The results showed **statistically significant positive changes on four of the five risk factor** measures: perceived risk, decision-making, disapproval of use, and peer norms.
- For **substance use**, there were reductions in use for five out of eight substances, with **one of them being statistically significant**— marijuana.
- For **all eight substances measured**, more than **95% of participants who were non-users at pre-test remained non-users at post-test** for each substance.
- For **all eight substances measured**, the **majority** (at least 66.8%) of those who used at pre-test **reported using less or not at all** for that substance **at post-test**.
- **Average age of first use** for **cigarettes, other tobacco products, and alcohol** ranged from **11.8 to 13.1** years. The average age of first use of **marijuana** and **other illegal drugs** was 13.3 and 13.2 years, respectively.
- **Ten different curriculum-based programs were implemented**, with 100% of participants being in evidence-based programs.

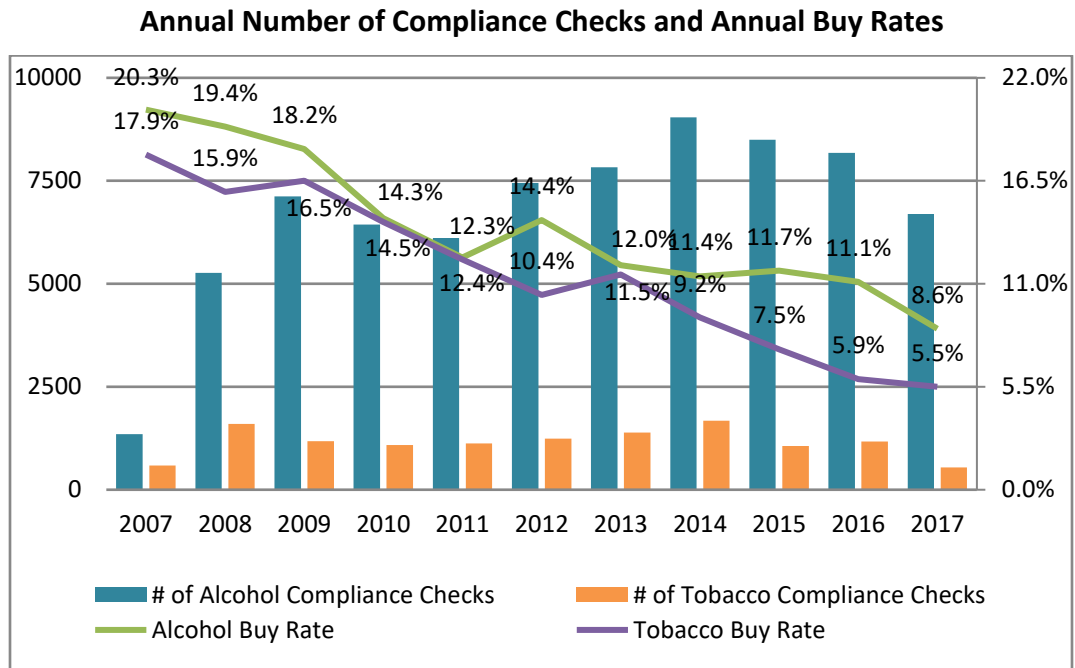
The color-coded table below summarizes the pre- and post-test differences in risk scores and substance use rates. As can be seen, there were widespread desired changes in risk factor scores and substance use rates in FY '17.

Summary of Statistically Significant Results, By Demographics and Program

Category (number)	Perceived Risk	Decision Making	Disapproval of Use	Perceived Peer Norms	Perceived Parental Attitudes	Cigarettes	Other Tobacco	Alcohol	Marijuana	Other Illegal Drugs	Inhalants	Non-medical Use of Prescriptions	Non-medical Use of OTCs
DEMOGRAPHICS													
Overall Middle School (1414)	*	*	*	*		*		*	*				
Overall High School (230)	*								*	*			
Females (885)	*	*		*		*		*	*			*	
Males (762)	*	*	*	*					*				
Black/African American (755)	*	*	*	*		*		*	*				
White (629)	*												
Multi-ethnic (90)	*												
Other (127)	*												
Hispanic (144)	*												
Not Hispanic (1455)	*	*	*	*		*		*	*				
PROGRAMS													
Alcohol Stories (1 site; n = 239)	*			*									
All Stars (1 site; n = 51)													
ATOD 101 (1 site; n = 142)								*					
Class Action (1 site; n = 40)													
Keepin' It Real (1 site; n = 62)	*	*	*										
Life Skills (9 sites; n = 1572)	*	*		*									
Prime For Life: Exploring (1 site; n = 102)	*	*	*	*		*		*					
Project Alert (1 site; n = 41)	*												
Project TND (2 sites; n = 178)	*	*	*	*	*				*				
Why Try (2 sites; n = 61)			*										
OVERALL (15 sites; n = 2488)	*	*	*	*					*				
LEGEND													
Desired Marginally Significant		Desired Significant					*						
Undesired Marginally Significant		Undesired Significant					*						

Key findings for prevention efforts other than youth prevention curricula are:

- County authority prevention staff returned forms on **6,696 alcohol compliance checks** and **543 tobacco compliance** checks. For alcohol, 8.6% of attempts generated sales; for tobacco, 5.5% of attempts resulted in sales, both historic lows.



- **AETs** reported a total of 434 **public safety checkpoints**, down from FY '16. AETs issued 144 DUIs citations during the FY '17 checkpoints. In addition, there were 131 **saturation patrols** reported that generated another 1,839 tickets. This operation accounted for 27 DUIs, 805 speeding violations and 499 citations for various violations, ranging from seat belt, no child restraint and littering.
- **AETs** reported that 92 **parties were disbursed**, resulting in 244 tickets and arrests at gatherings involving 3,503 persons.
- The Palmetto Retailer Education Program (**PREP**) served **1,658 merchants**.
- Nearly **700 youth** were in diversion program for youth alcohol and tobacco offenses (365 served in the Alcohol Education Program and 312 served in the Tobacco Education Program).
- The Youth Access to Tobacco Study (Synar) showed that **3.7% of retailers sold cigarettes to underage youth**, down from 5.3% in FY 2016.

EVALUATION REPORT OVERVIEW

State Prevention Evaluation Efforts

The South Carolina Department of Alcohol and Other Drug Abuse Services (DAODAS) is one of the primary funders for substance abuse prevention services in the state. Most DAODAS prevention funds are distributed to the county alcohol and drug authority system, 33 agencies serving the state's 46 counties. These 33 agencies were authorized to provide substance abuse services by South Carolina Act 301 of 1973. Every county authority offers prevention services, primarily using funds that pass through DAODAS and originate from the U.S. Substance Abuse and Mental Health Services Administration's (SAMHSA) Substance Abuse Prevention and Treatment Block Grant (SAPTBG).

Contents of This Report

This report provides prevention data for Fiscal Year 2017 (July 1, 2016 – June 30, 2017) from a variety of data sources. Much of the report focuses on prevention outcomes generated through pre- and post-testing of middle and high school youth who participated in prevention programs. The report also includes data related to county alcohol and tobacco environmental strategies (e.g., compliance checks, bar checks, and merchant education), the Youth Access to Tobacco Study (also known as the Synar study), and the distribution of prevention services. Each section of the report is described below.

Section I focuses on the changes in substance use and associated risk factors reported by participants in DAODAS-funded prevention programs, using pre-test and post-test data from the DAODAS Standard Survey. Within Section I, we present data overall, by demographic group (i.e., age, sex, race, and ethnicity), and by prevention program.

Section II presents data from county alcohol and tobacco environmental strategies with a focus on compliance checks and Alcohol Enforcement Team (AET) efforts.

Section III covers results from the FY '17 Youth Access to Tobacco Study (Synar).

Section IV addresses other prevention interventions not included in the previous sections and the distribution of prevention services across CSAP service categories.

Section V provides statewide youth substance use trends, allowing DAODAS and its stakeholders to monitor changes in use over time.

Many of the more detailed data tables are included in Appendix A of this report to make the report more readable, while more succinct tables or summaries are presented in the narrative sections. In Appendix B, we discuss some of the methodological issues associated with

analyzing and interpreting the pre- and post-test results. Appendix C includes a copy of the DAODAS Standard Survey in effect for FY '17.

Focusing on State Data Indicators

This report can be reviewed in conjunction with the *2015 South Carolina Profile on Alcohol, Tobacco, and Other Substance Related Indicators*. The Profile is an overview of data indicators related to youth and adult drug use, consequences, and risk factors, and is an important measuring stick for the overall direction of the state in addressing its ATOD issues. Of note, the Profile provides updates on progress for the state's ATOD priorities determined by the Governor's Council on Substance Abuse Prevention and Treatment and covers a variety of topics including the following:

- Underage drinking
- Alcohol-related car crashes (including youth crashes)
- Youth tobacco use (including smokeless tobacco use)
- Substance use during pregnancy

Attributing the effectiveness, or lack thereof, of specific prevention efforts by the state or counties to any changes in the indicators found in the state profile is highly speculative. Therefore, this document focuses more on efforts with clearly attributable outcomes or in-depth analyses of process data to inform our efforts. Understanding and building upon our measurable efforts while working toward the goal of "moving the needle" on state indicators is a positive complementary approach.

SECTION I: CHANGES IN SUBSTANCE USE AND RISK FACTORS AMONG PROGRAM PARTICIPANTS

Each year, thousands of youth participate in substance abuse prevention programs funded by DAODAS through the county agencies and their providers. The goals of these programs are to prevent and reduce substance use among South Carolina's youth and to reduce risk factors associated with substance use. The primary way these programs are measured is to collect pre- and post-test data from the youth participants. In this section, we present data on pre- and post-test changes reported by youth. We present the data overall and then by sex, race, ethnicity, and program.

It is important to note that the evaluation design is non-experimental. That is, pre- and post-surveys are required to be administered only to program participants and not to control groups, so we cannot tell what would have happened in the absence of the program. Despite this limitation, reported changes in the desired direction are expected to provide some level of comfort that the program seems to be leading to the outcomes anticipated for a program.¹ Changes in the undesired direction are expected to raise questions about the fidelity of program implementation and/or the fit of the program to the community. That said, neither desired nor undesired changes should be taken as a conclusive indication of a program's effectiveness (or lack thereof). Through this monitoring process, the hope is that program implementation receives the attention that is necessary to be of greatest benefit to the community. In addition, the analysis of pre-post data across multiple programs and sites will assist the state in further understanding which programs, implemented under which conditions, appear to be most and least effective.

This section presents findings for the general state prevention system generated through youth participant pre- and post-testing (the DAODAS Standard Survey) when a valid pre- and post-test could be matched to the same participant. We present data on demographic characteristics of the participants, results for the risk factor measures, and results for substance use measures.

¹ Because adolescents generally become more tolerant of substance use and more likely to engage in some substance use behaviors as they grow older, it may be difficult to achieve positive changes among program participants over the time span between the pre- and post-surveys, even for a period as short as a few months. Therefore, even seeing no change on some risk factors and/or substance use behaviors may be viewed as a positive impact of program participation. This is particularly true for these data, where most respondents reported very low levels of risk and very low levels of substance use at the beginning of the programs.

The Pre-Post Test Outcome Evaluation Instrument

The DAODAS Standard Survey is comprised of SAMHSA's National Outcome Measures (NOMs) and other measures from SAMHSA's Core Measure Initiative. (The DAODAS Standard Survey is included in Appendix C) The following measures are used:

- Perceived risk/harm of ATOD use
- Disapproval of use (formerly referred to as favorable attitudes)
- Decision-making
- Perceived peer norms regarding ATOD use
- Perceived parental attitudes regarding ATOD use
- 30-day use of cigarettes
- 30-day use of other tobacco products
- 30-day use of alcohol
- 30-day use of marijuana
- 30-day use of other illegal drugs
- 30-day use of inhalant drugs
- 30-day non-medical use of prescription drugs
- 30-day non-medical use of over-the-counter drugs

Counties began using the Standard Survey in FY '05 for recurring programs delivered to youth between the ages of 10 and 20 years old. PIRE developed the original DAODAS Standard Survey after DAODAS prevention staff selected the SAMHSA core measures they wanted included. In response to the federally issued National Outcome Measures (NOMs) in 2006, DAODAS and PIRE, with significant input from local prevention staff, adapted the DAODAS Standard Survey for FY '08. The survey remained unchanged through FY '10.

In FY '11, there was only a minor change made in the content of the survey, one item was dropped, but the data entry process underwent a major change. Instead of local entry to student responses into the KIT Prevention online reporting system, PIRE created a "form" version of the survey where responses can be read by a batch scanner in the DAODAS office. No changes were made to the survey or to the surveying process through FY '17. The deadline for pre- or post-tests to be included in the final database for FY '17 was May 15, 2017.

Providers were instructed to administer the pre-test within two weeks prior to the start of the program content and administer the post-test within two weeks following the end of the content. Local staff then gave the surveys to DAODAS or PIRE staff to have the responses scanned. Providers were instructed on participant protection procedures that would ensure confidentiality.

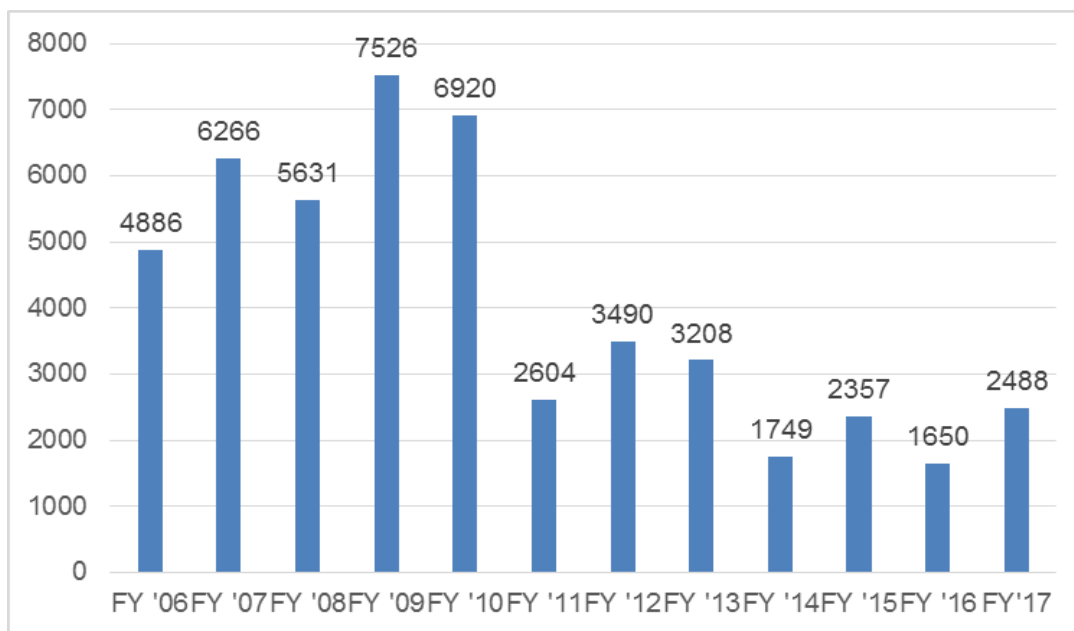
Matched Participants

For multiple reasons, not every pre-test completed by a participant could be matched to a valid post-test for that participant and vice-versa. This could happen for the following reasons:

- The participant was absent at the time the pre-test or post-test was administered,
- Something in the test-coding process went wrong (participants were not to put their name on their surveys; a coding system was used to match the pre- and post-test),
- The participant left so much of the survey blank that it was removed from the analyses,
- The participant refused to take the pre- or the post-test, or
- Surveys were misplaced or not given to DAODAS/PIRE by local prevention staff.

If a participant did not have matched, valid pre- and post-tests, then neither test was included in the database that we analyzed. The pre-test database contained 2,580 surveys while the post-test database contained 2,532 cases, which resulted in 2,488 matched cases or 98.1% of pre-test cases (Figure 1). The ending of the Safe and Drug-Free Schools funding at the end of FY '10 accounts for much of the drop from earlier years.

Figure 1. Matched Participants in Pre-Post Database, FY '06 through '17



Demographic Breakdown

The data in this section are from the participants' responses to the demographic items on their pre-test. The same items appeared on their post-tests but are not reported here. As shown in Figure 2, all matched participants were between the ages of 10 and 18. The average age of participants was 13.7. Slightly more males participated than females (Figure 3) and 51.1% were White, 34.4% were Black or African American, 6.2% were in the multiethnic race category, 5.3% were of "other" race, , 1.5% were American Indian or Alaskan Native, and 1.4% were Asian (Figure 4). Hispanic/Latino ethnicity was reported by 6.4% of students.

