Fiscal Year 2018

Prevention Outcomes Annual Report

Revised

South Carolina DAODAS
Department of Alcohol and Other Drug Abuse Services

PIRE
Pacific Institute for Research and Evaluation

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

This report summarizes prevention outcomes generated by the South Carolina county authority substance abuse prevention system in Fiscal Year 2018 (July 1, 2017 – June 30, 2018). 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 4,156 participants with matched pre- and post-tests. Most (99.4%) participants were between the ages of 10 and 17. There was a slightly higher proportion of females (53.0%) than males (46.6%). Most participants identified as White (45.6%) or Black/African American (33.8%).

- 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 **three of them being statistically significant**— cigarettes, alcohol and marijuana.

- For **all eight substances measured**, more than **97% 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 67.8%) 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 **11.5 to 12.4** years. The average age of first use of **marijuana** and **other illegal drugs** was 12.8 and 13 years, respectively.

- **Thirteen 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 ‘18.

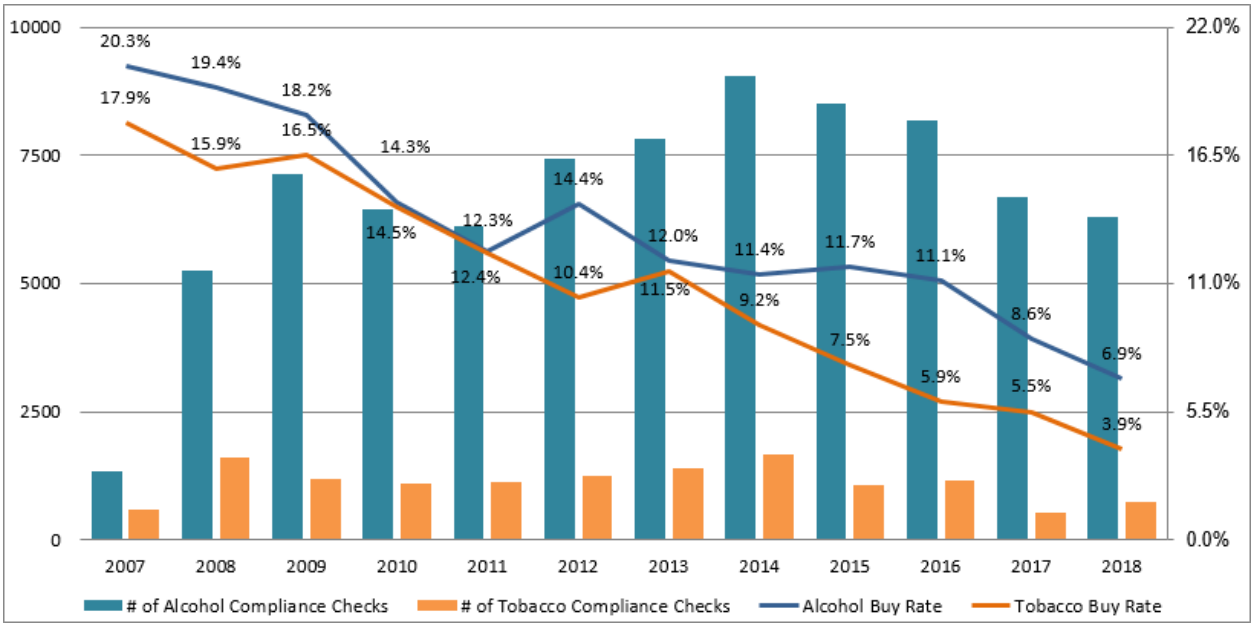
Summary of Statistically Significant Results, By Demographics and Program

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 (2707)	*	*	*	*		*		*	*				
Overall High School (1412)	*	*			*			*					
Females (2201)	*	*	*	*	*			*					
Males (1935)	*	*	*	*	*			*					
American Indian (80)													
Asian (60)	*												
Black/African American (1403)	*	*	*	*	*	*	*	*	*				
Multi-ethnic (368)	*												
Other (306)	*							*			*		*
White (1897)	*	*			*								
Hispanic (391)	*	*			*			*					
Not Hispanic (3658)	*	*	*	*	*			*	*				
PROGRAMS													
Alcohol Stories (1 site; n = 417)	*			*	*								
All Stars (1 site; n = 183)	*	*	*					*					
Class Action (2 sites; n = 92)													
Keepin' It Real (1 site; n = 60)		*											
Life Skills (8 sites; n = 2730)	*	*				*		*					
Operation Prevention: Rx (1 site; n=249)	*	*		*									
Prime for Life: Exploring (1 site; n =61)	*		*		*								
Project Alert (2 sites; n = 57)													
Project Northland (1 site; n=16)	*												
Project TND (1 site; n = 56)								*					
Too Good for Drugs (3 sites; n=207)	*	*	*	*									
Why Try (2 sites; n = 25)	*		*										
OVERALL (18 sites; n=4156)	*	*	*	*	*	*		*	*				
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 **6,287 alcohol compliance checks and 746 tobacco compliance** checks. For alcohol, **6.9% of attempts generated sales**; for tobacco, **3.9% of attempts resulted in sales**, both historic lows.

Annual Number of Compliance Checks and Annual Buy Rates



- **AETs** reported a total of 530 **public safety checkpoints**, up from FY '17. AETs issued 94 DUIs citations during the FY '18 checkpoints. In addition, there were 190 **saturation patrols** reported that generated another 1,490 tickets. This operation accounted for 28 DUIs.

- **AETs** reported that 129 **parties were disbursed**, resulting in 175 tickets and arrests at gatherings involving 3,253 persons.

- The Palmetto Retailer Education Program (**PREP**) served **1,411 merchants**.

- More than **600 youth were in diversion program for youth alcohol and tobacco offenses** (334 served in the Alcohol Education Program and 287 served in the Tobacco Education Program).

- The Youth Access to Tobacco Study (Synar) showed that **4.3% of retailers sold cigarettes to underage youth**, up from 3.7% in FY 2017.

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. Center for Substance Abuse Prevention (CSAP) within the Substance Abuse and Mental Health Services Administration (SAMHSA). The primary sources of prevention funds from CSAP are the Substance Abuse Prevention and Treatment Block Grant (SAPTBG) and discretionary grants such as the Strategic Prevention Framework Partnerships for Success (PFS) grant.

Contents of This Report

This report provides prevention data for Fiscal Year 2018 (July 1, 2017 – June 30, 2018) 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 provides information on the distribution of prevention services across the six prevention service categories supported with CSAP funds.

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

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

Section IV covers results from the FY '18 Youth Access to Tobacco Study (Synar).

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 ’18.

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.