Figure 2. Matched Participants by Age

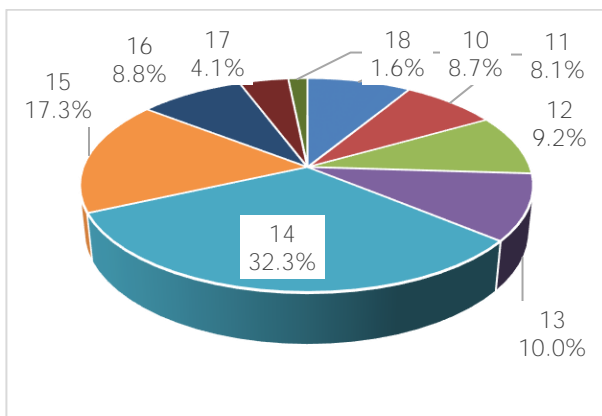


Figure 3. Matched Participants by Sex

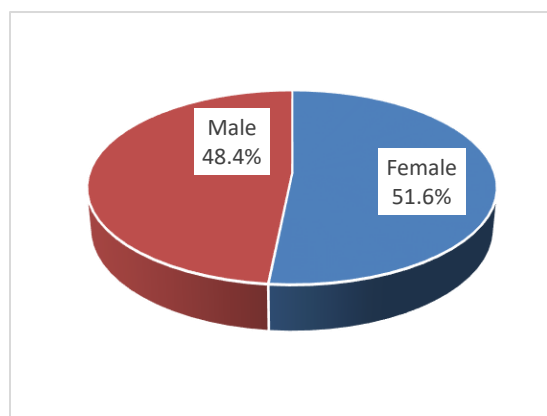
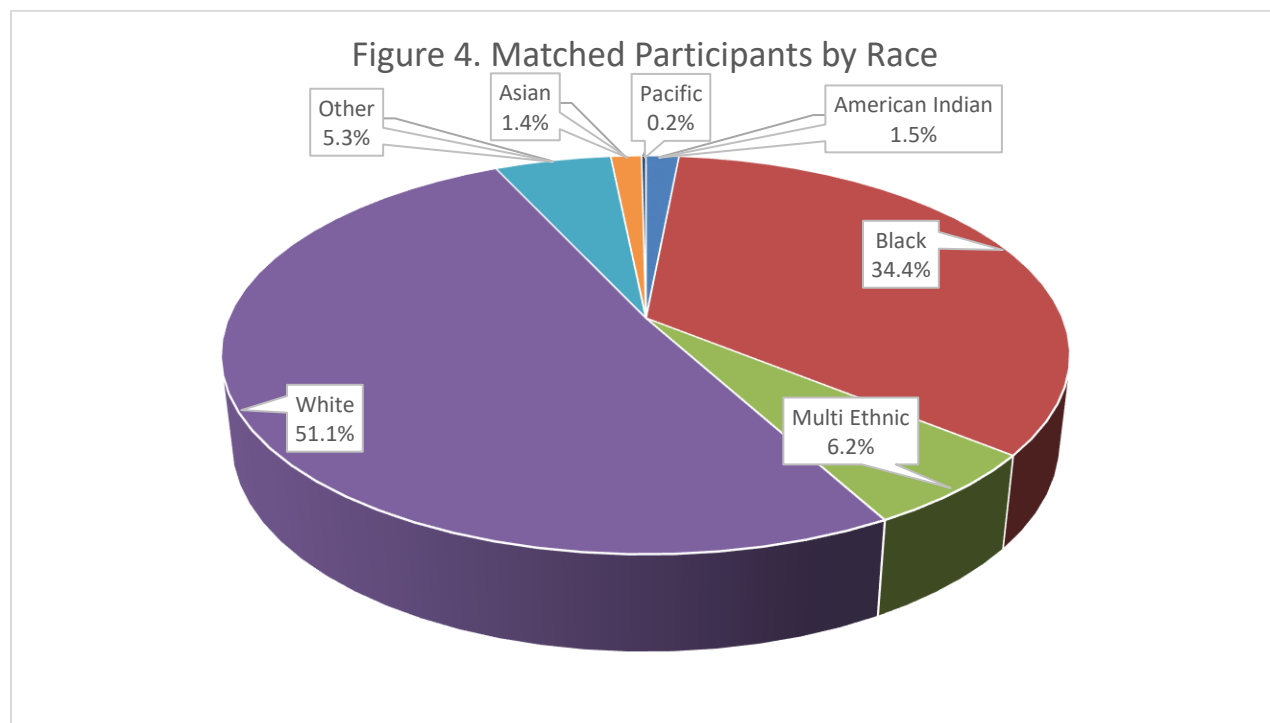


Figure 4. Matched Participants by Race/Ethnicity



Risk-Factor Measures

Table 1 shows the results for the five risk factors included on the DAODAS Standard Survey. As shown in the table, there was a statistically significant ($p < .05$) positive change from pre- to post-test in FY '17 for four of the five measures (perceived risk, decision making, disapproval of use, and peer norms). In FY '16, there were significant changes in the desired direction in the same four risk factors.

Table 1. Overall Results, Risk-Factor Measures, FY '17 and '16

Risk-Factor Measure	Possible Range of Scores	Pre-Test Average	Post-Test Average	FY '17 % Change	FY '16 % Change
Perceived Risk	0-3	1.93	2.10	8.93**	10.92**
Decision-Making	0-3	1.86	1.94	4.20**	4.27**
Disapproval of Use	0-2	1.52	1.54	1.61**	2.09**
Perceived Peer Norms	0-10	8.22	8.27	0.64**	1.63**
Perceived Parental Attitudes	0-3	2.81	2.80	-0.44	-0.35

Positive scores are more favorable.

Note: FY '17 % Change calculations are based on unrounded pre- and post-test figures and, therefore, may not match the percentages that would be obtained using the rounded figures presented in the second and third columns.

* Pre- and post-test averages are marginally significantly different ($p < .10$.)

** Pre- and post-test averages are significantly different ($p < .05$.)

Tables A1 through A4 in Appendix A display risk factor measure and substance use rates separated by age group (middle school ages and high school ages), sex, race, and ethnicity.

Age. Table A1 shows results separated by age range: middle school age (ages 10 to 13) and high school age (ages 14 to 18). As expected, younger participants had higher pre-test scores. Middle school students reported significant changes in the desired direction on all risk factors. High school students had significant changes in the desired direction on two risk factors (perceived risk and decision-making skills).

Sex. Table A2 shows data results separated by sex. Females reported significant positive changes on two risk factors (perceived risk, decision-making skills). Males reported positive changes on four risk factors (perceived risk, decision-making skills, disapproval of use and perceived peer norms).

Race/Ethnicity. Table A3 shows data results separated by race (for those race groups with 40 or more participants), and Table A4 shows the results by ethnicity. African-American participants reported significant positive changes on four risk factors (perceived risk, decision-making, disapproval of use and perceived peer norms). White participants reported significant desired change on one risk factor (perceived risk) and a marginally significant change on one risk factor

(decision-making skills). Participants who identified as Multi-Ethnic reported significant positive change on one risk factor (perceived risk). Participants who identified as Other reported no significant changes. Participants of Hispanic, Latino, or Spanish descent or origin reported no significant changes, while those not of Hispanic, Latino, or Spanish descent reported significant positive changes for perceived risk, decision-making skills, disapproval of use, and perceived peer norms.

Participant Substance Use

The DAODAS Standard Survey asked participants to indicate the extent of their cigarette, other tobacco, alcohol, marijuana, other illegal drug, inhalant, non-medical prescription drug, and non-medical over-the-counter drug use in the past 30 days. The percentage of participants that used each substance at any amount was calculated at pre- and post-test. FY '16 results, along with the corresponding changes in use for FY '15, are shown in Table 2.

Table 2. Overall Results, Substance Use Rates, FY '17 and FY '16

Risk-Factor Measure: 30 Day Use	% Using at Pre- Test	% Using at Post- Test	FY '17 % Change	FY '16 % Change
Cigarettes	3.56	3.42	-3.93	-38.98**
Other Tobacco	2.47	2.48	0.40	-24.71*
Alcohol	10.16	9.22	-9.25	-26.26**
Marijuana	6.29	5.13	-18.44**	-39.91**
Other Illegal Drugs	2.19	1.99	-9.13	-36.61*
Inhalants	2.19	1.99	-9.13	-17.93
Non-Medical Prescription Drugs	2.63	2.77	5.32	-19.23
Non-Medical OTC Drugs	1.95	2.08	6.67	-20.50

Negative changes are desired for these items.

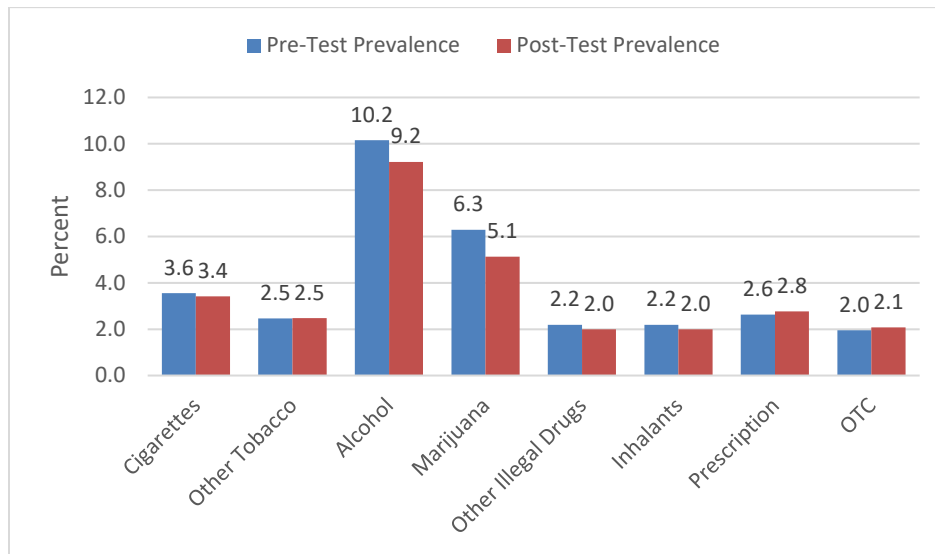
Note: FY '17 % Change calculations are based on unrounded pre- and post-test figures and, therefore, may not match the percentages that would be obtained using the rounded figures presented in the second and third columns.

* Pre- and post-test averages are marginally significantly different ($p < .10$.)

** Pre- and post-test averages are statistically significantly different ($p < .05$)

For FY '17, there was one statistically significant change in substance use— a reduction in marijuana use. Last year (FY '16) there were statistically significant reductions among three substance use variables. Figure 5 depicts these same data in graphic form, showing pre-test and post-test use rates for FY '17.

Figure 5. Pre- and Post-Test Substance Use Rates, FY '17



Tables A1 through A4 in Appendix A also display substance use rates results separated by age groups (middle school ages and high school ages), sex, race, and ethnicity.

Age. Table A1 shows data results separated by middle school (ages 10 to 13) and high school (ages 14 to 19) age ranges. The middle school participant group had a near significant decrease in the percentage of users of alcohol. Among high school students, there was a near significant decrease in use for marijuana.

Sex. Table A2 shows data results separated by sex. Males generally had a higher baseline level of substance use than females. Among males, rates of marijuana use decreased significantly.

Race/Ethnicity. Table A3 shows data results separated by race (for those race groups with 40 or more participants), and Table A4 shows the results by ethnicity. Among the two largest race groups in the dataset, White and African-American participants, there were decreases for most substances for African-Americans. Use only decreased for one substance for Whites (inhalants). African-Americans reported statistically significant decreases in alcohol and marijuana as well as marginally significant decreases in the use of cigarettes. Among White students, none of the changes was statistically significant. Among Hispanic students, there were decreases in use for two substances (marijuana and inhalants), though neither was statistically significant.

Substance Use Prevention and Reduction

We analyzed responses regarding past-30-day use to determine (1) the percentage of participants who were not using a substance at pre-test that were still not using at post-test and (2) the percentage of participants who were using a substance at pre-test that were using

less (or not at all) by post-test. The former may be the most accurate assessment of the “preventive” effect of the programs.

Figure 6 shows that nearly all participants who began programs as non-users remained non-users, ranging from 95.1% (alcohol) to 98.7% (other illegal drugs and inhalants). That is, continued non-use of substances was nearly universal. The results were similar for FY '16. Figure 7 shows that the percent of users at pretest who reduced their use at post-test ranged from 66.8% (alcohol) to 89.6% (non-medical OTC use). Rates of reduction were somewhat lower than they were for FY '16, except for inhalants and non-medical OTC use.

Figure 6. Percent of Pre-Test Non-Users Who Remained Non-Users, FY '17 and '16

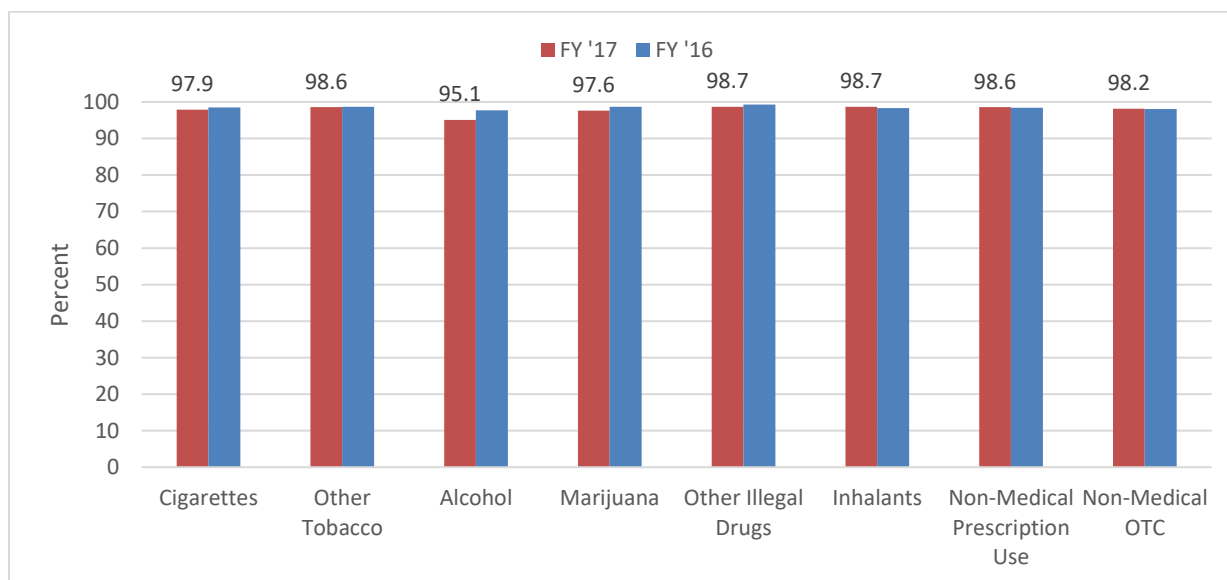
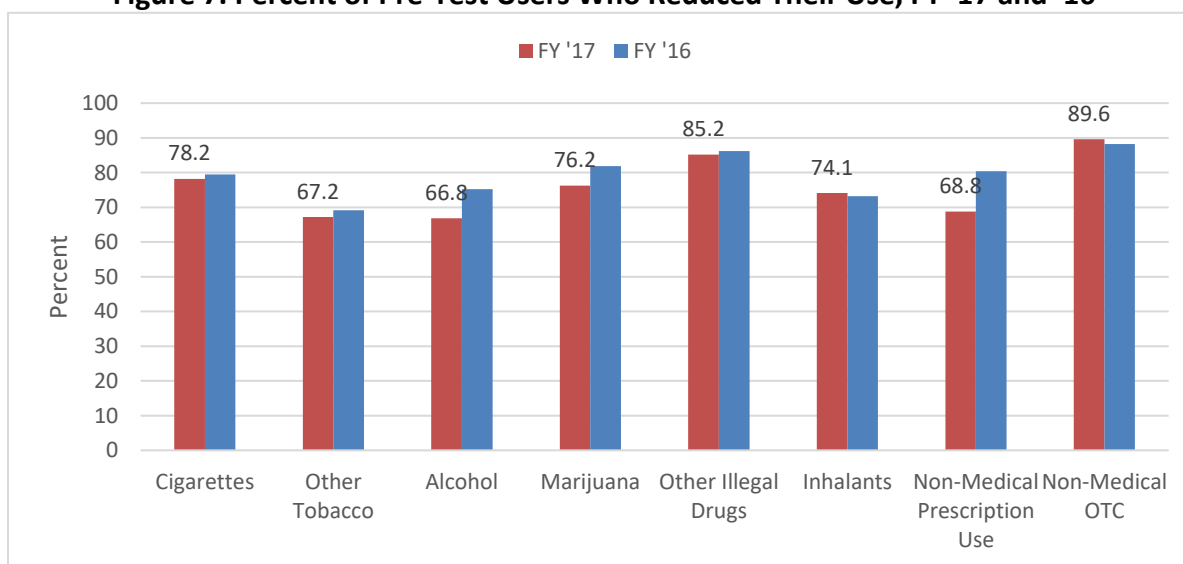


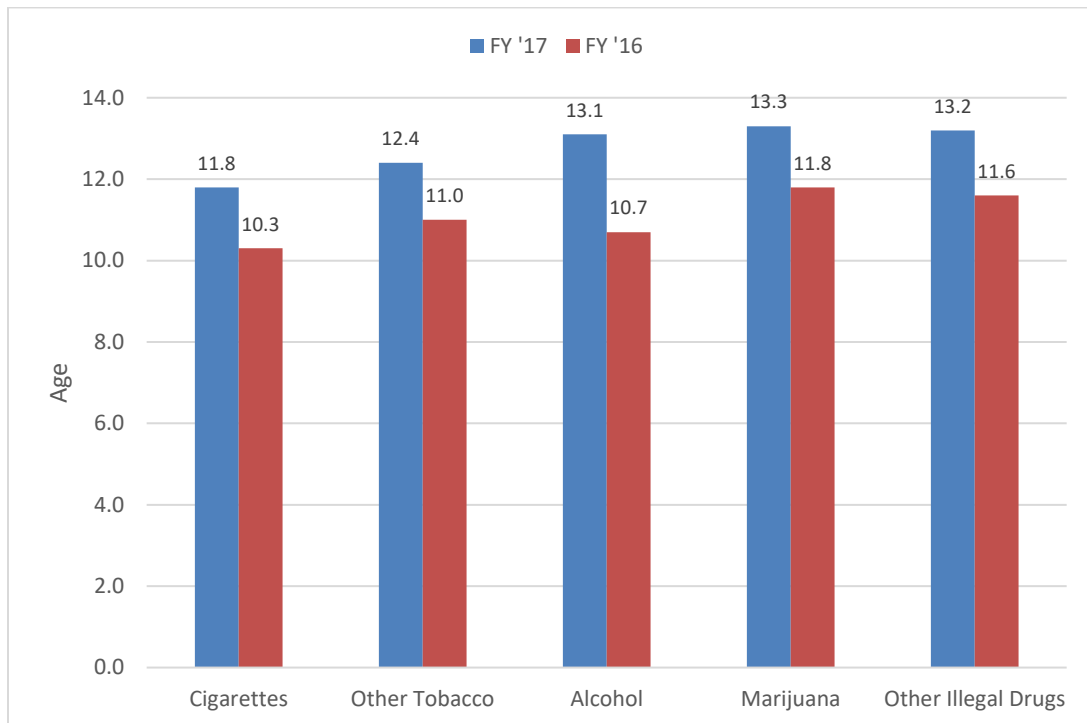
Figure 7. Percent of Pre-Test Users Who Reduced Their Use, FY '17 and '16



Age of First Use

As shown in Figure 8, among those who had used substances, ages of first use at pre-test ranged from 11.8 (cigarettes) to 13.3 (marijuana). Ages of first use in FY '17 appear to be slightly older than those for FY '16.