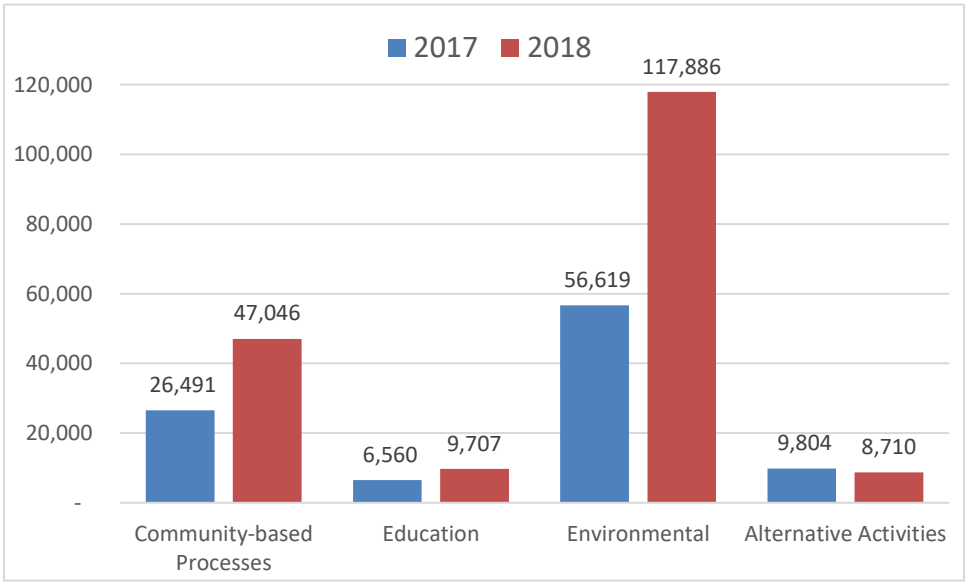
SECTION I: SERVICES ACROSS SIX CSAP STRATEGIES

Prevention providers across South Carolina deliver and coordinate a wide variety of prevention programs, policies, and practices across six overarching prevention strategies supported by CSAP. The six CSAP strategies are the following:

- Information dissemination
- Community-based processes
- Education
- Environmental
- Alternative activities
- Problem identification and referral services

Figure 1 presents data from the DAODAS reporting system, known as IMPACT, on the total persons served by four of the six CSAP strategies. 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. The figure shows that, for most categories, more people were reached in FY '18 than FY '17. In addition, not shown in the figure, nearly 10 million people received prevention-related information (Information Dissemination) and 1,504 received problem identification and referral services.

Figure 1. Total Served by CSAP Category, FY '17 and FY '18



SECTION II: 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

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.

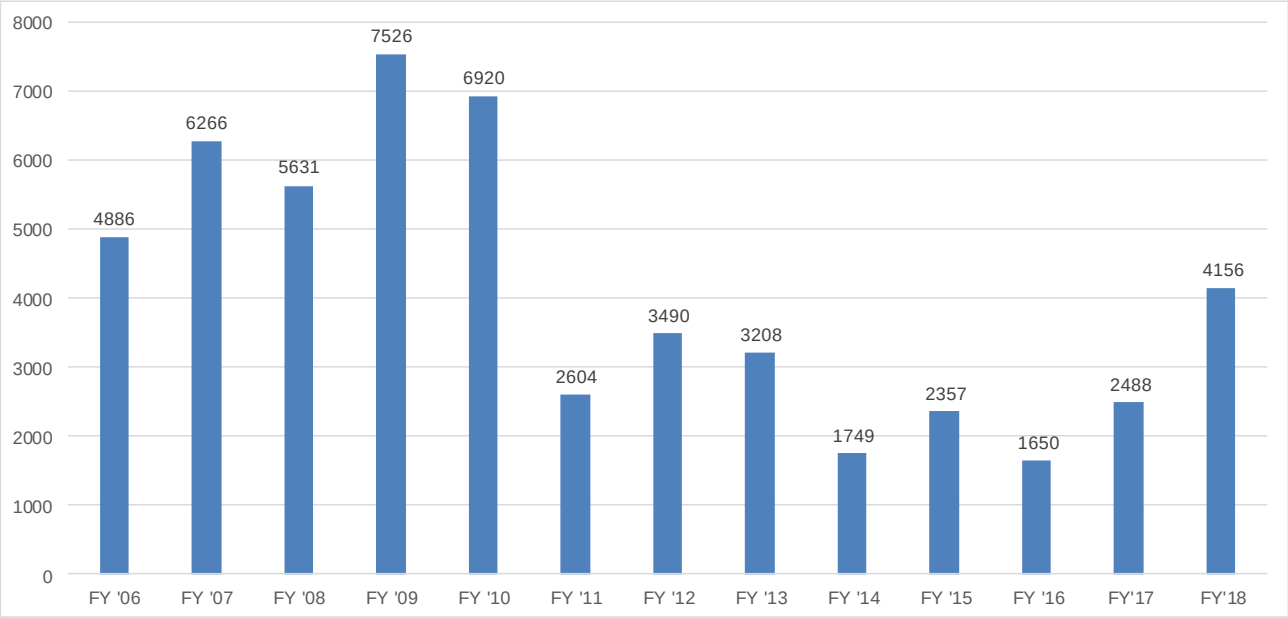
Matched Participants

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 4,382 surveys while the post-test database contained 4,213 cases, which resulted in 4,156 matched cases or 96.1% of pre-test cases (Figure 2) and a 67% increase from FY '17. Although the elimination of Safe and Drug-Free Schools funding at the end of FY '10 greatly reduced the number of pre-post surveys each year, there has a been a relatively steady increase in surveys since FY '14.

Figure 2. Matched Participants in Pre-Post Database, FY '06 through '18



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 3, all matched participants were between the ages of 10 and 18. The average age of participants was 12.7. Slightly more females participated than males (Figure 4) and 46% were White, 34% were Black or African American, 8.9% were in the multiethnic race category, 7.4% were of "other" race, 1.9% were American Indian or Alaskan Native, and 1.5% were Asian (Figure 5). Hispanic/Latino ethnicity was reported by 9.7% of students.

Figure 3. Matched Participants by Age

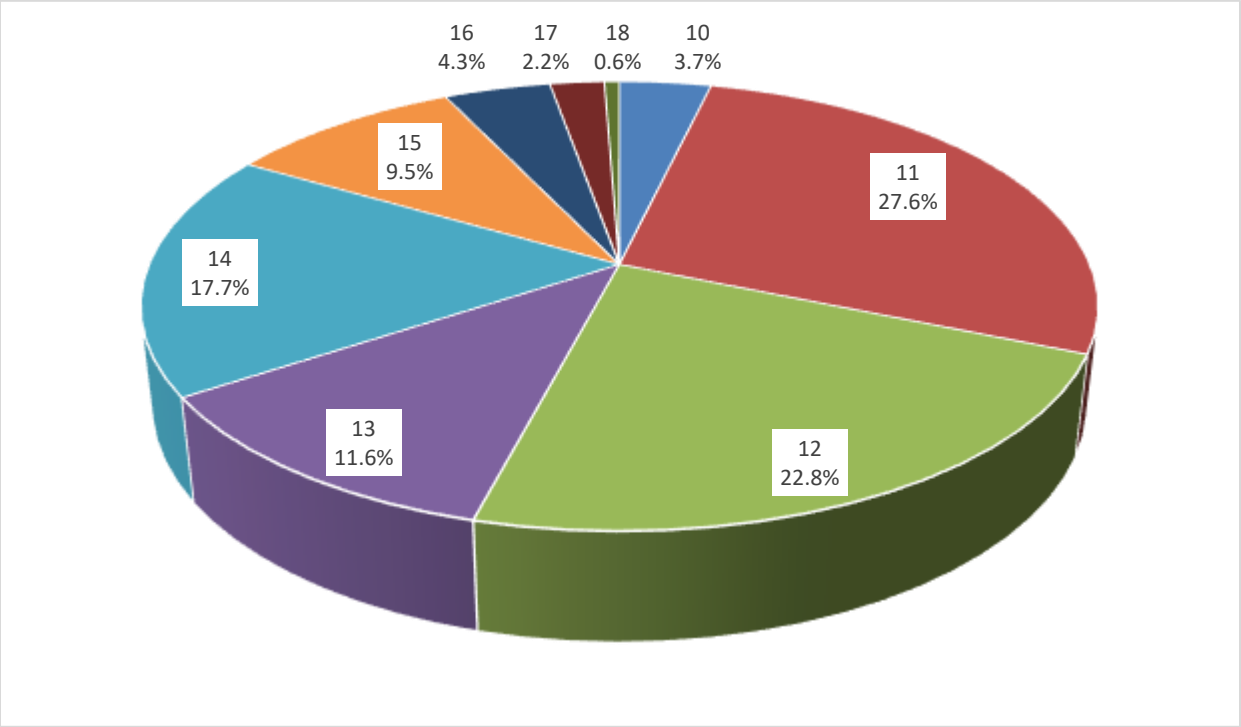


Figure 4. Matched Participants by Sex

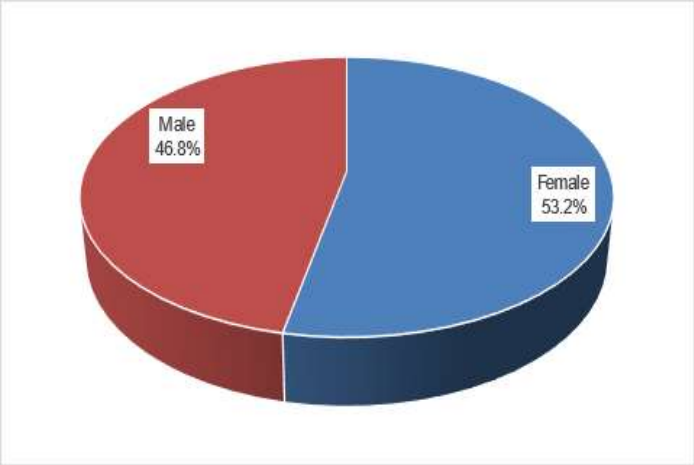
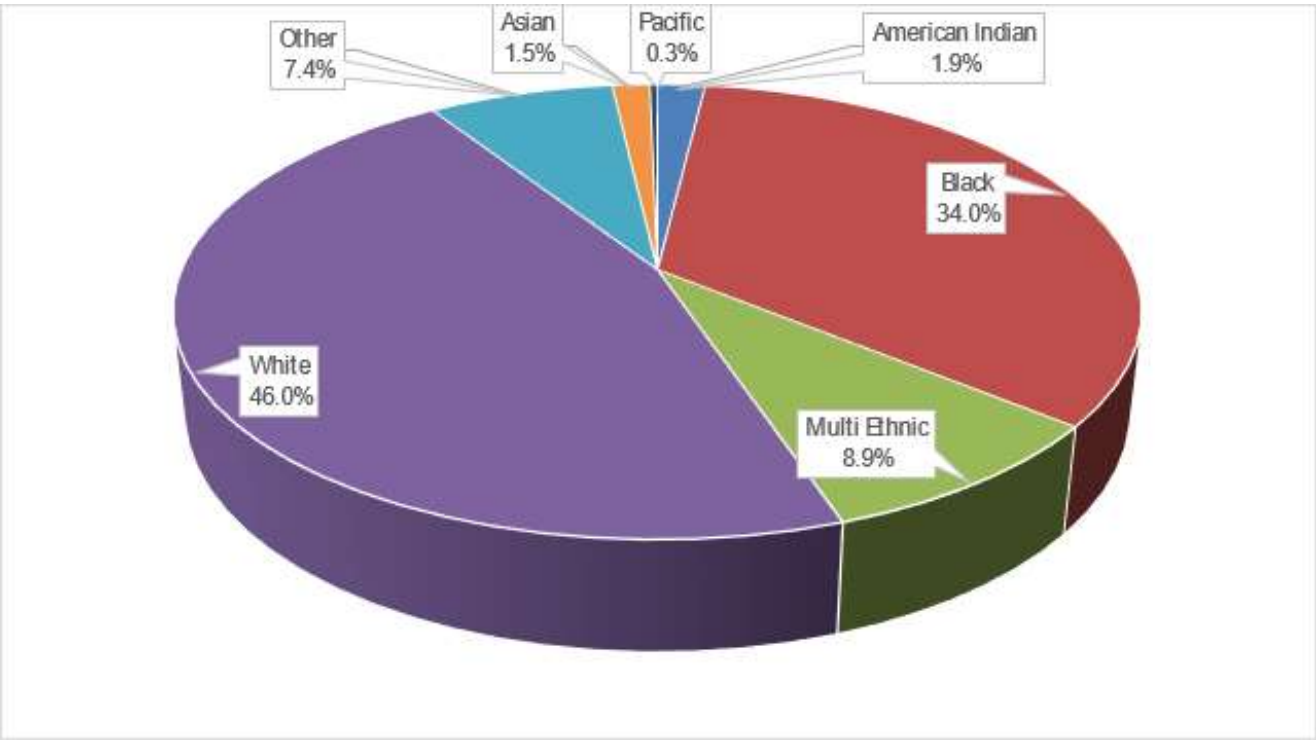


Figure 5. Matched Participants by Race/Ethnicity



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 '18 for four of the five measures (perceived risk, decision making, disapproval of use, and peer norms) and a statistically significant negative change for parental norms. In FY '17, there were significant changes in the desired direction in the same four risk factors.

Table 1. Overall Results, Risk-Factor Measures, FY '18 and '17

Risk-Factor Measure	Possible Range of Scores	Pre-Test Average	Post-Test Average	FY '18 % Change	FY '17 % Change
Perceived Risk	0-3	1.94	2.09	7.70**	8.93**
Decision-Making	0-3	1.84	1.88	2.31**	4.20**
Disapproval of Use	0-2	1.59	1.62	1.68**	1.61**
Perceived Peer Norms	0-10	8.40	8.46	0.77**	0.64**
Perceived Parental Attitudes	0-3	2.84	2.82	-0.86**	-0.44

Positive scores are more favorable.
Note: FY '18 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 ($p < .05$).
Green cell indicates a change from non-significant the previous year to marginally significant or significant this year, in the desired direction.
Red cell indicates a indicates a change from non-significant the previous year to marginally significant or significant this year, in the undesired direction.

Tables A1 through A4 in Appendix A display risk factor measures 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 four risk factors (perceived risk, decision-making, favorable attitudes and peer norms). 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 four risk factors (perceived risk, decision-making, favorable attitudes, and peer norms). Males reported positive changes on four risk factors (perceived risk, decision-making skills, favorable attitudes 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, favorable attitudes and perceived peer norms). White participants reported significant desired change on two risk factors (perceived risk and decision-making skills). Participants who identified as Multi-Ethnic, Asian, and Other reported significant positive change on one risk factor (perceived risk). Participants who identified as American Indian reported no significant changes. Participants of Hispanic, Latino, or Spanish descent or origin reported significant positive change on two risk factors (perceived risk and decision-making skills), while those not of Hispanic, Latino, or Spanish descent reported significant positive changes for perceived risk, decision-making skills, favorable attitudes, 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' 18 results, along with the corresponding changes in use for FY '17, are shown in Table 2.