Figure 8. Overall Results, Average Age of First Use, FY '17 and FY '16



Parent-Child Communication and Youth Exposure to Prevention Messages

The survey asks about two additional topics on the pre-test—parent-child communication and exposure to prevention messages. Two out of every three students (67.0%) reported that they had talked to their parents about the dangers of drugs in the past year, a bit higher than last year's rate of 66%. Additionally, 82.9% reported having watched, read, or heard a prevention advertisement in the past year, which is unchanged from last year.

Prevention Programs

Across the provider network, ten different programs were implemented in FY '17, up from 9 in FY '16 and FY '15. In this section, we compare the outcomes for the ten programs with 20 or more matched participants. The full tables with results by program are found in Appendix A in Table A5.

Alcohol-Drug True Stories (hosted by Matt Damon) is a movie with testimonials by real people about their experiences with alcohol and drugs. Used together with its accompanying discussion guide, this is considered an evidenced-based practice. The program was implemented with 239 matched youth at one site. There was a statistically significant positive change in perceived risk and perceived peer norms.

All Stars is a comprehensive evidence-based ATOD prevention curriculum. This program was used by one site with a total of 51 matched participants. There were no statistically significant changes in risk factors or substances.

ATOD (Alcohol, Tobacco and Other Drugs) 101 is a course that can be customized for any setting. In ATOD 101, students receive information on the risks and laws associated with alcohol, tobacco, marijuana and other drugs. This program was used by one site with a total of 142 matched participants. There was a statistically significant change in the number of alcohol users.

Class Action is a comprehensive evidence-based ATOD prevention curriculum. This program was used by one site with a total of 40 matched participants. There were no statistically significant changes in risk factors or substances.

Keepin' It Real, an evidence-based, video-enhanced intervention for youth 10 to 17 that uses a culturally-grounded resiliency model that incorporates traditional ethnic values and practices that protect against drug use, was used by one site with a total of 62 matched participants. There were statistically significant changes in perceived risk, decision-making and disapproval of use.

Life Skills Training, a skill-based, evidence-based ATOD prevention curriculum, was the most commonly implemented program with nine sites and 1572 matched participants. There were desired changes on two of the five risk factors (perceived risk, decision making). However, there were significant changes in an undesirable direction for perceived parental attitudes and past 30-day alcohol use.

Prime for Life: Exploring is an evidence-based motivational prevention, intervention and pretreatment program specifically designed for people who might be making high-risk choices, was used by one site with a total of 102 matched participants. There were statistically-significant desired changes on four of the five risk factors (perceived risk, decision making,

disapproval of use and perceived peer norms). There were statistically significant desirable changes in the percentages of cigarette and alcohol users.

Project Alert, a comprehensive evidence-based ATOD prevention curriculum for middle school students, was delivered at one site to 41 matched participants. There was a statistically significant increase in perceived risk.

Project TND, a prevention curriculum intended for high school students, was used by two sites with 178 total matched participants. There were desired changes on all risk factors. There was also a significant decrease in the use of marijuana.

Why Try is a comprehensive evidence-based ATOD prevention curriculum, which was implemented at two sites with 61 participants. There were no statistically significant increases in risk factors or substances.

Evidence-Based vs. Non-Evidence-Based Programs

County authorities are not required to use evidence-based interventions exclusively, though most do. In FY '17, 100% of participants were served in evidence-based programs. Because all students were served in evidence-based programs, we are not able to compare the pre-post results against those served with non-evidence-based programs. In past years, however, we have generally seen superior outcomes from the evidence-based programs.

Summary of Section I

Table 3 summarizes the pre- and post-test differences in risk scores and substance use rates that were found among participants in the county authorities' multi-session prevention programs for youth. Green cells signify changes that were at least marginally statistically significant in the desired direction; desired changes that were statistically significant include an asterisk (*). Red cells signify changes that were at least marginally statistically significant in the undesired direction; undesired changes that were statistically significant include an asterisk (*).

As can be seen, there were widespread desired changes in risk factor scores in FY '17. Overall middle school, male students, African-American students, and Non-Hispanic students reported significant changes on four risk factors: perceived risk, decision-making, disapproval of use, and perceived peer norms. Changes in perceived parental attitudes were the least common. These desired changes in risk factor scores were experienced by participants in seven prevention programs (Alcohol Stories, Keepin it Real, Life Skills, Prime for Life: Exploring, Project Alert, Project TND, and Why Try).

There were also widespread reductions in substance use in FY '17, particularly among middle and high school students, males and females, African-American students, and non-Hispanic students. Significant or near significant reductions in substance use were also seen among participants of ATOD 101, Life Skills, Prime for Life: Exploring, Project ALERT and Project TND.

Table 3. Summary of Statistically Significant Results, By Demographics and Program

Category (number)	Perceived Risk	Decision Making	Disapproval of Use	Perceived Peer Norms	Perceived Parental Attitudes	Cigarettes	Other Tobacco	Alcohol	Marijuana	Other Illegal Drugs	Inhalants	Non-medical Use of Prescriptions	Non-medical Use of OTCs
DEMOGRAPHICS													
Overall Middle School (1414)	*	*	*	*		*		*	*				
Overall High School (230)	*								*	*			
Females (885)	*	*		*		*		*	*			*	
Males (762)	*	*	*	*					*				
Black/African American (755)	*	*	*	*		*		*	*				
White (629)	*												
Multi-ethnic (90)	*												
Other (127)	*												
Hispanic (144)	*												
Not Hispanic (1455)	*	*	*	*		*		*	*				
PROGRAMS													
Alcohol Stories (1 site; n = 239)	*			*									
All Stars (1 site; n = 51)													
ATOD 101 (1 site; n = 142)								*					
Class Action (1 site; n = 40)													
Keepin' It Real (1 site; n = 62)	*	*	*										
Life Skills (9 sites; n = 1572)	*	*		*									
Prime For Life: Exploring (1 site; n = 102)	*	*	*	*		*		*					
Project Alert (1 site; n = 41)	*												
Project TND (2 sites; n = 178)	*	*	*	*	*				*				
Why Try (2 sites; n = 61)			*	*									
OVERALL (15 sites; n = 2488)	*	*	*	*					*				
LEGEND													
Desired Marginally Significant		Desired Significant					*						
Undesired Marginally Significant		Undesired Significant					*						

SECTION II: ALCOHOL AND TOBACCO ENVIRONMENTAL PREVENTION STRATEGIES

County authorities have been implementing or assisting with the implementation of environmental strategies for many years. These efforts were boosted in FY '07 with the creation of the Synar Tobacco Enforcement Partnerships (STEP) and Alcohol Strategy Incentive Program (ASIP). In FY'08, the ASIP program ended due to the creation of the state Alcohol Enforcement Teams (AET) program, which now reports on most of the same strategies that had been tracked through ASIP. STEP continued into FY'17 and is most identified with its year-end monetary incentives to local providers based on the amount of tobacco-related environmental strategies implemented. Under STEP, counties could receive points for educating merchants through PREP (Palmetto Retailer Education Program), implementing tobacco compliance checks, getting a multi-jurisdictional law enforcement agreement around tobacco enforcement signed, and sending in names of new tobacco outlets. In this section, we document the amount of overall environmental strategy activity generated with a primary emphasis on the outcomes generated from the most common strategy, compliance checks.

The South Carolina Alcohol Enforcement Team (AET) model has grown from just three sites in the early 2000s to our current situation of having an active AET covering every judicial circuit in the state. The AET model, which includes community coalition maintenance and development, merchant education, and law enforcement partnership, specifies a multi- or single jurisdictional alcohol law enforcement approach (depending on the needs and participation of law enforcement within the target area) in a community to accomplish the following:

- Reduce youth access to alcohol utilizing various strategies (social and retail access);
- Measure, track and improve merchant compliance with alcohol laws;
- Provide research-based merchant education;
- Build community support for enforcement of underage drinking laws through media advocacy and community coalition maintenance and development; and
- Develop local law enforcement support for underage drinking prevention and enforcement efforts.

Alcohol and Tobacco Compliance Checks

Compliance checks are an environmental strategy to reduce youth access to alcohol or tobacco. Ideally, compliance checks include the following actions:

- Publicity to alcohol and tobacco sales staff that enforcement operations will be increasing,
- Awareness-raising with the community to increase its acceptance of increased compliance operations,

- Law enforcement operations involving the use of underage buyers attempting to purchase alcohol or tobacco with charges being brought against the clerk and establishment license holder if a sale is made, and
- Regularly offered merchant education to help merchants improve their underage sales policies and practices.

Across the county authority system, prevention staff were required to use the AET Online Reporting system version of the DAODAS Compliance Check Form when cooperating with local law enforcement to implement alcohol or tobacco compliance checks. The form requests details of the compliance checks, such as time of check, type of store, information on purchaser and clerk, and whether the clerk asked for ID.

In FY'17, there were 6,696 alcohol compliance checks and 543 tobacco compliance checks entered into the online AET reporting system. In FY '17, 38 counties submitted alcohol compliance checks, while 13 counties submitted tobacco forms. There may have been additional compliance checks for which a form did not get entered into the online system, so the data received may not reflect every compliance check during the year, though it should contain most of them. As shown in Figure 9, the data suggested that both the alcohol and tobacco buy rates were at historic lows of 8.6% and 5.5%, respectively. Table 4 shows the buy rates for each county.

Figure 9. Annual Number of Compliance Checks and Annual Buy Rates

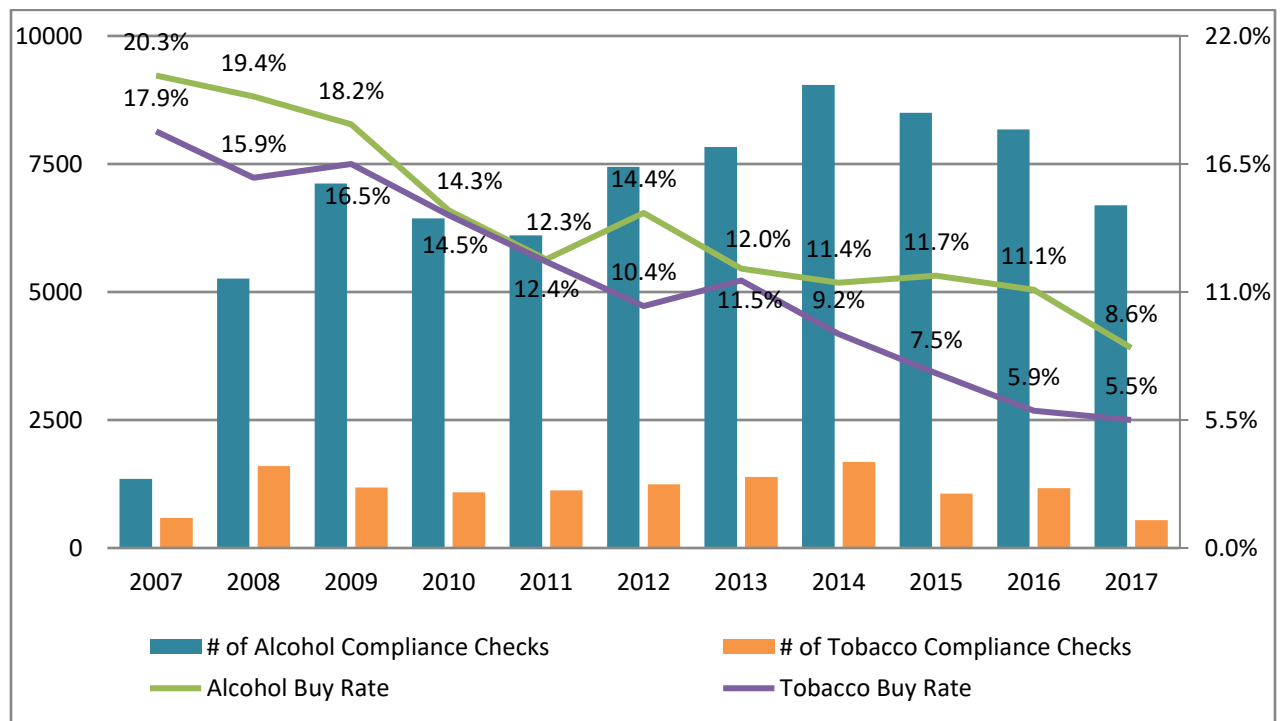


Table 4. FY '17 Alcohol and Tobacco Compliance Check Buy Rates by County

County Name	Alcohol			Tobacco		
	Total Eligible Purchase Attempts	Buy	Buy Rate	Total Eligible Purchase Attempts	Buy	Buy Rate
Abbeville	1	0	0.0%	0	0	N/A
Aiken	143	21	14.7%	34	0	0.0%
Allendale	0	0	N/A	0	0	N/A
Anderson	65	4	6.2%	0	0	N/A
Bamberg	38	1	2.6%	27	0	0.0%
Barnwell	79	4	5.1%	24	1	4.2%
Beaufort	22	1	4.5%	0	0	N/A
Berkeley	472	20	4.2%	38	4	10.5%
Calhoun	18	0	0.0%	17	0	0.0%
Charleston	397	29	7.3%	0	0	N/A
Cherokee	0	0	N/A	0	0	N/A
Chester	44	8	18.2%	0	0	N/A
Chesterfield	76	6	7.9%	0	0	N/A
Clarendon	21	2	9.5%	0	0	N/A
Colleton	16	4	25.0%	0	0	N/A
Darlington	251	11	4.4%	39	3	7.7%
Dillon	41	8	19.5%	0	0	N/A
Dorchester	78	0	0.0%	0	0	N/A
Edgefield	0	0	N/A	0	0	N/A
Fairfield	0	0	N/A	0	0	N/A
Florence	220	7	3.2%	0	0	N/A
Georgetown	129	13	10.1%	0	0	N/A
Greenville	1081	88	8.1%	129	4	3.1%
Greenwood	48	7	14.6%	0	0	N/A
Hampton	29	3	10.3%	0	0	N/A
Horry	814	49	6.0%	42	1	2.4%
Jasper	16	4	25.0%	0	0	N/A
Kershaw	0	0	N/A	0	0	N/A
Lancaster	162	18	11.1%	0	0	N/A
Laurens	14	1	7.1%	0	0	N/A
Lee	6	0	0.0%	0	0	N/A
Lexington	184	21	11.4%	0	0	N/A
Marion	0	0	N/A	0	0	N/A
Marlboro	58	2	3.4%	0	0	N/A

Table 4. FY '17 Alcohol and Tobacco Compliance Check Buy Rates by County

County Name	Alcohol			Tobacco		
	Total Eligible Purchase Attempts	Buy	Buy Rate	Total Eligible Purchase Attempts	Buy	Buy Rate
McCormick	0	0	N/A	0	0	N/A
Newberry	55	11	20.0%	0	0	N/A
Oconee	24	4	16.7%	0	0	N/A
Orangeburg	43	2	4.7%	39	3	7.7%
Pickens	329	20	6.1%	39	7	17.9%
Richland	110	9	8.2%	0	0	N/A
Saluda	0	0	N/A	0	0	N/A
Spartanburg	341	62	18.2%	93	5	5.4%
Sumter	18	2	11.1%	1	1	100%
Union	83	7	8.4%	0	0	N/A
Williamsburg	9	1	11.1%	0	0	N/A
York	1161	124	10.7%	21	1	4.8%

Most FY '17 alcohol compliance checks were conducted at convenience stores (56.5 %). The next most common type of location was liquor stores (9.7 %), then large grocery stores (8.7 %), restaurants (8.5 %), drug stores (5.6 %), small grocery stores (5.3 %), bars (3.2 %), “other” (2.0%) and hotels (0.3%). In most cases, the youth attempted to buy beer (81.7%) although a substantial number attempted to buy liquor (9.5 %) or alcopops or alcohol energy drinks (6.9%). Wine or wine coolers were attempted only 1.8% of the time. Most youth volunteers were between the ages of 17 and 19 (87.4 %). More purchase attempts were made by males (53.4 %) than females. The large majority of alcohol checks were conducted by White youth (87.4 %), followed by Black or African American youth (11.1 %).