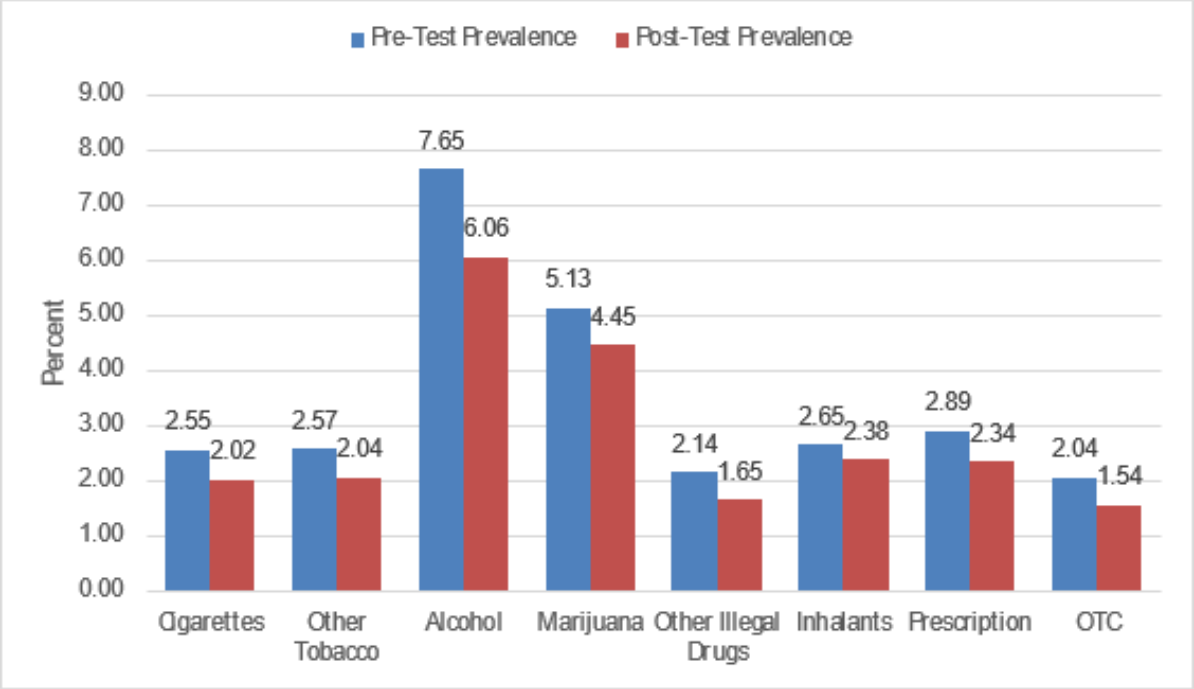
Table 2. Overall Results, Substance Use Rates, FY '18 and FY '17

Risk-Factor Measure: 30 Day Use	% Using at Pre-Test	% Using at Post-Test	FY '18 % Change	FY '17 % Change
Cigarettes	2.55	2.02	-20.78**	-3.93
Other Tobacco	2.57	2.04	-20.62*	0.40
Alcohol	7.65	6.06	-20.78**	-9.25
Marijuana	5.13	4.45	-13.26**	-18.44**
Other Illegal Drugs	2.14	1.65	-22.90*	-9.13
Inhalants	2.65	2.38	-10.19	-9.13
Non-Medical Prescription Drugs	2.89	2.34	-19.03*	5.32
Non-Medical OTC Drugs	2.04	1.54	-24.51*	6.67

Negative changes are desired for these items.
Note: FY '18 % 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).
Green cell indicates a change from non-significant the previous year to marginally significant or significant this year, in the desired direction.
Red cell indicates a indicates a change from non-significant the previous year to marginally significant or significant this year, in the undesired direction.

For FY ’18, program participants reported reductions in use of all substances at post-test. There were three statistically significant changes in substance use—reductions in cigarette, alcohol and marijuana use. There were also marginally significant reductions in other tobacco use, other illegal drug use, non-medical use of prescription drugs, and non-medical use of over-the-counter drugs. Last year (FY ’17) there was a statistically significant reduction for one substance use variable and no marginally significant reductions. Figure 6 depicts these same data in graphic form, showing pre-test and post-test use rates for FY ’18.

Figure 6. Pre- and Post-Test Substance Use Rates, FY ‘18



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 significant decrease in the percentage of users of cigarettes, alcohol, and marijuana. Also, there was a near significant decrease in the percentage of users of other tobacco. Among high school students, there was a significant decrease in use for alcohol.

Sex. Table A2 shows data results separated by sex. Among males and females, rates of alcohol 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

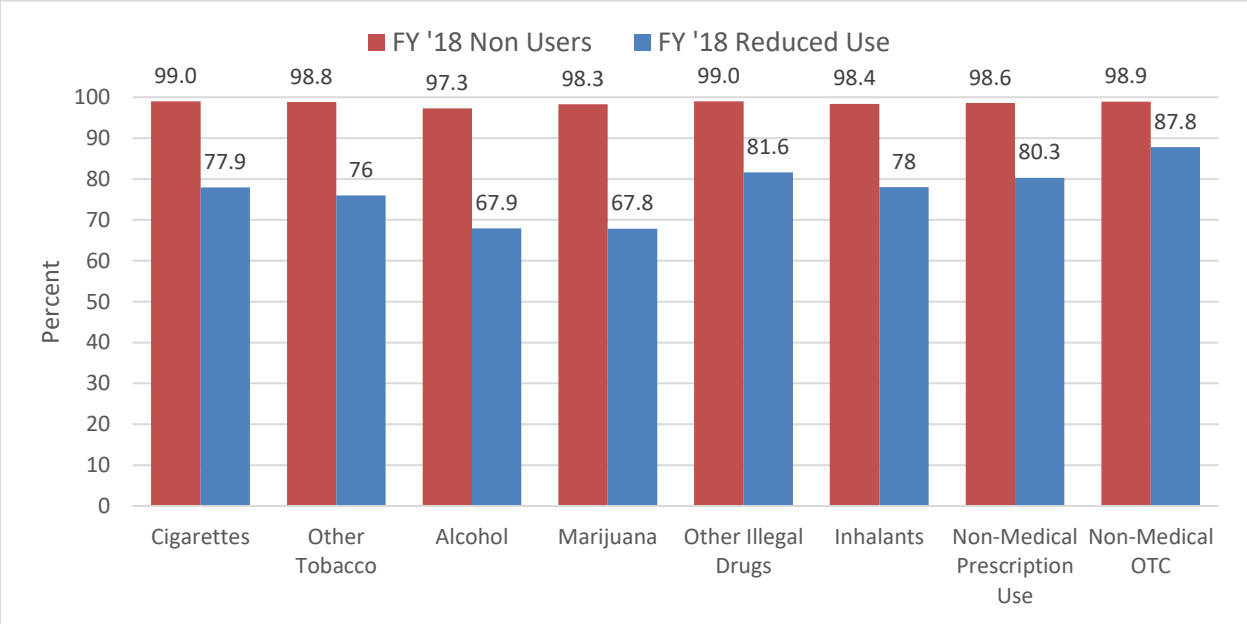
substances for African-Americans. Use only decreased for one substance for Whites (non-medical Rx drugs). African-Americans reported statistically significant decreases in cigarettes, alcohol, marijuana and non-medical over the counter drugs as well as marginally significant decreases in the use of other tobacco, other illegal drugs and non-medical prescription drug users. Among White students, none of the changes was statistically significant. Among Hispanic students, there was a significant decrease in use for alcohol.