For tobacco compliance checks, 72.8% were conducted at convenience stores, followed by large grocery stores (7.9 %), drug stores (5.0 %), small grocery stores (10.4 %), and “other” (3.9%). In most cases, youth attempted to buy cigarettes (66.3 %). The remaining attempts were made for smokeless tobacco (21.9%), cigars (10.5%) and cigarillos (1.3%). To place this in context, in FY '08, only 5% of attempts were for these other tobacco products. The most common age for the youth volunteers was 15 (35.2 %) and 17 (33.3 %). More purchase attempts were made by males (63.5 %) than females. White youth conducted 64.1% of tobacco compliance checks, and Black or African American youth conducted 32.2% of the checks.

Figure 10 shows how buy rates for different products have changed over the past five years. Buy rates for all products have decreased dramatically.

Figure 10. Alcohol Buy Rates by Type of Product, Five Year Trends

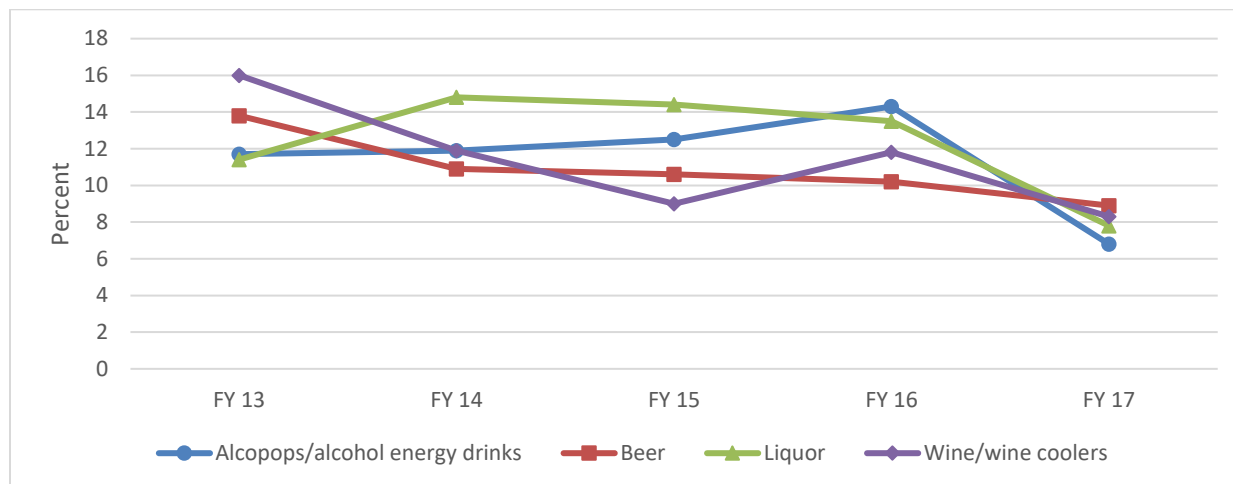
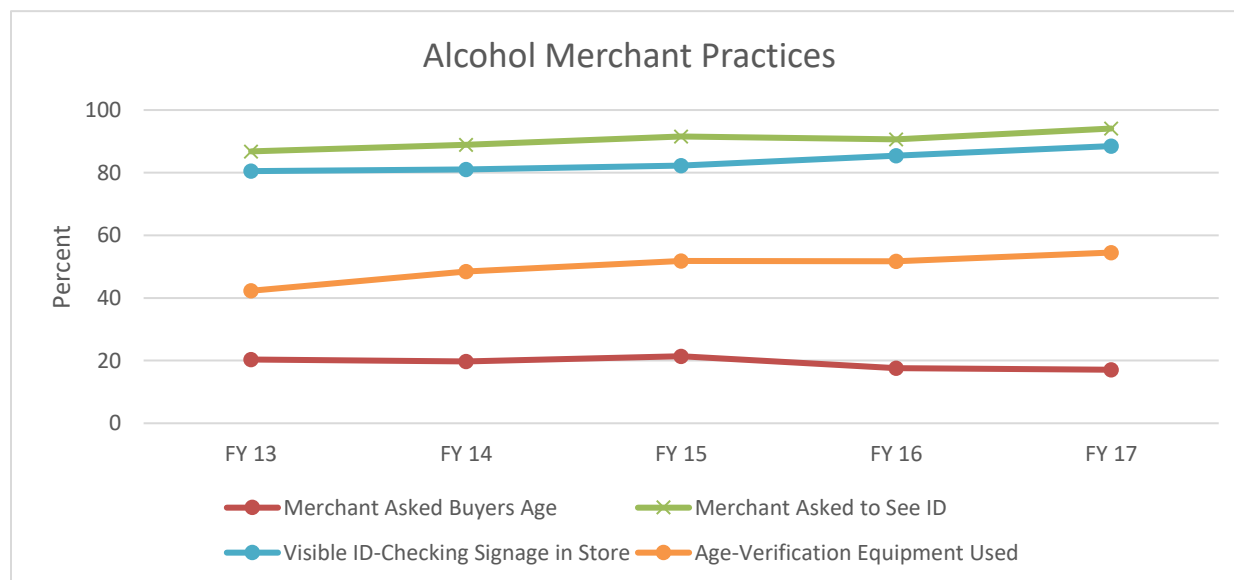


Figure 11 shows alcohol merchant practices over the past five years. Although the practices appear stable during the period, it is worth noting that asking for the buyer's age has decreased slightly, commensurate with an increase in asking for ID, which occurs upwards of 94% of the time. During the same period, there has been an increase in the studying of buyer ID, use age-verification equipment and visible ID-checking signage in the stores.

Figure 11. Alcohol Merchant Practices, Five Year Trends



A similar pattern can be seen for tobacco merchants in Figure 12, which shows an increase in merchants' asking to see ID.

Figure 12. Tobacco Merchant Practices, Five Year Trends

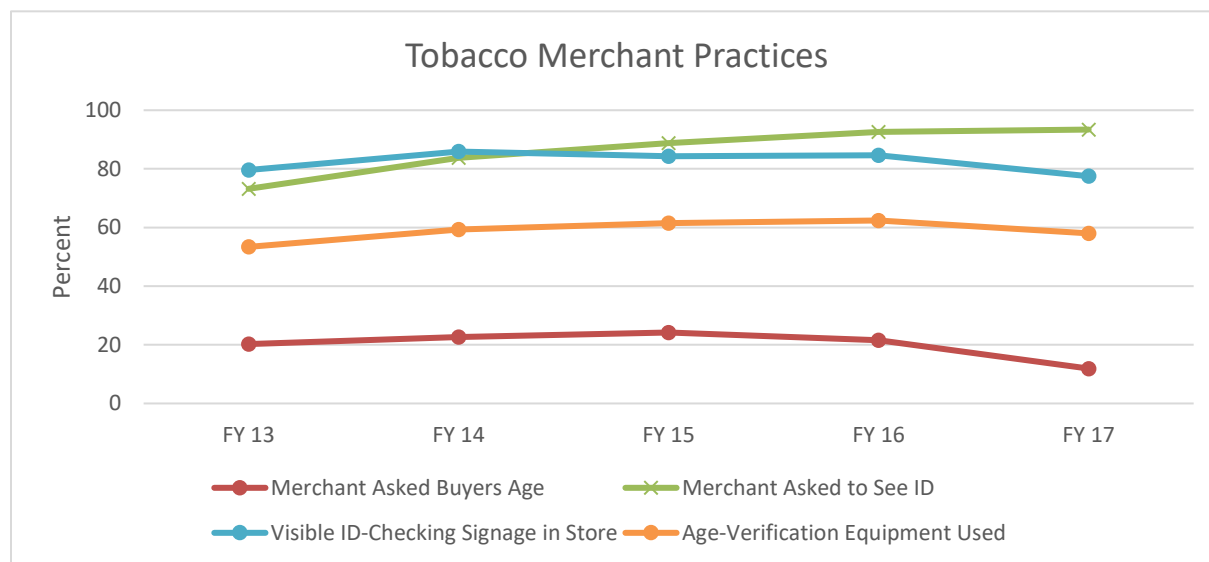


Figure 13 shows the percent of sales completed by type of business for places that had at least 50 attempts. For alcohol, the highest rates of sale were small and large grocery stores, whereas the lowest rates were for convenience store only and bars/taverns. For tobacco, only two types of businesses had at least 50 attempts: convenience stores/gas stations and small grocery stores. Both had relatively low rates of completed sales.

Figure 13. Percentage of Completed Sales by Type of Business

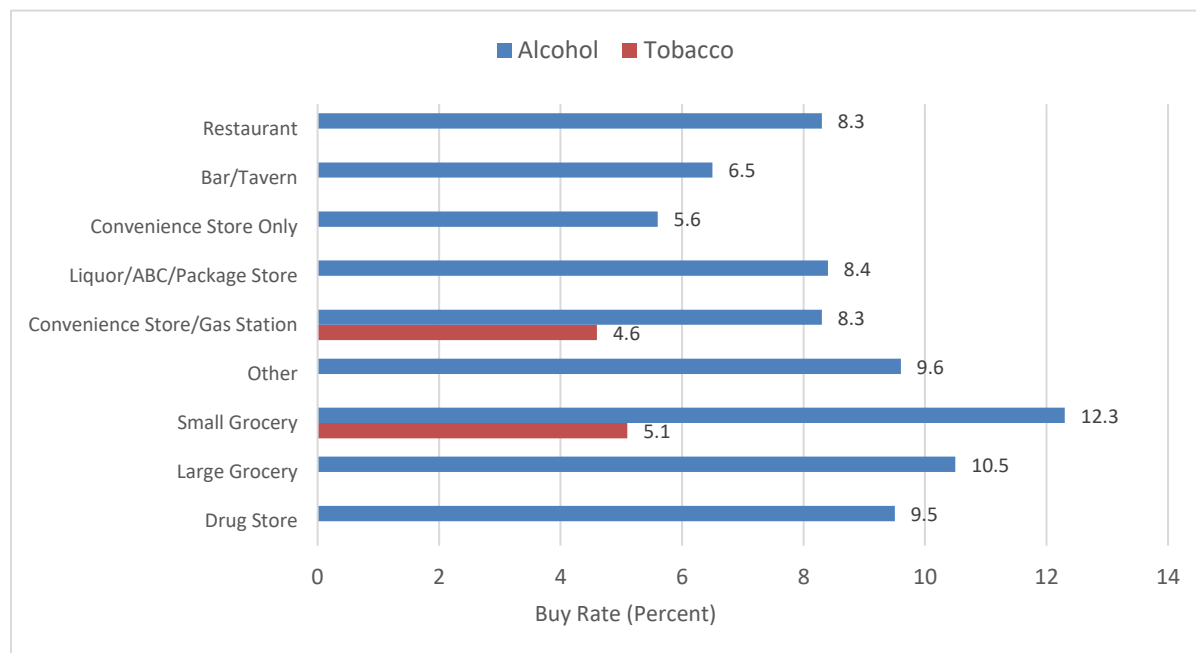


Figure 14 compares the completed sales rate of alcohol products in FY '16 and FY '17. As can be seen, the completed sales rates were lower in FY '17 in restaurants, bars/taverns, convenience store only, liquor/ABC/package stores, and convenience stores with a gas station. Notably, the rates of completed sales in restaurants, bars/taverns, and convenience stores were reduced by more than 58%. The sales rates were higher in other establishments, small grocery, large grocery, and drug stores.

Figure 14. Percentage of Completed Alcohol Sales, FY '16 and FY '17

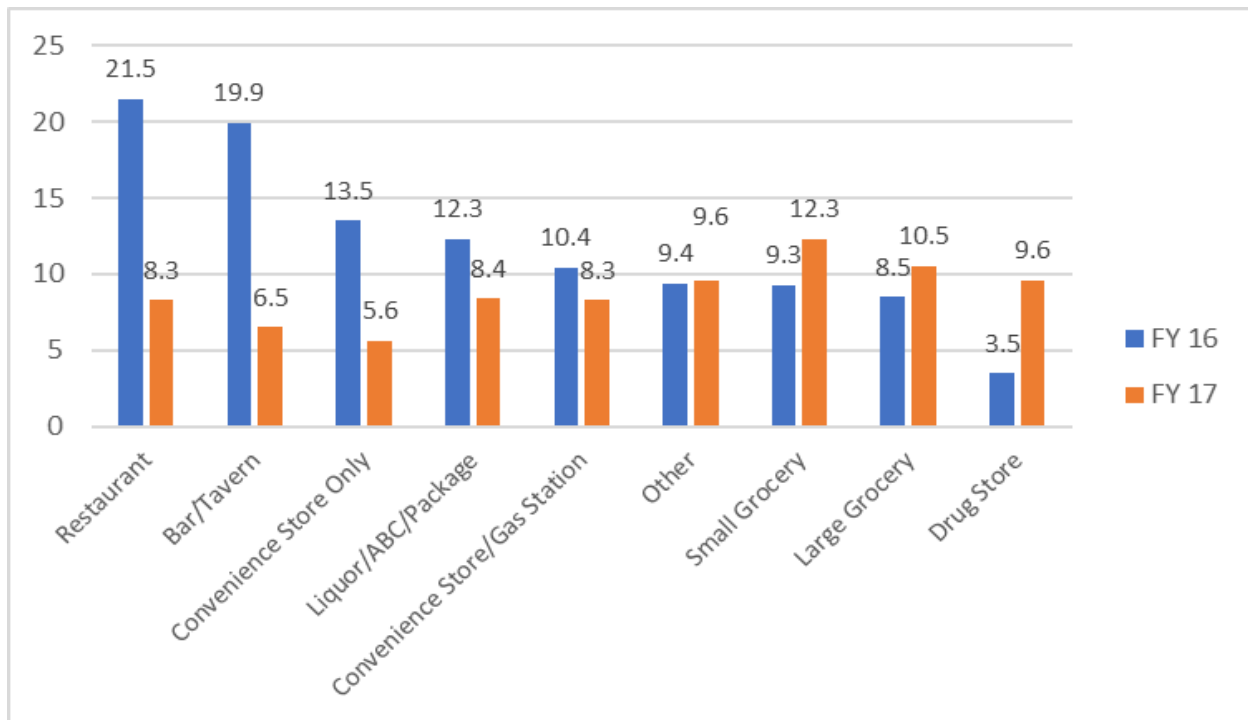


Table 5 displays the percentages of sales completed based on multiple demographic characteristics of the clerks and buyers. For alcohol sales, clerk age and race, and buyer age and race were statistically significant predictors of sales. For tobacco sales, clerk age and sex, and buyer race were significant predictors of sales.

Table 5. Percentage of Retailer Sales by Demographic Characteristics

Compliance Check Characteristic	% Sales Completed— Alcohol	% Sales Completed— Tobacco
Clerk Age	*	
15 - 17	3.3%	0.0%
18- 20	13.9%	8.8%
21 - 24	8.0%	9.6%
25 - 44	8.3%	2.8%
45 – 64	8.5%	7.8%
65+	11.8%	13.3%
Clerk Sex	**	
Female	9.3%	5.4%
Male	7.5%	5.8%
Clerk Race		
Black	9.2%	5.4%
Hispanic	13.7%	0.0%
Other	8.0%	5.5%
White	8.3%	5.7%
Buyer Age		
15	3.8%	4.2%
16	8.4%	7.1%
17	8.6%	5.0%
18	8.8%	33.3%
19	8.1%	N/A
20	10.0%	N/A
Buyer Sex	**	
Female	7.5%	5.1%
Male	9.5%	5.8%
Buyer Race		***
Black	8.2%	4.6%
Hispanic	0.0%	100%
Other	3.9%	11.8%
White	8.7%	4.9%
* p < .05 ** p < .01 *** p < .001		

Table 6 displays the percentages of sales completed when the sex and race of the clerk and buyer were the same and different. There was a significant difference in alcohol buy rates for clerk and buyer gender correspondence.

Table 6. Percentage of Retailer Sales by Demographic Characteristics

Compliance Check Characteristic	% Sales Completed—Alcohol	% Sales Completed—Tobacco
Clerk – Buyer Sex	**	
Different	9.5%	6.4%
Same	7.7%	4.5%
Clerk – Buyer Race		
Different	8.9%	5.8%
Same	8.4%	5.3%
* p < .05 ** p < .01 *** p < .001		

We conducted analyses to see if the time of the inspection was a significant factor in whether a sale is made. This was limited to weekday checks. First, an analysis was done based on whether the inspection was done before or after 3 pm, approximating whether youth would normally be in or out of school. In addition, 6 pm was used as a day/night proxy. Neither analyses indicated that time of day is a significant factor for tobacco sales. For alcohol, however, sales were more likely to be completed before 3pm than after that time ($p < .001$). No relationship was found for alcohol sales before and after 6pm.

The average clerk fine for an alcohol sale, at the time of ticketing, was \$620.77, and the most common amount was \$677.50. The average fine for a tobacco sale ticket was \$307.15, with \$465.00 being the most common amount.

The compliance check form includes a section where officers ask offenders if they have ever taken a merchant education class. Of the 604 cases in which a sale was made (alcohol and tobacco), there were 3 instances (0.50 %) in which the offender indicated they had taken a class.

Bar Checks

The other primary enforcement activity aimed at retailers is the use of bar checks. The intent of bar checks can vary between (1) doing a sweep of patrons in a bar/restaurant to look for those who are underage or have fake IDs, (2) looking for retailer violations such as selling to underage customers or some other violation of an alcohol license, or (3) building rapport with retailers or reminding them to be mindful of relevant laws during a “walk through” or “casual contact.” One “bar check” or visit to an establishment could serve multiple purposes.

Bar Checks are conducted at on premise alcohol establishments. The operation is not a compliance check in the sense that an undercover youth is sent into an establishment to attempt to purchase alcohol. The operation occurs when law enforcement officers “walk through” an establishment checking for fake IDs, observing for retailer violations, and conducting casual contacts with alcohol outlet personnel and patrons. There were 248 operations recorded in FY 2017 in 14 counties. The officers recorded 133 violations, which included 26 tickets for fake ID, 15 verbal or written warnings, and 79 various retailer violations.

Shoulder Taps

Shoulder tap operations involve an underage volunteer standing outside of an off-premise establishment and asking adults going in to purchase alcohol for them. Those who do are ticketed. In FY’17, five counties representing five circuits conducted shoulder taps a total of 9 different times, down from 19 in FY ’16 and 72 in FY ’15. Altogether, 190 individuals were approached in FY ’17. Four purchased alcohol for the youth, resulting in a 2.1% violation rate. In FY ’16 the rate was 3.2%, and it was 5.9% in FY ’15. Twenty-four other charges were written during these operations.

Public Safety Checkpoints/Saturation Patrols

AETs across South Carolina recorded 434 public safety checkpoints in 24 counties. The checkpoints expended almost 696 hours. Officers recorded contact with 36,865 vehicles resulting in 4,157 citations and arrests. Highlights of those citations and arrests were 385 tickets for drug possession, 144 DUI (.08 or greater BAC) arrests among adults, 9 tickets for under 21 Zero Tolerance (.02 to .079 BAC), 10 stolen vehicles recovered, 20 fugitives apprehended, 240 tickets for open container, and 24 felony arrests. Fourteen underage individuals were ticketed for alcohol possession/consumption at the checkpoints.

Saturation patrols, also called directed patrol, are sometimes described as “roving checkpoints”. Public safety checkpoints are stationery while saturation patrols are conducted by officers patrolling in vehicles. Both enforcement operations concentrate on areas where vehicle crashes and traffic violations occur. These focus areas are determined by data analysis and officers’ knowledge about the areas. In FY 2017, there were 131 saturation patrols that expended at total of 304 hours. This operation was recorded in 9 counties. The patrols resulted in 1,839 citations and arrests. In those violations, there were 27 DUI arrests, 125 tickets for drug possession, 805 speeding violations, and 499 citations for various other violations, ranging from seat belt violations, no child restraint, littering, and others.

Controlled Party Dispersals/Party Patrols

Alcohol Enforcement Teams in 13 counties recorded 93 party dispersals in FY 2017. A party dispersal is conducted when officers receive a complaint from a source and investigate that complaint. In some cases, officers observe a social gathering involving individuals under the legal alcohol drinking age of 21 years old while on duty and investigate the gathering. In FY 2017, the predominant source for the party investigation was citizen complaints (48%), including complaining parents that had retrieved their children from the gathering, loud noise complaints, and two occasions where citizens reported gun fire from the party location. Forty percent of the party investigated by law enforcement officers were initiated by the officers themselves. AETs recorded dispersals in 13 counties. There was a total of 329 officer hours recorded at the gatherings involving 3,503 people. Officers recorded 244 tickets and arrests at the gatherings.

Multi-Jurisdictional Law Enforcement Agreements

Counties earned STEP points for providing a copy of a multi-jurisdictional tobacco law enforcement agreement, a document signed by multiple law enforcement agencies that promised a cooperative effort to address underage alcohol and/or tobacco enforcement. These agreements are believed to be important to sustaining consistent enforcement. In FY '17, 17 counties turned in tobacco agreements, 23 counties turned in tobacco agreements in FY '16. There are many multi-jurisdictional alcohol enforcement agreements in place (often as part of the same document that serves as the tobacco agreement), but DAODAS does not formally collect or count them.

Merchant Education

Efforts to enforce laws regarding underage purchases of alcohol or tobacco are strengthened by efforts to help educate and train those who sell alcohol or tobacco products with appropriate information and proper techniques. Several merchant education curricula are in use nationally and in South Carolina, though the county authorities are now exclusively using the PREP curriculum. County authorities were each required to implement merchant education programming in FY '17 and collectively served 1,658 retail staff, which is down from 1,809 in FY '16. Thirty-eight of the 46 counties served at least one retailer in PREP, and Beaufort (281) served the most.

There is a standardized PREP post-test used across the system that allows standardization of outcomes. Primarily, the test is graded for a pass or fail. Among those who passed in FY '17, the average score was 95.4%.

Diversions or Court-mandated Youth Programs

County authorities often play a role in the post-arrest process for youth violators of alcohol or tobacco laws. Related to alcohol, county providers often offer programming as part of their solicitor's Alcohol Education Program (AEP), a program many first-time offenders will be offered in lieu of a conviction.

There were 365 youth served in AEP in FY '17, down from FY '16. The bulk of the youth served came from Pickens (176), Charleston (64), and Spartanburg (53).

For tobacco, county agencies offer the Tobacco Education Program (TEP) for youth as a program they can complete when charged with underage tobacco possession in lieu of paying a fine. In FY '17, 312 youth participated in TEP, an increase from FY '16. Four counties delivered TEP in FY '17, with Fairfield (296) serving the majority.

Alcohol Enforcement Team Awareness Activities

AET awareness activities included holding town hall meetings, doing educational sessions for youth or adults, conducting local media campaigns, and "casual contacts," which are typically law enforcement officers making community contacts with youth or merchants to keep a high visibility presence and warn them of upcoming enforcement efforts. AETs reported 378 media placements (articles, TV stories, etc.) during FY '17, up from 367 in FY '16. There were 88 presentations and media events occurring during "Out of Their Hands" conducted the entire month of April 2017. During April 2017, an estimated 1 million South Carolinians received information about underage drinking through the Out of Their Hands about underage drinking through the media activities. This includes all forms of media including television, radio, and social media as well as presentations conducted at schools, colleges, and universities. It is noted that there was a considerable increase in the number of AETs using social media, such as Facebook and Twitter, during FY '17 and during "Out of Their Hands" in April 2017. While the AETs noted the social media presence, data analytics were not transmitted to the reporting system, so the media reach is difficult to measure.

Alcohol Enforcement Team Training

A key component of the AET model utilized in South Carolina involves developing and maintaining local law enforcement support for underage drinking prevention and enforcement efforts. Some of this support takes the form of continued training opportunities for law enforcement officers in such topics as Fake IDs, Public Safety Checkpoints, Source Investigation, Special Alcohol Events Management, Current Alcohol Trends and Fads, Alcohol Screener Devices, and others to increase capacity of law enforcement officers, prevention specialists, and other community partners to enforce underage drinking laws and educate citizens in the value of enforcing those laws.

In FY '17, there were 26 training sessions conducted in 12 counties in South Carolina. These sessions were attended by 370 individuals, including 349 law enforcement officers. Among those participants attending were 12 youth and adults who participated as role-players in mock party dispersal training. This training module was combined with primary training topics such as the Two-Day AET Training, AET 101 Training, and Fake ID Training.

Summary of Section II

The most common environmental strategies implemented were alcohol compliance checks, tobacco compliance checks, and merchant education, though Alcohol Enforcement Teams also generated considerable activity on operations such as public safety checkpoints, controlled party dispersals, and saturation patrols.

County authority prevention staff and AET Coordinators submitted forms on 6,696 alcohol compliance checks and 543 tobacco compliance checks. These are decreases over FY '16 totals. Sales were completed for 8.6% of alcohol attempts and 5.5% of tobacco attempts.

Most merchants asked to see the buyers' IDs (94.1% and 93.4% for alcohol and tobacco, respectively) and most merchants studied the IDs (76% and 44.5% for alcohol and tobacco, respectively). Clerk age, buyer and clerk sex were significant predictors of alcohol sales, while buyer race and clerk age were significant predictors of tobacco sales. Not surprisingly, clerks estimated to be young (ages 15-17) were more likely to sell alcohol and tobacco.

The counties served 1,658 merchants in the Palmetto Retailers Education Program (PREP) in FY '17, up from 1,809 in FY '16.

AETs reported a total of 434 public safety checkpoints. Among the violations, there were 144 DUIs. In addition, there were 131 saturation patrols reported. This operation generated another 1,839 tickets, among them 27 DUIs.

AETs dispersed 92 parties attended by 3,503 persons. 244 tickets and arrests were recorded at the gatherings. 48% of parties were reported as having been prevented due to citizen complaints. A total of 190 individuals were approached by the cooperating youth to purchase alcohol as part of Shoulder Tap operations, with 4 purchasing (2.1% sales).

In FY '17, there were 248 bar checks conducted, resulting in 26 fake ID violations and 107 other retailer and patron violations.

Nearly 700 youth were in diversion programs for youth alcohol and tobacco offenses (365 served in the Alcohol Education Program and 312 served in the Tobacco Education Program).

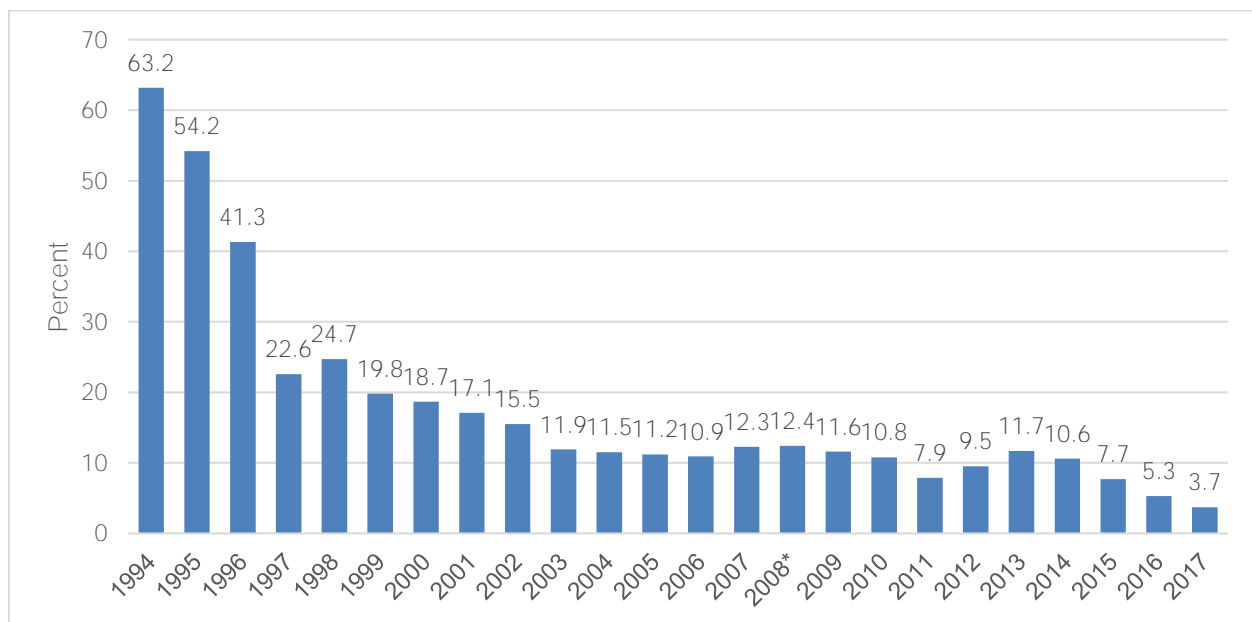
SECTION III: YOUTH ACCESS TO TOBACCO STUDY (SYNAR)

As per the Federal Synar Regulation, South Carolina conducts annual, unannounced inspections of a valid probability sample of tobacco outlets that are accessible to minors.² This study, known in South Carolina as the Youth Access to Tobacco Study (YATS) or simply the Synar Study, is designed to determine the extent to which people younger than 18 can successfully buy cigarettes from retail outlets. Although similar in nature and scope to the counties' tobacco compliance checks discussed in the previous section, the Synar Study is a distinct operation that occurs during a specific time-period each year, and uses a scientifically developed and SAMHSA-approved sampling frame.

Between Jan. 1 and Feb. 28, 2017, 215 youth volunteers ages 15-17, under trained adult supervision, conducted unannounced cigarette purchase attempts in 553 randomly-selected retail outlets in all 46 counties. These outlets were randomly sampled from the estimated 7,055 outlets in the state.

Figure 15 shows the buy rates from the Synar Study since 1994. For 2017, the estimated overall sales rate (also known as a Retailer Violation Rate or RVR) was 3.7%. This rate is far better than the federal standard of 20.0% and substantially lower than the RVR of 63.2% in 1994, the first year of the study. The 2016 rate was 5.3%. Buy rates for each county are shown in Table 7.

Figure 15. YATS (Synar) Cigarette Purchase Rates (FY 1994 - 2017)^a



^a Data are labeled based on when they were collected. Typically, these data are collected in January and February, but reported to SAMHSA the following December, meaning they are collected in one fiscal year and reported to SAMHSA the next fiscal year. For example, the 2016 data match the FY 2017 submission to SAMHSA by DAODAS.

² The Synar Regulation is named after US Congressman Mike Synar from Oklahoma, who introduced youth tobacco prevention legislation in 1992.

* Beginning in 2008, the state did not allow 14-year-old inspectors, who consistently had lower purchase rates than 15- to 17-year-olds.

Table 7. YATS (Synar) Raw Buy Rates 2017

County Name	Total Eligible Attempts	No Buy	Buy	Buy Rate
Abbeville	5	5	0	0.0%
Aiken	25	25	0	0.0%
Allendale	3	3	0	0.0%
Anderson	25	23	2	8.0%
Bamberg	3	3	0	0.0%
Barnwell	4	4	0	0.0%
Beaufort	15	15	0	0.0%
Berkeley	15	15	0	0.0%
Calhoun	3	2	1	33.3%
Charleston	36	36	0	0.0%
Cherokee	8	8	0	0.0%
Chester	6	6	0	0.0%
Chesterfield	8	8	0	0.0%
Clarendon	6	6	0	0.0%
Colleton	6	6	0	0.0%
Darlington	12	11	1	8.3%
Dillon	6	5	1	16.7%
Dorchester	17	17	0	0.0%
Edgefield	0	0	0	N/A
Fairfield	6	6	0	0.0%
Florence	24	24	0	0.0%
Georgetown	6	6	0	0.0%
Greenville	39	38	1	2.6%
Greenwood	10	10	0	0.0%
Hampton	6	6	0	0.0%
Horry	38	37	1	2.6%
Jasper	6	6	0	0.0%
Kershaw	9	9	0	0.0%
Lancaster	12	12	0	0.0%
Laurens	9	7	2	22.2%
Lee	5	5	0	0.0%
Lexington	17	16	1	5.9%
Marion	7	7	0	0.0%
Marlboro	7	5	2	28.6%
McCormick	2	2	0	0.0%

Table 7. YATS (Synar) Raw Buy Rates 2017

County Name	Total Eligible Attempts	No Buy	Buy	Buy Rate
Newberry	5	5	0	0.0%
Oconee	10	10	0	0.0%
Orangeburg	14	13	1	7.1%
Pickens	11	10	1	9.1%
Richland	32	32	0	0.0%
Saluda	2	2	0	0.0%
Spartanburg	29	27	2	6.9%
Sumter	18	16	2	11.1%
Union	4	4	0	0.0%
Williamsburg	3	3	0	0.0%
York	19	18	1	5.3%

Table 8 shows Synar buy rates, broken down by the demographic characteristics of the youth purchaser. No purchaser demographics were significantly related to the likelihood of a successful buy.

Table 8. YATS (Synar) Percent of Outlets Selling Cigarettes to Youth by Characteristics of Youth, 2017

Characteristic	Buy Rate
Age	
15	1.3
16	4.0
17	4.9
Sex	
Female	4.4
Male	2.6
Race	
Black	4.5
Other	2.6
White	3.1
Buyer Race	
Black-Female	6.1
Other-Female	2.5
White-Female	3.4
Black-Male	2.3
Other-Male	2.7
White-Male	2.8

Table 9 shows Synar buy rates, broken down by the demographic characteristics of the clerk.