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 (Figure 7). The former may be the most accurate assessment of the "preventive" effect of the programs.

Figure 7 shows that nearly all participants who began programs as non-users remained non-users, ranging from 97.3% (alcohol) to 99.0% (cigarettes and other illegal drugs). That is, continued non-use of substances was nearly universal. The figure also shows that the percent of users at pretest who reduced their use at post-test ranged from 67.8% (marijuana) to 87.8% (non-medical OTC use).

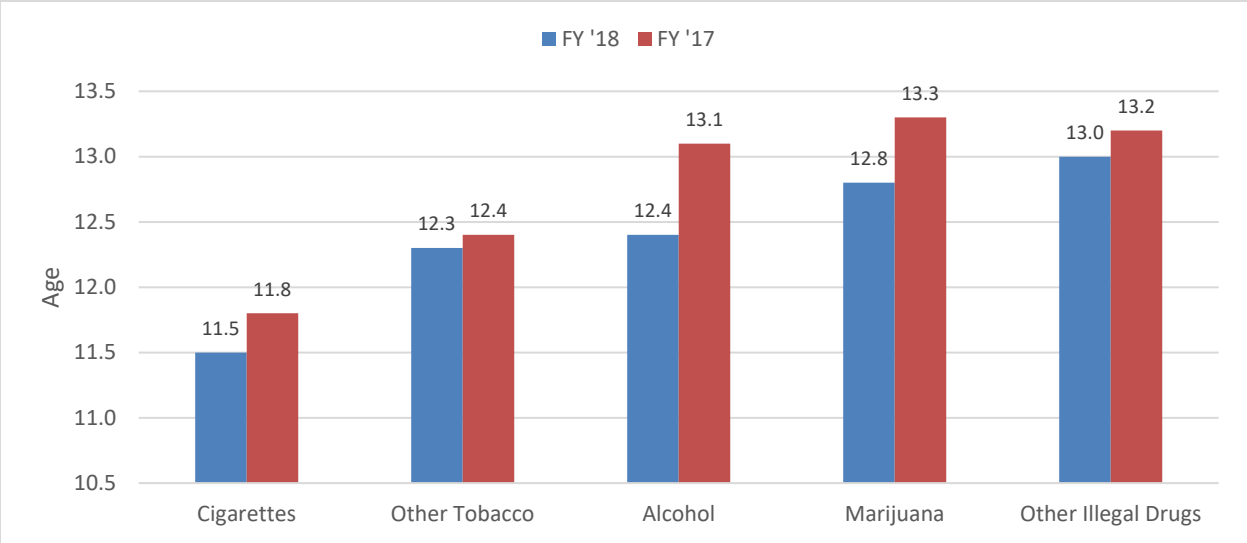
Figure 7. Percent of Pre-Test Non-Users Who Remained Non-Users and Users Who Reduced Their Use, FY '18



Age of First Use

As shown in Figure 8, among those who had used substances, ages of first use at pre-test ranged from 11.5 (cigarettes) to 13.3 (marijuana). Ages of first use in FY ’18 appear to be slightly younger than those for FY ’17.

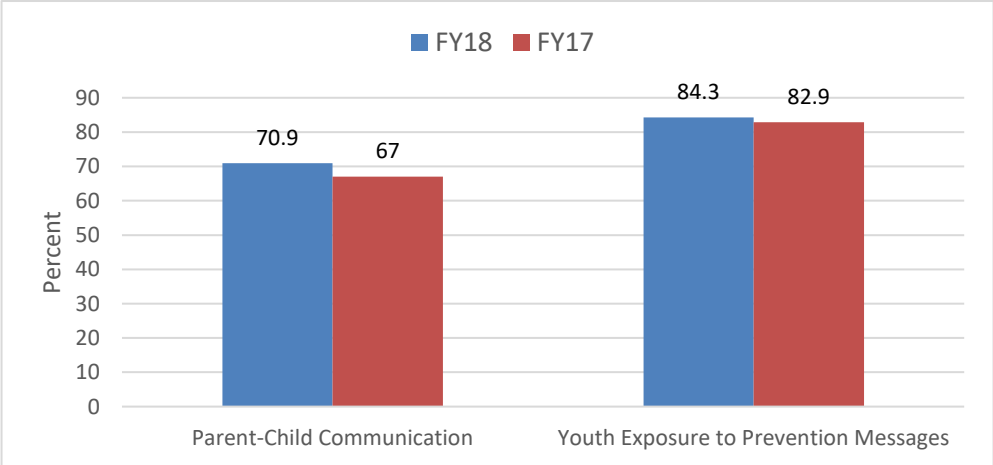
Figure 8. Overall Results, Average Age of First Use, FY ’18 and FY ‘17



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. As shown in Figure 9, 70.9% 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 67%. Additionally, 84.3% reported having watched, read, or heard a prevention advertisement in the past year, which is a bit higher than last year’s rate of 82.9%.

Figure 9. Parent Child Communication and Exposure to Prevention Messages, FY ’17 and FY’18



Prevention Programs

Across the provider network, 13 different programs were implemented in FY ’18, up from 10 in FY’17, and 9 in FY ’16. In this section, we compare the outcomes for the 12 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 417 matched youth at one site. There was a statistically significant positive change in perceived risk and perceived peer norms and a negative change in parental attitudes. There was also a significant decrease in alcohol users.

All Stars is a comprehensive evidence-based ATOD prevention curriculum. This program was used by one site with a total of 183 matched participants. There was a statistically significant positive change in perceived risk, decision-making and favorable attitudes. There was a significant decrease in the number of alcohol users.

Class Action is a comprehensive evidence-based ATOD prevention curriculum. This program was used by two sites with a total of 92 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 60 matched participants. There was a statistically significant undesired change in decision-making.

Life Skills Training, a skill-based, evidence-based ATOD prevention curriculum, was the most commonly implemented program with eight sites and 2730 matched participants. There were desired changes on two of the five risk factors (perceived risk, decision making). There were statistically significant desirable changes in the percentages of cigarette and alcohol users.

Operation Prevention: Rx, is an evidenced based program. Operation Prevention's mission is to educate students about the true impacts of opioids and kick-start lifesaving conversations in the home and classroom. It was used by one site with a total of 249 matched participants. There were statistically-significant desired changes on three of the five risk factors (perceived risk, decision making and perceived peer norms). There was a statistically significant undesired change in parental attitudes.

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 61 matched participants. There were statistically-significant

desired changes on two of the five risk factors (perceived risk and favorable attitudes). There was a statistically significant undesirable change in parental attitudes.

Project Alert, a comprehensive evidence-based ATOD prevention curriculum for middle school students, was delivered at two sites with a total of 57 matched participants. There were no statistically significant increases in risk factors or substances.

Project Northland, an evidence-based ATOD prevention curriculum with a strong focus on alcohol and influencing the environment, was used by one site with a total of 16 matched participants. The results show a statistically significant undesired change in perceived risk.

Project TND, a prevention curriculum intended for high school students, was used by one site to 56 matched participants. There was a significant decrease in the use of alcohol.

Too Good for Drugs, is an evidence-based program with specific lessons for each middle and high school grade. Three sites, with a total of 207 matched participants, used this program. There were statistically significant changes in four risk factors.

Why Try is a comprehensive evidence-based ATOD prevention curriculum, which was implemented at two sites with 25 participants. The results show a statistically significant improvement in perceived risk, decision-making, favorable attitudes, and perceived peer norms, as well as a statistically significant decrease in marijuana use.