Table 9. YATS (Synar) Percent of Outlets Selling Cigarettes to Youth by Characteristics of Clerk, 2017

Characteristic	Buy Rate
Age*	
Teenager	22.2
20's	3.9
30's	3.0
40's	0.9
50's	4.6
60+	5.6
Sex	
Female	3.5
Male	3.6
Race	
Black	1.4
Hispanic	6.7
Other	1.1
White	5.1
Clerk Race	
Black-Female	0.8
Hispanic-Female	0.0
Other-Female	0.0
White-Female	5.8
Black-Male	4.5
Hispanic-Male	25.0
Other-Male	1.7
White-Male	3.6

* p < .05

SECTION IV: OTHER PREVENTION INTERVENTIONS

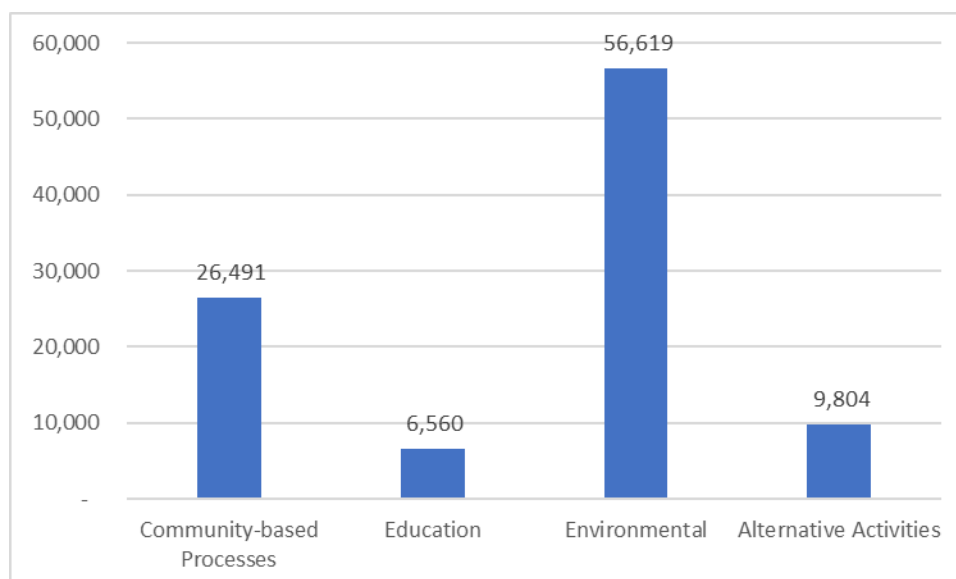
In the previous chapters, we have described the cumulative outcomes, to the extent possible, of youth curricula, environmental approaches, and the Youth Access to Tobacco Study. Prevention professionals deliver an even wider range of services than this list, however. Below are some of the other common prevention programs offered:

- Parenting Programs
- Working with Coalitions
- Information Dissemination
- Alternative Activities

These types of programs are important components of a well-rounded county prevention effort. However, they do not lend themselves well to measurable outcomes and there are no consistent statewide tools to capture outcome data on them.

Figure 16 presents data from IMPACT on the total persons served by CSAP strategy. In many cases, these values are estimates provided by prevention providers; nevertheless, the data provide a sense of the scope of reach of prevention efforts in South Carolina. More than 55,000 people were reportedly served by environmental strategies. In addition, not shown in the figure, more than 5 million people received prevention-related information (Information Dissemination) and 875 received problem identification and referral services.

Figure 16. Total Served by CSAP Category, FY '17



SECTION V: STATEWIDE YOUTH SUBSTANCE USE TRENDS

One reason for DAODAS and the State of South Carolina to devote resources to prevention efforts is to prevent and reduce youth substance use across the state. Just as it is beneficial for DAODAS to track its prevention efforts and outcomes annually through this report, it is beneficial to monitor statewide substance use trends across years as well. By monitoring statewide trends, DAODAS can gauge the changes in use over time and determine if its efforts should be modified to better address the trends.

The figures below show 20-year trends in youth substance use, using data from the Youth Risk Behavior Survey (YRBS). As can be seen, South Carolina, along with the nation as-a-whole, has experienced considerable reductions in youth alcohol and cigarette use over the years, with the state alcohol use rates typically slightly lower than those for the nation. Although the overall reductions in South Carolina cannot be attributed directly to the DAODAS-funded efforts, the comprehensive approach taken by the state (i.e., extensive environmental efforts supplemented by curriculum-based programs) has been shown to lead to positive outcomes.

It should be noted that, in 2017, several 30-day substance use measures showed a slight trend in the undesired direction, including alcohol, cigarettes, and marijuana. In addition, data on lifetime use of various harmful substances (e.g., heroin, methamphetamines, Ecstasy, and synthetic marijuana) showed substantial movement in the undesired direction (Figure 22). Although these trends may be temporary, and some may not even be statistically significant, prevention stakeholders should continue to monitor these trends and ensure that evidence-based prevention strategies continue to be implemented as broadly as possible.

Figure 17. Past 30-Day Alcohol Use, High School Students

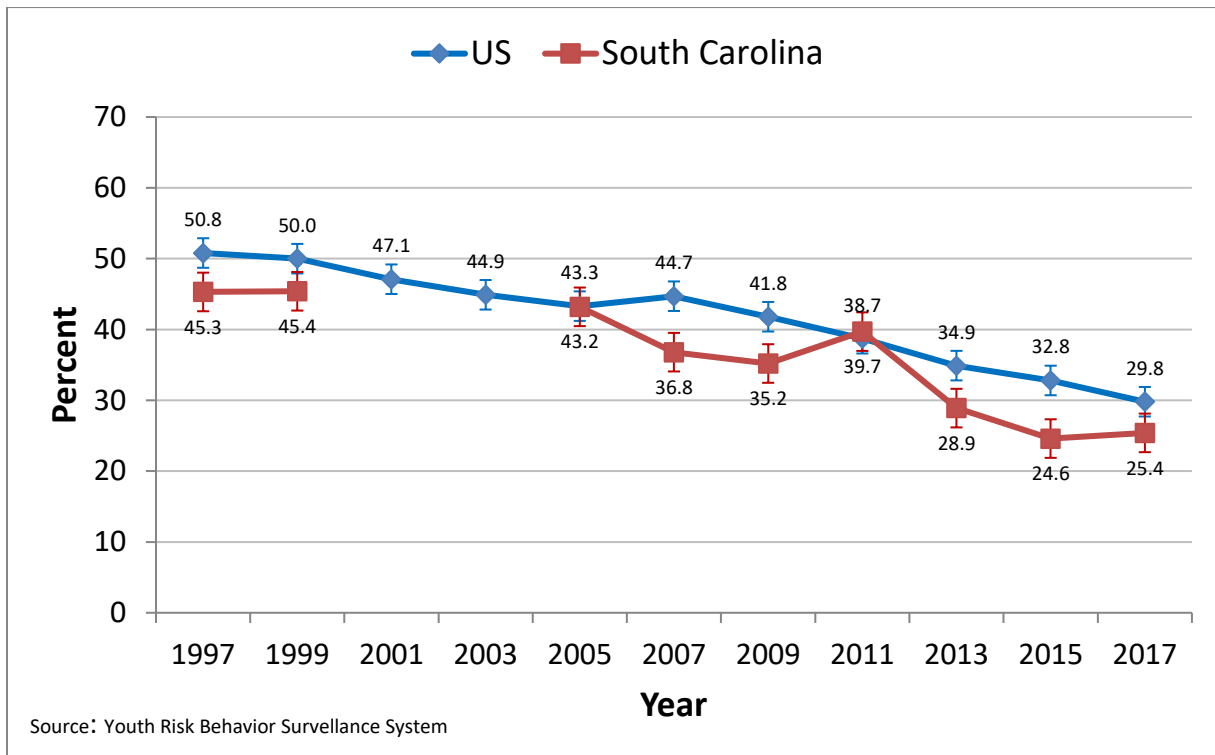


Figure 18. Past 30-Day Binge Drinking, High School Students

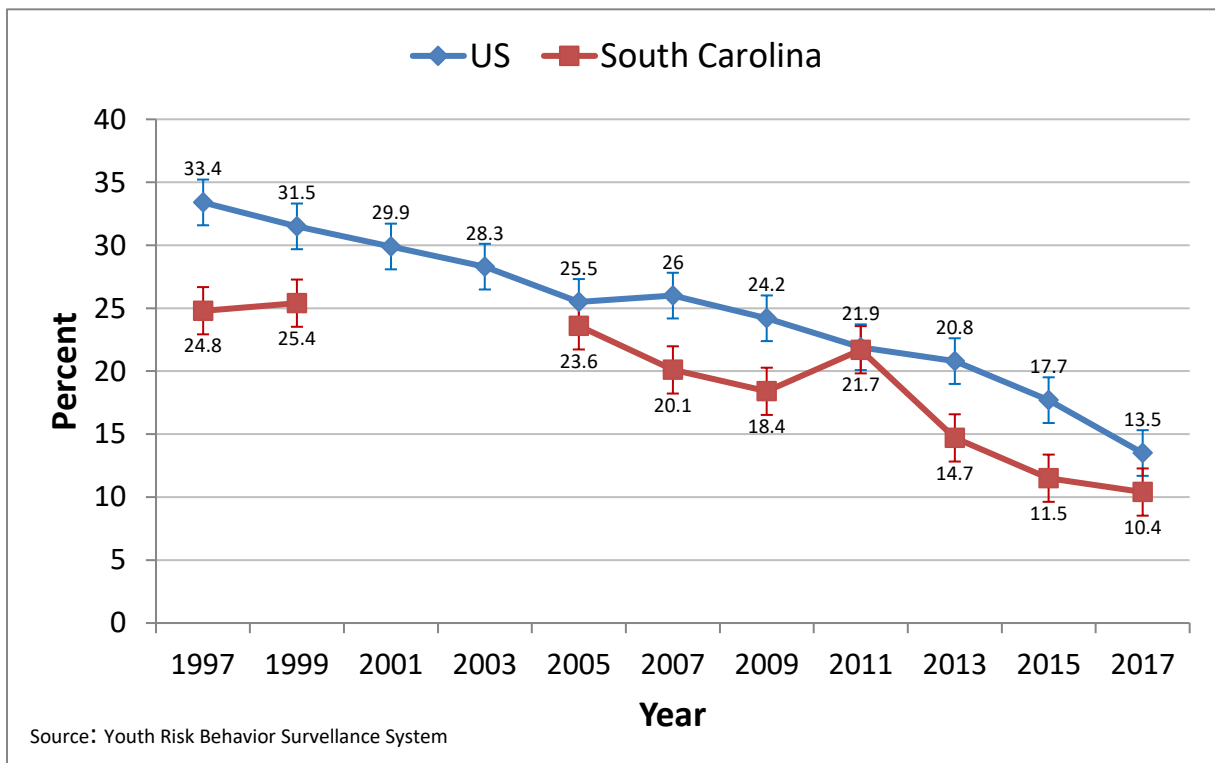


Figure 19. Past 30-Day Cigarette Use, High School Students

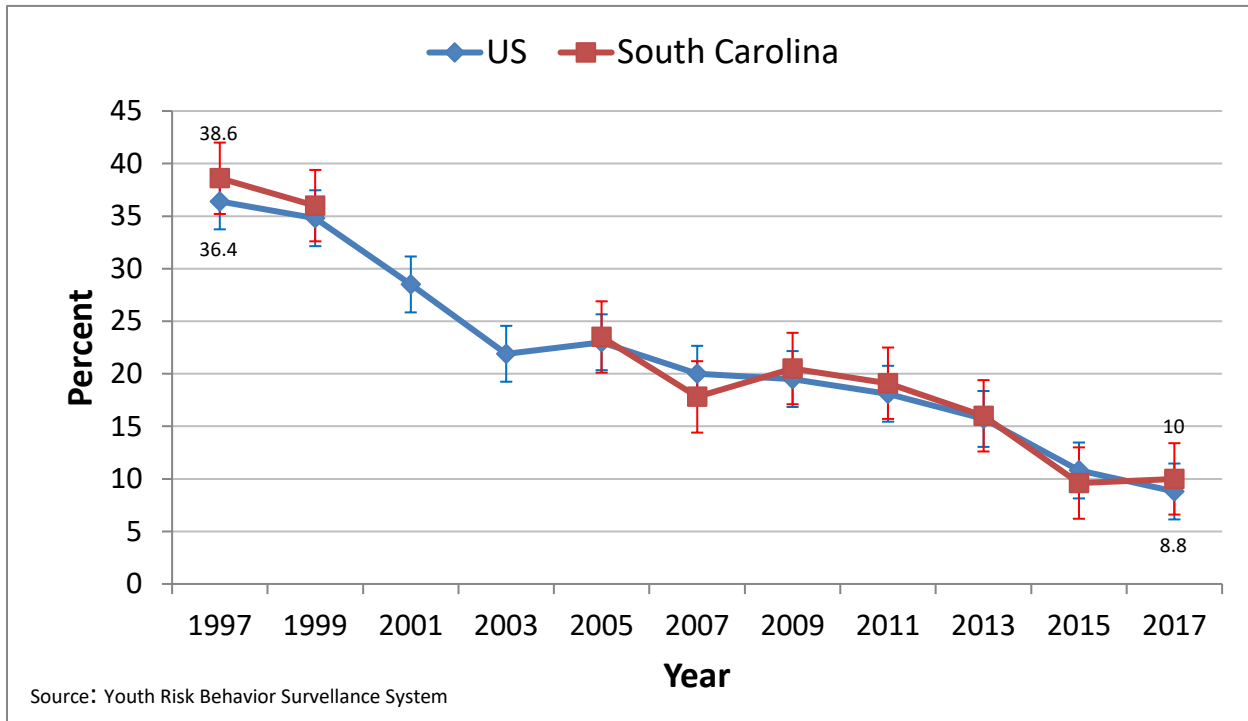


Figure 20. Past 30-Day Marijuana Use, High School Students

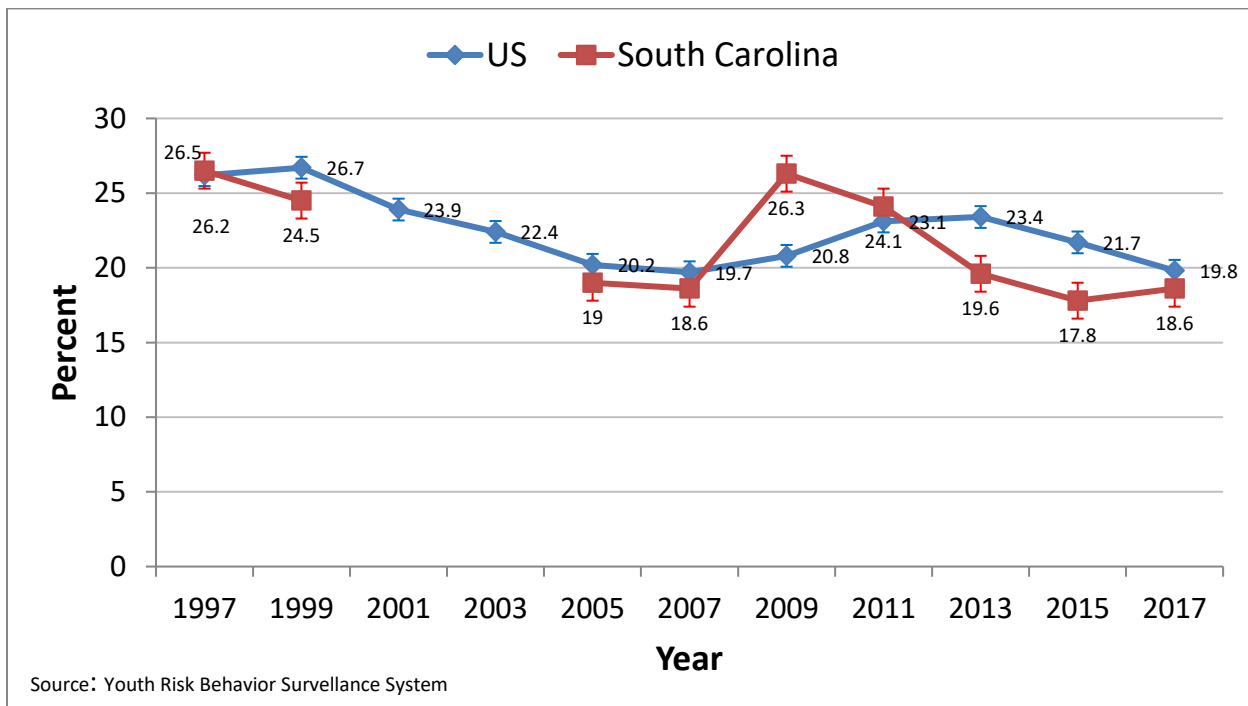


Figure 21. Ever Used Prescription Drugs (Pain Relievers) without Doctor's Prescription, High School Students