Evidence-Based Programs

County authorities are not required to use evidence-based interventions exclusively, though most do. In FY ’18, 100% of participants were served in evidence-based programs, the same as in FY ’17.

Summary of Section II

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 ‘18. 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 one prevention program (Too Good for Drugs).

There were also widespread reductions in substance use in FY ’18, particularly among middle school students, African-American, Other students, and non-Hispanic students. Significant or near significant reductions in substance use were also seen among participants of All Stars, Life Skills, 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 Rx Drugs	Non-medical Use of OTCs
DEMOGRAPHICS													
Overall Middle School (2,707)	*	*	*	*		*		*	*				
Overall High School (1,412)	*	*			*			*					
Females (2,201)	*	*	*	*	*			*					
Males (1,935)	*	*	*	*	*			*					
American Indian (80)													
Asian (60)	*												
Black/African American (1403)	*	*	*	*	*	*	*	*	*				
Multi-ethnic (368)	*												
Other (306)	*							*			*		*
White (1,897)	*	*			*								
Hispanic (391)	*	*			*			*					
Not Hispanic (3658)	*	*	*	*	*			*	*				
PROGRAMS													
Alcohol Stories (1 site; n = 417)	*			*	*								
All Stars (1 site; n = 183)	*	*	*					*					
Class Action (2 sites; n = 92)													
Keepin' It Real (1 site; n = 60)		*											
Life Skills (8 sites; n = 2730)	*	*				*		*					
Operation Prevention: Rx (1 site; n=249)	*	*		*									
Prime for Life: Exploring (1 site; n =61)	*		*		*								
Project Alert (2 sites; n = 57)													
Project Northland (1 site; n=16)	*												
Project TND (1 site; n = 56)								*					
Too Good for Drugs (3 sites; n=207)	*	*	*	*									
Why Try (2 sites; n = 25)	*		*										
OVERALL (18 sites; n=4156)	*	*	*	*	*	*		*	*				
LEGEND													
Desired Marginally Significant		Desired Significant					*						
Undesired Marginally Significant		Undesired Significant					*						

SECTION III: 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’18 and is most identified with its year-end monetary 3incentives 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'18, there were 6,287 alcohol compliance checks and 746 tobacco compliance checks entered into the online AET reporting system. In FY '18, 33 counties submitted alcohol compliance checks, while 14 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 10, the data suggested that both the alcohol and tobacco buy rates were at historic lows of 6.9% and 3.9%, respectively. Table 4 shows the buy rates for each county.

Figure 10. Annual Number of Compliance Checks and Annual Buy Rates

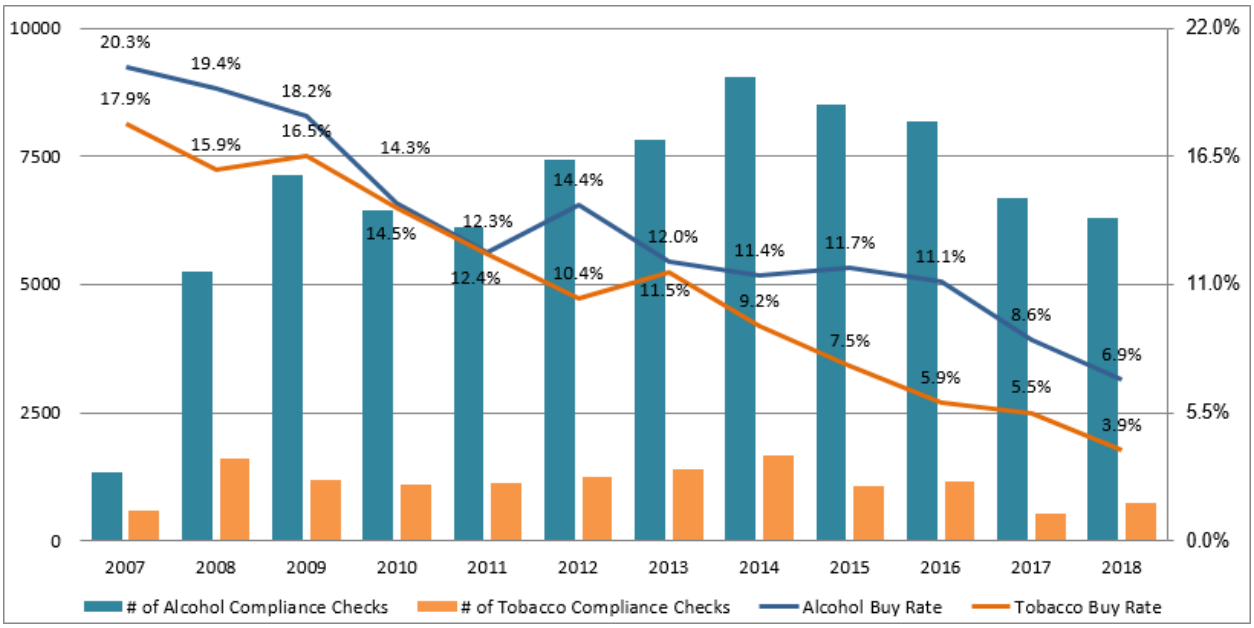


Table 4. FY '18 Alcohol and Tobacco Compliance Check Buy Rates by County

County Name	Alcohol			Tobacco		
	Total Eligible Purchase Attempts	Buy	Buy Rate	Total Eligible Purchase Attempts	Buy	Buy Rate
Abbeville	26	3	11.5%	0	0	N/A
Aiken	112	8	7.1%	0	0	N/A
Allendale	0	0	N/A	0	0	N/A
Anderson	38	4	10.5%	0	0	N/A
Bamberg	28	1	3.6%	22	1	4.5%
Barnwell	58	4	6.9%	47	1	2.1%
Beaufort	0	0	N/A	0	0	N/A
Berkeley	335	23	6.9%	67	6	9.0%
Calhoun	13	0	0.0%	16	0	0.0%
Charleston	166	11	6.6%	0	0	N/A
Cherokee	36	4	11.1%	0	0	N/A
Chester	0	0	N/A	0	0	N/A
Chesterfield	105	6	5.7%	0	0	N/A
Clarendon	0	0	N/A	0	0	N/A
Colleton	0	0	N/A	0	0	N/A
Darlington	112	2	1.8%	7	0	0.0%
Dillon	31	4	12.9%	0	0	N/A
Dorchester	20	2	10.0%	8	1	12.5%
Edgefield	0	0	N/A	0	0	N/A
Fairfield	0	0	N/A	0	0	N/A
Florence	175	9	5.1%	42	3	7.1%
Georgetown	147	13	8.8%	0	0	N/A
Greenville	1438	64	4.4%	200	7	3.5%
Greenwood	67	7	10.4%	0	0	N/A
Hampton	20	5	25.0%	0	0	N/A
Horry	784	58	7.4%	47	1	2.1%
Jasper	0	0	N/A	0	0	N/A
Kershaw	0	0	N/A	0	0	N/A
Lancaster	0	0	N/A	0	0	N/A
Laurens	44	0	0.0%	0	0	N/A
Lee	2	0	0.0%	0	0	N/A
Lexington	431	24	5.6%	78	3	3.8%
Marion	0	0	N/A	0	0	N/A
Marlboro	89	4	4.5%	0	0	N/A

Table 4. FY '18 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	19	1	5.3%	9	1	11.1%
Newberry	77	6	7.8%	0	0	N/A
Oconee	25	4	16.0%	0	0	N/A
Orangeburg	31	0	0.0%	29	2	6.9%
Pickens	309	21	6.8%	0	0	N/A
Richland	155	15	9.7%	0	0	N/A
Saluda	0	0	N/A	0	0	N/A
Spartanburg	333	34	10.2%	120	2	1.7%
Sumter	33	3	9.1%	0	0	N/A
Union	58	2	3.4%	0	0	N/A
Williamsburg	0	0	N/A	0	0	N/A
York	969	91	9.4%	54	1	1.9%

Most FY ’18 alcohol compliance checks were conducted at convenience stores (53.1%). The next most common type of location was liquor stores (10.4%), then restaurants (9.7%), large grocery stores (9.4%), drug stores (6.8%), small grocery stores (6.0%), bars (3.0%), “other” (1.5%) and hotels (0.1%). In most cases, the youth attempted to buy beer (80.1%) although a substantial number attempted to buy liquor (9.9%) or alcopops or alcohol energy drinks (6.6%). Wine or wine coolers were attempted only 2.7% of the time. Most youth volunteers were between the ages of 17 and 19 (83.2%). More purchase attempts were made by males (59.9%) than females. Most alcohol checks were conducted by White youth (85.3%), followed by Black or African American youth (12.2%).

For tobacco compliance checks, 73.3% were conducted at convenience stores, followed by small grocery stores (9.5%), large grocery stores (8.8%), drug stores (6.2%), and “other” (1.7%). In most cases, youth attempted to buy cigarettes (77.5%). The remaining attempts were made for smokeless tobacco (10.2%), cigarillos (6.2%) and little cigars (2.4%). 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 (40.1%) and 17 (30.7%). More purchase attempts were made by females (51.0%) than males. White youth conducted 69.9% of tobacco compliance checks, and Black or African American youth conducted 23.1% of the checks.

Figure 11 shows how buy rates for different products have changed over the past five years. Buy rates for all types of alcohol—beer, wine/wine coolers, liquor, and alcopops have decreased over that time.

Figure 11. Alcohol Buy Rates by Type of Product, Five Year Trends

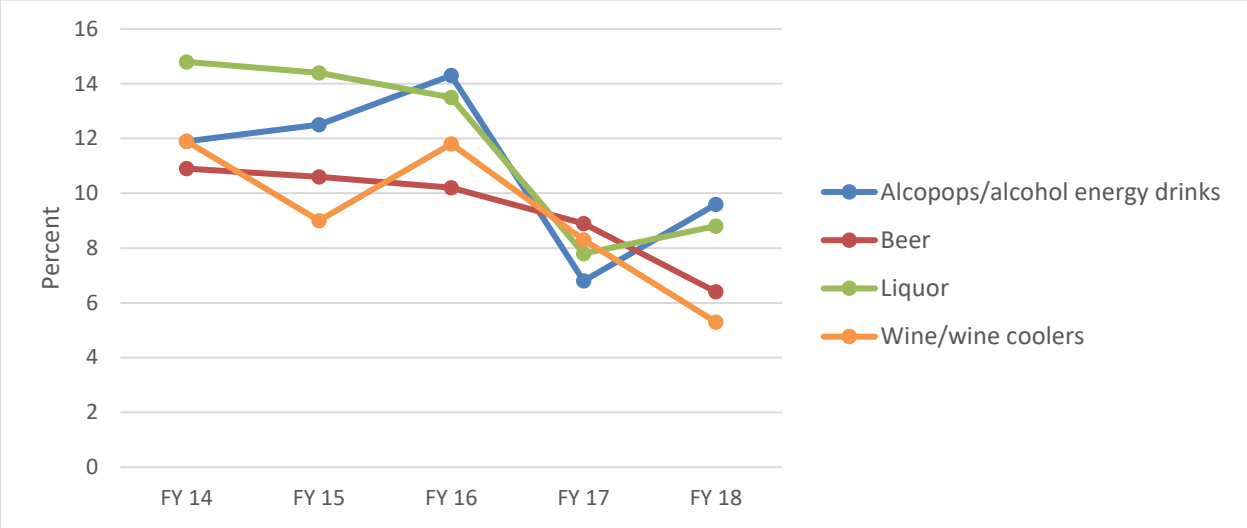


Figure 12 shows alcohol merchant practices over the past five years, including high levels and increases in best practices. Since FY '14, checking IDs increased from 89% to 95%, signage about checking IDs increased from 81% to 87%, and the use of age-verification equipment increased from 48% to 55%.

Figure 12. Alcohol Merchant Practices, Five Year Trends

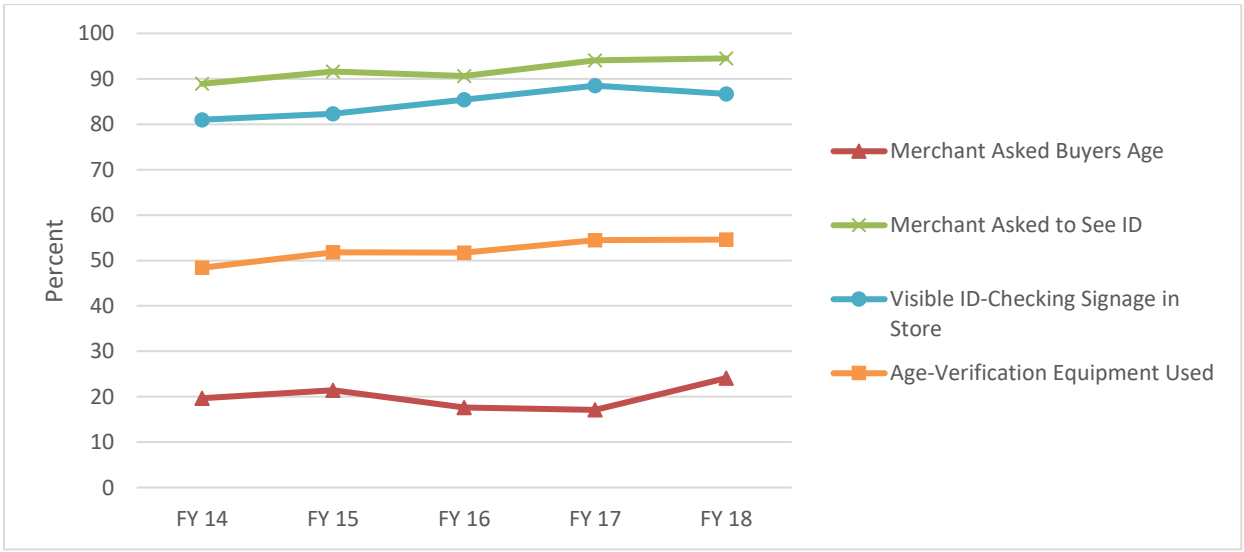


Figure 13 shows tobacco merchant practices over the past five years. Since FY ’14, checking IDs increased from 84% to 94%, signage about checking IDs decreased for several years but increased in FY ’18, and the use of age-verification equipment decreased slightly from 59% to 57%.