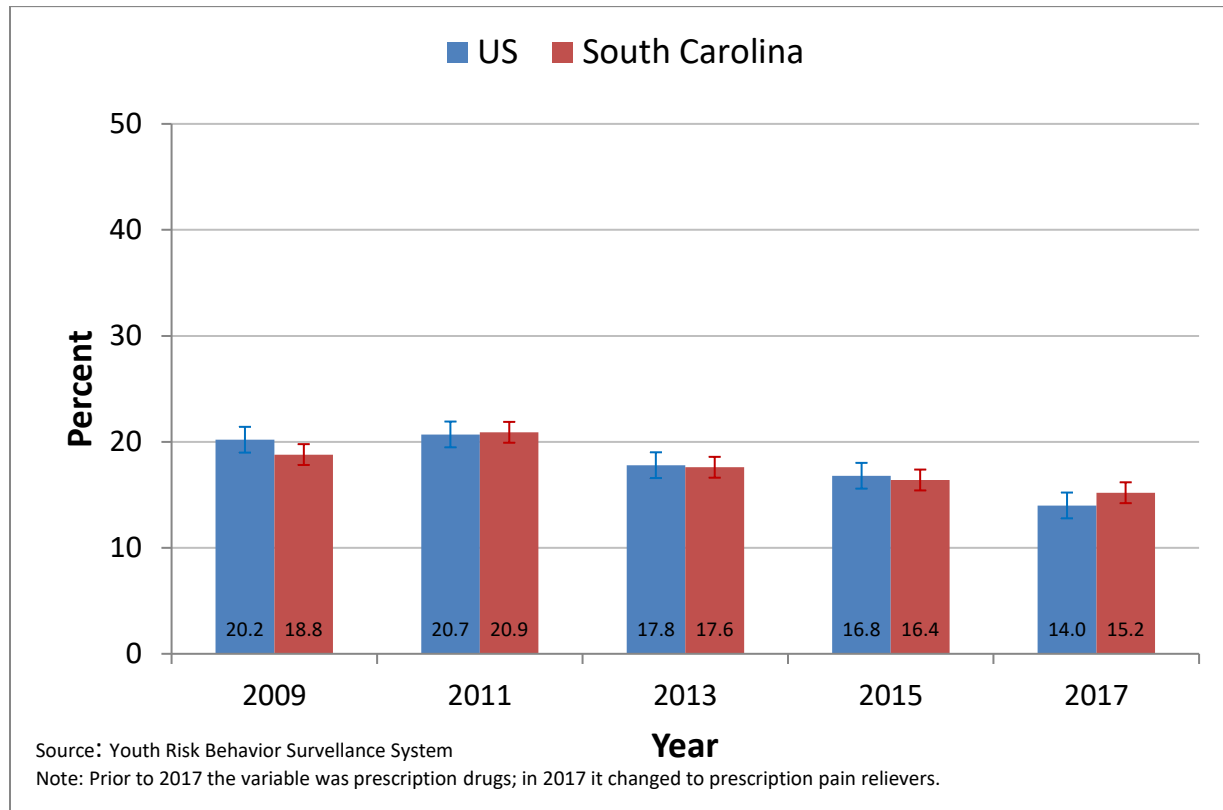
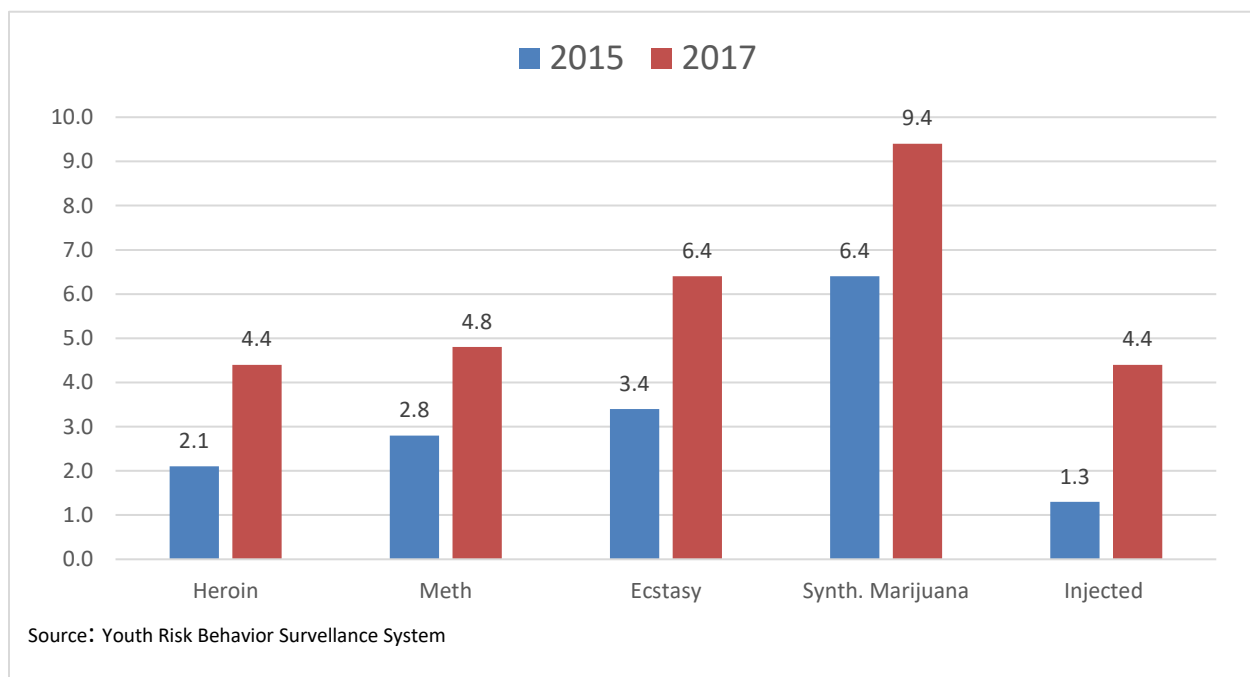


Figure 22. Ever Used Various Drugs, High School Students, 2015 and 2017



APPENDIX A: ADDITIONAL DATA TABLES

Table A1. Overall Results by Age

Risk Factor Scores, Range (Positive score is favorable)	Middle School (n=891)			High School (n=1588)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.98	2.21	11.72**	1.90	2.04	7.17**
Decision-Making Skills, 0-3	1.91	2.03	6.58**	1.83	1.88	2.79**
Disapproval of Use, 0-2	1.69	1.76	3.88**	1.42	1.42	0.15
Perceived Peer Norms, 0-10	8.90	9.05	1.70**	7.84	7.83	-0.08
Perceived Parental Attitudes, 0-3	2.85	2.88	1.05**	2.78	2.75	-1.31**

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	2.73	1.93	-29.30	4.04	4.26	5.45
Other Tobacco	1.59	1.48	-6.92	2.97	3.05	2.69
Alcohol	5.58	4.10	-26.52*	12.74	12.01	-5.73
Marijuana	2.17	1.37	-36.87	8.59	7.25	-15.60*
Other Illegal Drugs	1.03	1.14	10.68	2.84	2.48	-12.68
Inhalants	3.31	2.97	-10.27	1.58	1.46	-7.59
Non-Medical Prescription Drug Use	1.82	2.85	56.59*	3.03	2.73	-9.90
Non-Medical Over-The-Counter Drug Use	1.60	1.95	21.88	2.15	2.17	0.93

* Pre- and post-test averages are approaching being statistically significantly different ($p < .10$).

** Pre- and post-test averages are statistically significantly different ($p < .05$).

Table A2. Overall Results by Sex

Risk Factor Scores, Range (Positive score is favorable)	Females (n=1279)			Males (n=1200)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.99	2.15	8.34**	1.87	2.05	9.47**
Decision-Making Skills, 0-3	1.91	1.97	3.27**	1.81	1.90	5.15**
Disapproval of Use, 0-2	1.59	1.57	-1.06	1.44	1.51	4.81**
Perceived Peer Norms, 0-10	8.33	8.34	0.05	8.10	8.20	1.28**
Perceived Parental Attitudes, 0-3	2.84	2.82	-0.93**	2.77	2.77	0.13

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	2.91	3.01	3.44	4.28	3.88	-9.35
Other Tobacco	1.81	1.50	-17.13	3.19	3.46	8.46
Alcohol	11.08	10.18	-8.12	9.15	8.01	-12.46
Marijuana	5.98	5.53	-7.53	6.57	4.65	-29.22**
Other Illegal Drugs	2.36	2.13	-9.75	2.02	1.85	-8.42
Inhalants	2.20	1.82	-17.27	2.10	2.11	0.48
Non-Medical Prescription Drug Use	2.44	3.08	26.23	2.77	2.45	-11.55
Non-Medical Over-The-Counter Drug Use	1.89	2.22	17.46	2.02	1.95	-3.47

* Pre- and post-test averages are approaching being statistically significantly different ($p < .10$).

** Pre- and post-test averages are statistically significantly different ($p < .05$).

Table A3. Overall Results by Race Group

Risk Factor Scores, Range (Positive score is favorable)	American-Indian participants (n=38)			Asian participants (n=34)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.95	1.95	-0.33	2.27	2.40	5.82
Decision-Making Skills, 0-3	1.90	1.86	-2.42	1.81	1.97	8.95*
Disapproval of Use, 0-2	1.40	1.40	-0.06	1.83	1.73	-5.47*
Perceived Peer Norms, 0-10	7.83	7.98	1.92	8.93	8.95	0.17
Perceived Parental Attitudes, 0-3	2.75	2.70	-1.60	2.89	2.98	3.05*

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	5.26	5.26	0.00	0.00	0.00	N/A
Other Tobacco	5.26	5.26	0.00	0.00	0.00	N/A
Alcohol	7.89	7.89	0.00	5.88	0.00	-100.00
Marijuana	7.89	5.26	-33.33	0.00	0.00	N/A
Other Illegal Drugs	7.89	0.00	-100.00	0.00	0.00	N/A
Inhalants	2.63	7.89	200.00	0.00	0.00	N/A
Non-Medical Prescription Drug Use	5.26	2.63	-50.00	0.00	0.00	N/A
Non-Medical Over-The-Counter Drug Use	2.63	0.00	-100.00	0.00	0.00	N/A

* Pre- and post-test averages are approaching being statistically significantly different ($p < .10$).

** Pre- and post-test averages are statistically significantly different ($p < .05$).

Table A3. Overall Results by Race Group (continued)

Risk Factor Scores, Range (Positive score is favorable)	Black/African American participants (n=849)			White participants (n=1261)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.75	2.06	17.96**	2.04	2.14	5.10**
Decision-Making Skills, 0-3	1.79	1.97	9.90**	1.91	1.93	1.23*
Disapproval of Use, 0-2	1.40	1.49	6.79**	1.59	1.59	-0.34
Perceived Peer Norms, 0-10	7.92	8.18	3.35**	8.44	8.37	-0.92**
Perceived Parental Attitudes, 0-3	2.79	2.80	0.23	2.83	2.79	-1.24**

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	4.29	2.88	-32.87*	3.50	3.92	12.00
Other Tobacco	3.10	2.28	-26.45	2.07	2.79	34.78
Alcohol	10.13	6.36	-37.22**	10.49	11.57	10.30
Marijuana	10.05	6.86	-31.74**	4.14	4.16	0.48
Other Illegal Drugs	4.06	3.72	-8.37	0.87	0.96	10.34
Inhalants	3.34	2.76	-17.37	1.27	1.12	-11.81
Non-Medical Prescription Drug Use	3.34	3.13	-6.29	1.91	2.08	8.90
Non-Medical Over-The-Counter Drug Use	2.75	2.79	1.45	1.35	1.60	18.52

* Pre- and post-test averages are approaching being statistically significantly different ($p < .10$).

** Pre- and post-test averages are statistically significantly different ($p < .05$).

Table A3. Overall Results by Race Group (continued)

Risk Factor Scores, Range (Positive score is favorable)	Multi-ethnic participants (n=154)			Other (n=130)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.95	2.05	4.91**	1.94	2.01	3.77
Decision-Making Skills, 0-3	1.84	1.86	1.24	1.81	1.82	0.50
Disapproval of Use, 0-2	1.48	1.47	-0.33	1.52	1.47	-3.88
Perceived Peer Norms, 0-10	8.00	8.03	0.35	8.22	8.19	-85.57
Perceived Parental Attitudes, 0-3	2.75	2.77	0.63	2.79	2.82	1.01

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	3.27	4.58	40.06	0.77	0.77	0.00
Other Tobacco	3.29	2.61	-20.67	0.77	0.77	0.00
Alcohol	11.76	10.46	-11.05	7.69	6.92	-10.01
Marijuana	7.19	7.19	0.00	3.08	3.08	0.00
Other Illegal Drugs	3.27	3.92	19.88	0.77	0.00	-100.00
Inhalants	2.61	3.97	52.11	3.88	2.31	-40.46
Non-Medical Prescription Drug Use	4.58	7.19	56.99	2.31	3.08	33.33
Non-Medical Over-The-Counter Drug Use	2.63	3.27	24.33	2.33	2.31	-0.86

* Pre- and post-test averages are approaching being statistically significantly different ($p < .10$).

** Pre- and post-test averages are statistically significantly different ($p < .05$).

Table A4. Overall Results by Ethnicity

Risk Factor Scores, Range (Positive score is favorable)	Participants of Hispanic, Latino, or Spanish Descent or Origin (n=155)			Participants Not of Hispanic, Latino, or Spanish Descent or Origin (n=2269)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.99	2.03	1.86	1.93	2.11	9.29**
Decision-Making Skills, 0-3	1.81	1.85	2.25	1.86	1.94	4.20**
Disapproval of Use, 0-2	1.48	1.46	-1.24	1.52	1.55	1.55**
Perceived Peer Norms, 0-10	8.11	7.97	-1.82	8.22	8.28	0.73**
Perceived Parental Attitudes, 0-3	2.76	2.79	1.09	2.81	2.79	-0.56*

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	2.60	4.55	75.00	3.63	3.43	-5.51
Other Tobacco	1.31	2.60	98.47	2.62	2.45	-6.49
Alcohol	8.44	9.74	15.40	10.46	9.31	-10.99*
Marijuana	7.79	7.14	-8.34	6.22	5.13	-17.52*
Other Illegal Drugs	1.30	1.95	50.00	2.26	2.05	-9.29
Inhalants	4.55	3.90	-14.29	2.09	1.87	-10.53
Non-Medical Prescription Drug Use	4.55	5.84	28.35	2.48	2.63	6.05
Non-Medical Over-The-Counter Drug Use	1.95	5.19	166.15	1.95	1.93	-1.03

* Pre- and post-test averages are approaching being statistically significantly different ($p < .10$).

** Pre- and post-test averages are statistically significantly different ($p < .05$).

Table A5. Overall Results by Program

Risk Factor Scores, Range (Positive score is favorable)	All Programs (n=2488)			Alcohol Stories (n=239)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.93	2.10	8.93**	1.93	2.10	8.96**
Decision-Making Skills, 0-3	1.86	1.94	4.20**	1.87	1.92	2.68*
Disapproval of Use, 0-2	1.52	1.54	1.61**	1.63	1.65	0.80
Perceived Peer Norms, 0-10	8.22	8.27	0.64**	8.74	8.85	1.27**
Perceived Parental Attitudes, 0-3	2.81	2.80	-0.44	2.80	2.81	0.37

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	3.56	3.42	-3.93	1.26	1.26	0.00
Other Tobacco	2.47	2.48	0.40	1.67	2.09	25.15
Alcohol	10.16	9.22	-9.25	6.72	4.60	-31.55
Marijuana	6.29	5.13	-18.44**	2.93	2.09	-28.67
Other Illegal Drugs	2.19	1.99	-9.13	1.26	1.67	32.54
Inhalants	2.19	1.99	-9.13	3.78	3.77	-0.26
Non-Medical Prescription Drug Use	2.63	2.77	5.32	3.77	3.77	0.00
Non-Medical Over-The-Counter Drug Use	1.95	2.08	6.67	4.20	4.18	-0.48

* Pre- and post-test averages are approaching being statistically significantly different ($p < .10$).

** Pre- and post-test averages are statistically significantly different ($p < .05$).

Table A5. Overall Results by Program (continued)

Risk Factor Scores, Range (Positive score is favorable)	All Stars (n=51)			ATOD 101 (n=142)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	2.00	2.20	10.07	1.71	1.83	7.48
Decision-Making Skills, 0-3	1.78	1.76	-1.10	1.78	1.81	1.60
Disapproval of Use, 0-2	1.66	1.62	-2.60	1.30	1.32	2.12
Perceived Peer Norms, 0-10	8.78	8.83	0.56	7.26	7.36	1.40
Perceived Parental Attitudes, 0-3	2.93	2.82	-4.01*	2.66	2.59	-2.72

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	3.92	1.96	-50.00	5.04	6.87	36.31
Other Tobacco	3.92	0.00	-100.00	6.47	3.79	-41.42
Alcohol	5.88	0.00	-100.00	24.46	14.39	-41.17**
Marijuana	1.96	0.00	-100.00	16.06	8.40	-47.70*
Other Illegal Drugs	0.00	0.00	N/A	7.97	5.34	-33.00
Inhalants	4.00	0.00	-100.00	4.32	3.03	-29.86
Non-Medical Prescription Drug Use	0.00	1.96	N/A	5.76	2.29	-60.24
Non-Medical Over-The-Counter Drug Use	0.00	0.00	N/A	4.32	3.91	-9.49

* Pre- and post-test averages are approaching being statistically significantly different ($p < .10$).

** Pre- and post-test averages are statistically significantly different ($p < .05$).

Table A5. Overall Results by Program (continued)

Risk Factor Scores, Range (Positive score is favorable)	Class Action (n=40)			Keepin' It Real (n=62)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.81	1.95	7.96	1.96	2.29	17.08**
Decision-Making Skills, 0-3	1.74	1.83	4.66	2.04	2.25	10.49**
Disapproval of Use, 0-2	1.32	1.36	3.04	1.71	1.88	10.40**
Perceived Peer Norms, 0-10	7.14	7.28	2.07	9.08	9.32	2.70
Perceived Parental Attitudes, 0-3	2.62	2.52	-3.79	2.90	2.94	1.30

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	12.50	15.38	23.04	0.00	0.00	N/A
Other Tobacco	12.50	12.82	2.56	0.00	0.00	N/A
Alcohol	37.50	28.21	-24.77	0.00	0.00	N/A
Marijuana	17.50	7.69	-56.06	0.00	0.00	N/A
Other Illegal Drugs	2.50	0.00	-100.00	1.61	0.00	-100.00
Inhalants	0.00	0.00	N/A	1.61	3.23	100.62
Non-Medical Prescription Drug Use	5.00	5.13	2.60	1.61	0.00	-100.00
Non-Medical Over-The-Counter Drug Use	0.00	0.00	N/A	0.00	0.00	N/A

* Pre- and post-test averages are approaching being statistically significantly different ($p < .10$).

** Pre- and post-test averages are statistically significantly different ($p < .05$).

Table A5. Overall Results by Program (continued)

Risk Factor Scores, Range (Positive score is favorable)	Life Skills (n=1572)			Prime For Life: Exploring (n=102)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	2.02	2.12	4.77**	1.39	1.92	37.92**
Decision-Making Skills, 0-3	1.89	1.95	3.27**	1.56	1.60	2.35**
Disapproval of Use, 0-2	1.59	1.57	-0.93	0.97	1.03	6.03**
Perceived Peer Norms, 0-10	8.37	8.33	-0.44	6.53	6.69	2.43**
Perceived Parental Attitudes, 0-3	2.85	2.83	-0.92**	2.57	2.54	-1.02

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	2.70	2.96	9.63	15.69	9.80	-37.54**
Other Tobacco	1.67	2.25	34.73	7.84	5.88	-25.00
Alcohol	8.54	10.22	19.67*	20.59	11.76	-42.88**
Marijuana	4.19	4.76	13.60	18.63	13.73	-26.30*
Other Illegal Drugs	1.48	1.67	12.84	5.88	3.92	-33.33
Inhalants	1.86	2.00	7.53	1.96	0.00	-100.00
Non-Medical Prescription Drug Use	2.25	2.77	23.11	7.84	2.94	-62.50*
Non-Medical Over-The-Counter Drug Use	1.41	1.87	32.62	2.94	0.00	-100.00

* Pre- and post-test averages are approaching being statistically significantly different ($p < .10$).

** Pre- and post-test averages are statistically significantly different ($p < .05$).

Table A5. Overall Results by Program (continued)

Risk Factor Scores, Range (Positive score is favorable)	Project ALERT (n=41)			Project TND (n=178)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	2.06	2.34	13.31**	1.60	2.23	39.51**
Decision-Making Skills, 0-3	2.14	2.19	2.38	1.74	2.08	20.02**
Disapproval of Use, 0-2	1.88	1.94	2.85	1.04	1.41	35.61**
Perceived Peer Norms, 0-10	9.17	9.30	1.44	7.22	7.93	9.79**
Perceived Parental Attitudes, 0-3	2.84	2.98	5.16*	2.64	2.79	3.36**

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	0.00	2.44	N/A	5.06	3.37	-33.40
Other Tobacco	2.44	0.00	-100.00	2.25	2.25	0.00
Alcohol	14.63	2.44	-83.32*	11.24	5.62	-50.00*
Marijuana	0.00	0.00	N/A	16.85	7.87	-53.29**
Other Illegal Drugs	0.00	0.00	N/A	3.93	2.25	-42.75
Inhalants	0.00	2.44	N/A	2.25	0.00	-100.00
Non-Medical Prescription Drug Use	0.00	2.44	N/A	1.12	1.69	50.89
Non-Medical Over-The-Counter Drug Use	0.00	2.44	N/A	3.39	2.25	-33.63

* Pre- and post-test averages are approaching being statistically significantly different ($p < .10$).

** Pre- and post-test averages are statistically significantly different ($p < .05$).

Table A5. Overall Results by Program (continued)

Risk Factor Scores, Range (Positive score is favorable)	Why Try (n=61)		
	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.96	2.02	3.13
Decision-Making Skills, 0-3	1.87	1.84	-1.76
Disapproval of Use, 0-2	1.75	1.63	-6.84**
Perceived Peer Norms, 0-10	8.95	8.63	-3.54*
Perceived Parental Attitudes, 0-3	2.84	2.75	-3.32

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change
Cigarettes	6.56	3.33	-49.24
Other Tobacco	3.28	1.64	-50.00
Alcohol	4.92	6.56	33.33
Marijuana	6.56	8.20	25.00
Other Illegal Drugs	3.28	6.56	100.00
Inhalants	1.64	3.28	100.00
Non-Medical Prescription Drug Use	0.00	4.92	N/A
Non-Medical Over-The-Counter Drug Use	1.64	3.28	100.00

* Pre- and post-test averages are approaching being statistically significantly different ($p < .10$).

** Pre- and post-test averages are statistically significantly different ($p < .05$).

APPENDIX B: METHODOLOGY AND ANALYSIS ISSUES

In this section, we describe the evaluation design that generated the outcomes from pre- and post-testing of youth curricula participants described in Sections II and III. In addition, we discuss the analyses used and cautions in interpreting the results.

Evaluation Design Issues

Evaluation design issues acknowledge possible limitations in the ability to detect positive findings due to the particular evaluation methodology. Several evaluation design issues are relevant, including floor and ceiling effects, lack of comparison groups, and the short duration between pre- and post-surveys. Unpublished data collected by the developers of Life Skills show that when measured simply with a pre-post survey, there were no apparent effects of the Life Skills intervention. However, when the program was measured after booster sessions and at later points in time and with a comparison group, effects of the intervention emerged. Thus, it is possible that seeds of some of these interventions have been planted, but that we are not yet able to measure the intended long-term benefits.

Non-Specific Measurement Targets. The DAODAS Standard Survey asks a core set of items across all programs, regardless of the programs' designed targets. For the most part, this is not a problem, as many substance abuse prevention programs target a wide array of substances and risk factors. Nevertheless, not all programs target all substances or risk factors, and some programs target very specific substances or risk factors—TNT (Project Toward No Tobacco Use), for example. Thus, we would not necessarily expect to see changes in all substances or risk factors across all programs.

Floor and Ceiling Effects. Floor and ceiling effects refer to circumstances that make it difficult to measure change over time because participants' scores are already as low (or high) as they can be prior to the intervention. Participants generally reported low risk and low rates of substance use. Thus, the potential to show improvement at post-survey was limited. Despite these ceiling and floor effects, positive changes were reported for many of the interventions.

Lack of Comparisons. DAODAS staff and PIRE decided that it would not be appropriate to require collection of data from comparison sites. There were two primary reasons for this. First, the purpose was not to prove that interventions are effective, but to enhance communities' capacity to implement and monitor effective interventions. The PIRE evaluation team views evaluation data as an essential tool to improve future performance more so than a judgment of past efforts. Second, requiring providers to collect comparison data would have been a large administrative burden. Clearly, however, the lack of comparison groups limits our ability to interpret these findings. Given that there is a consistent trend across the country for teens to develop less disapproval of use and behaviors regarding illegal substance use over

time, it is likely that the absence of pre/post changes for participants is indication of favorable effects relative to youth who did not participate in similar prevention interventions.

Attendance Bias. It should be noted that our matched participant databases consist of participants who attended the pre- and post-test sessions for the program. Thus, these groups may not include some higher-risk youth because they may have been more likely to be absent from the program during the pre- or post-test session due to truancy, suspension, or change of schools. The implication of the differences between the participants in our databases and the full set of participants is that our findings should not be generalized to the whole sets of participants. However, because the bias in our results is largely due to absenteeism, our findings are relevant for those youth who were present for a larger portion of the interventions. Thus, our results should provide a relatively accurate picture of changes experienced by program participants who had a significant opportunity to benefit from the intervention.

Short Duration Between Pre- and Post-Surveys. It is possible that the effects of the prevention interventions will not be realized until a later point in time. The large majority of participants in these databases are in their early teens or younger. The interventions are aimed at preventing or delaying the onset of substance use as the youth get older. Thus, by the time youth reach late high school age, these participants may report lower risk and lower rates of substance use, relative to non-participants. We do not have the data to determine whether there will be long-term positive results for these program participants.

Maturation Effects. Because adolescents in today's society generally become more tolerant of substance use and more likely to engage in some substance use behaviors as they grow older, it may be difficult to achieve positive changes among program participants over the time span between the pre- and post-surveys, especially if the time gap between pre- and post-tests is long. Therefore, even seeing no change on some risk factors and/or substance use behaviors may be viewed as a positive impact of program participation. This is particularly true for these data, where most respondents reported very low levels of risk and very low levels of substance use at the beginning of the programs. Outcomes for programs with longer time gaps between pre- and post-tests are difficult to compare to those with shorter time gaps because the maturation effect is more pronounced for the former and may appear to have less positive outcomes.

Program Implementation Issues

Program implementation issues acknowledge possible limitations in program effectiveness due to particular aspects of the way an intervention is implemented. At least three program implementation issues are relevant for these projects: ineffective interventions, inadequate match between interventions and communities, and fidelity.

Ineffective Interventions. The first reaction one might have upon reviewing some of these programs' data is that some interventions are not effective in preventing or reducing substance use or affecting risk factors. This is less likely to actually be the case when evidence-based

interventions were used because they have been shown through research to be effective. Thus, we should not conclude that these interventions are, in general, ineffective. Nevertheless, there may be aspects of the way they are implemented that render them less effective. There is a possibility that unfavorable results for a non-evidence-based intervention indicate a lack of program effectiveness, but there are other potential explanations, as well.

Inadequate Match between Interventions and Communities. It is possible that some interventions do not match the needs of, and/or are not appropriate for, some local target populations. In other words, the research-based interventions may be very effective with the populations in the settings where they were designed and tested, but may not be as appropriate to serve the needs of some of the target populations in South Carolina. There continue to be factors involved in program selection other than proven effectiveness with a particular type of target population, such as implementation time allowed, cost, and convenience (using whatever program that staff currently have training in or can be trained in quickly or inexpensively). In addition, sites are not always aware of the exact needs of their communities. Community characteristics can change across time, and intervention developers are not always aware of limitations to the generalizability of the effectiveness of their interventions. It would be wise for all programs to continuously ask themselves whether their interventions are the right match for their target population and setting, and this may have been an important factor in the different levels of success across locations.

Fidelity. Fidelity is the extent to which interventions are delivered as they are intended. Even with well-controlled research studies, the degree of fidelity can vary widely. Life Skills researchers have found limited effects of the program when analyzing data from the full sample of students, but more widespread effects when analyzing data from a high-fidelity sample. Clearly, fidelity is an important factor in determining the effectiveness of interventions, and low fidelity can lead an otherwise effective intervention to appear ineffective. Thus, it is possible that for some implementations where we did not see more positive outcomes it may be because the interventions were not delivered with a high degree of fidelity.

Data Analysis Methods

Testing Pre- and Post-Survey Differences in Risk-Factor Scores: We used SAS statistical software for all analyses. We conducted paired-samples t-tests to compare the means of the pre-survey and post-survey scores for each risk-factor measure assessed on the surveys. This test computed the difference (change) between the pre- and post-survey means for each factor and then tested whether the mean difference was “significantly different” from zero. A statistically significant difference means that the observed difference was too large to occur as a result of chance alone. The treatment (intervention) and/or other factors played a role in helping changes take place in the behaviors and attitudes of the participants. T-tests (as well as all tests of significance) were performed at a significance level of $p < .05$ (two-tailed), though differences of between .05 and .10 were noted for participants and labeled as “approaching” or “near” significant. Appropriate nonparametric tests were used with small group sizes.

Testing Pre- and Post-Survey Differences in Substance Use: Based on students' responses to the substance-specific "Past 30-Day Use" items on the pre- and post-tests, students were coded as being users (if they used a substance on at least one day of the past 30 days) or non-users. We used the nonparametric McNemar test to detect if the changes in percentages of substance users were statistically significant. Similar to other nonparametric tests, the McNemar uses the chi-square distribution and is used mainly to detect changes in response to a treatment (e.g., a program intervention) in *before and after* designs.

APPENDIX C: DAODAS STANDARD SURVEY

STUDENT PREVENTION PRE-SURVEY

Your responses are very important to us, and we would like your opinion on these issues. All your responses will be strictly confidential.

RIGHT NOW, please put the private code you were given here AND put it on the other pages of the survey.

Private Student Code

0	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please choose the responses you think are most accurate and fill in those bubbles as much as you can.

1. How much do you think people risk harming themselves physically and in other ways when they . . .	No Risk	Slight Risk	Moderate Risk	Great Risk
a) Smoke one or more packs of cigarettes per day?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Smoke marijuana once or twice a week?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Try one or two drinks of an alcoholic beverage (beer, wine, liquor)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Have five or more drinks of an alcoholic beverage once or twice a week?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Please respond to the following questions and statement about decision-making.	Never	Sometimes, But Not Often	Often	All the Time
a) How often do you stop to think about your options before you make a decision?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) How often do you stop to think about how your decisions may affect others' feelings?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) How often do you stop and think about all of the things that may happen as a result of your decisions?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) I make good decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. How do you think your close friends would feel about you smoking one or more packs of cigarettes a day?	Neither Approve Nor Disapprove	Somewhat Disapprove	Strongly Disapprove
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Private Student Code:

--	--	--	--	--	--

4. How do you feel about someone your age . . .	Neither Approve Nor Disapprove	Somewhat Disapprove	Strongly Disapprove
a) Smoking one or more packs of cigarettes a day?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Trying marijuana once or twice?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Using marijuana once a month or more?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Having one or two drinks of an alcoholic beverage nearly every day?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. How many of your closest friends do you think have . . .	All of Them	Most of Them	Some of Them	None of Them
a) Used marijuana during the past 30 days?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Been drunk during the past 30 days?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Had some kind of alcoholic beverage during the past 30 days?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Used a drug like cocaine or heroin during the past 30 days?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. What would your best friends think if you . . .	They Would Be Angry With Me	They Would Be a Little Upset	They Wouldn't Care One Way or Another	They Would Accept Me	They Would Be Glad
a) Tried using marijuana?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Got drunk once in a while?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. How do you think your closest friends feel about the following statements:	They Strongly Agree	They Agree	They Disagree	They Strongly Disagree
a) "People who use drugs are stupid."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) "It is cool to get drunk."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Private Student Code:

--	--	--	--	--	--

8. How wrong do your parents feel it would be for YOU to . . .	Very Wrong	Wrong	A Little Bit Wrong	Not Wrong at All
a) Drink beer, wine, or hard liquor (for example, vodka, whiskey, or gin) regularly?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Smoke cigarettes?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Smoke marijuana?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For the questions below, list how many days out of the past 30 days that you used the drug listed. You should write a number between 0 (if you did not use in the past 30 days) and 30 (used every day).

9. During the past 30 days, on how many days did you smoke part or all of a cigarette?	<input type="text"/> <input type="text"/> days
10. During the past 30 days, on how many days did you use other tobacco products (such as dip, snuff, chew, or cigars)?	<input type="text"/> <input type="text"/> days
11. During the past 30 days, on how many days did you drink one or more drinks of an alcoholic beverage?	<input type="text"/> <input type="text"/> days
12. During the past 30 days, on how many days did you use marijuana?	<input type="text"/> <input type="text"/> days
13. During the past 30 days, on how many days did you use any other illegal drug?	<input type="text"/> <input type="text"/> days
14. During the past 30 days, on how many days did you sniff glue, breathe the contents of an aerosol spray can, or inhale other gases or sprays in order to get high?	<input type="text"/> <input type="text"/> days
15. During the past 30 days, on how many days did you take a prescription medication (such as Ritalin, Adderall, Xanax) <u>without</u> a doctor's prescription?	<input type="text"/> <input type="text"/> days
16. During the past 30 days, on how many days did you use an over-the-counter medicine (one you can buy without a doctor's prescription) to get high rather than for the reason it was made?	<input type="text"/> <input type="text"/> days



Private Student Code:

--	--	--	--	--	--

For the questions below, list what age you were when you first used the drug listed or, if you have never used that drug, fill in "never used."

	Never Used		Or	Age	
17. How old were you the <u>first time</u> you smoked part or all of a cigarette?	<input type="radio"/>				<input type="text"/>
18. How old were you the <u>first time</u> you used any other tobacco product?	<input type="radio"/>				<input type="text"/>
19. How old were you the <u>first time</u> you had a drink of an alcohol beverage? Please <u>do not</u> include any time when you only had a sip or two from an alcoholic drink and <u>do not</u> include having alcohol as part of a religious service.	<input type="radio"/>				<input type="text"/>
20. How old were you the <u>first time</u> you used marijuana?	<input type="radio"/>				<input type="text"/>
21. How old were you the <u>first time</u> you used any other illegal drug?	<input type="radio"/>				<input type="text"/>

22. During the past 12 months . . .	Yes	No
a) Have you talked with at least one of your parents about the dangers of tobacco, alcohol, or drug use? By parents, we mean either your biological parents, adoptive parents, stepparents, or adult guardians--whether or not they live with you.	<input type="radio"/>	<input type="radio"/>
b) Do you recall hearing, reading, or watching an advertisement about the prevention of substance use?	<input type="radio"/>	<input type="radio"/>

Please answer the following questions about yourself. (Remember, this survey is confidential!)

23. How old are you? ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18

24. Are you male or female? ☐ Male ☐ Female

25. Are you Hispanic or Latino? ☐ Yes ☐ No

26. Which of these groups describes you?

White	Black/ African American	American Indian or Alaska Native	Native Hawaiian Other Pacific Islander	Asian	Multiethnic	Other
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