Figure 13. Tobacco Merchant Practices, Five Year Trends

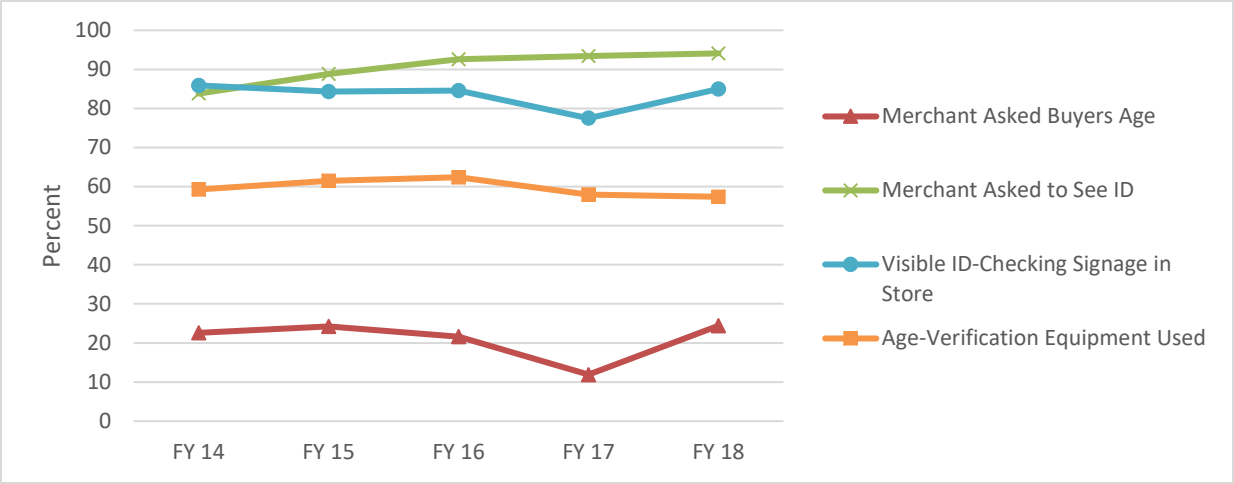


Figure 14 shows the percent of sales completed by type of business for places that had at least 50 attempts. For alcohol, the highest rates of sale were restaurants (15%), bars/taverns (10%), and liquor/ABC/package stores (8%). For tobacco, the highest rates were convenience stores (7%), small grocery stores (7%), and drug stores (7%), all of which had relatively low rates of completed sales.

Figure 14. Percentage of Completed Sales by Type of Business

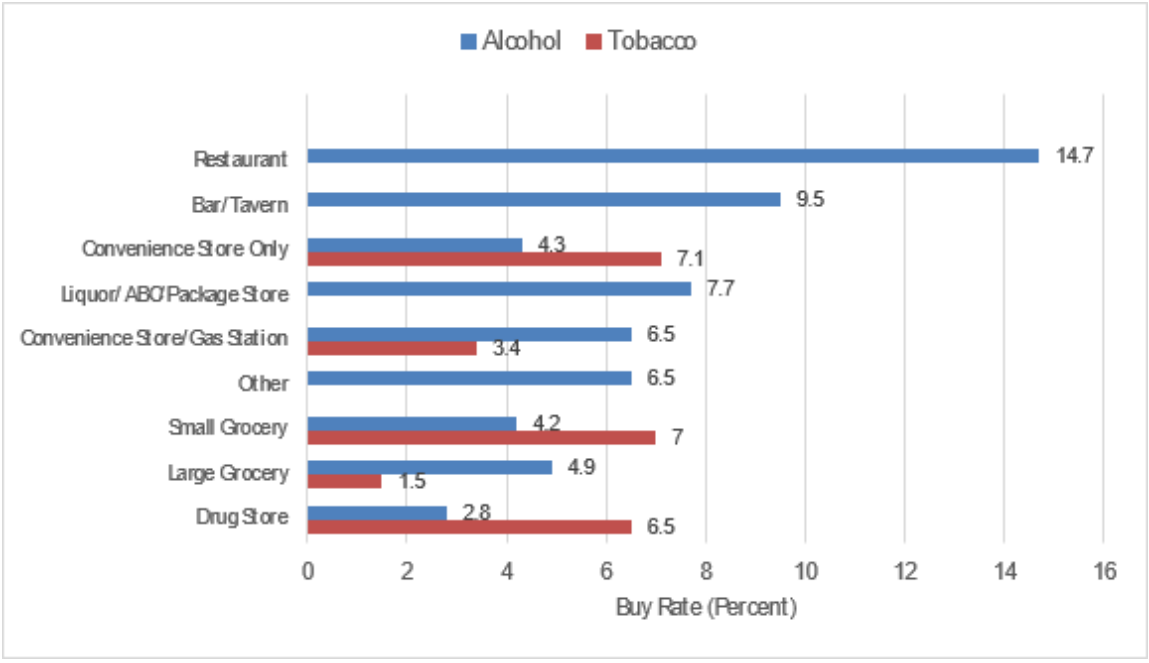


Figure 15 compares the completed sales rate of alcohol products in FY ’17 and FY ’18. As can be seen, the completed sales rates were lower in FY ’18 in all establishments except restaurants and bars/taverns.

Figure 15. Percentage of Completed Alcohol Sales, FY ’17 and FY ‘18

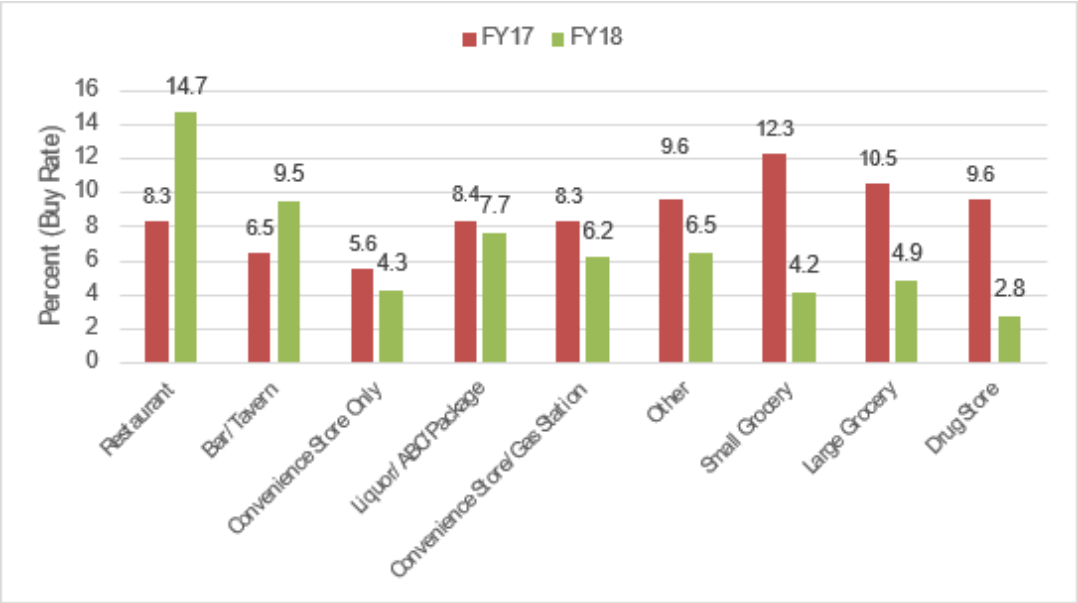


Table 5 displays the percentages of sales completed based on multiple demographic characteristics of the clerks and buyers. For alcohol sales, clerk age and race, and buyer age, sex, and race were statistically significant predictors of sales. For tobacco sales, clerk age was the only significant predictor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

Table 5. Percentage of Retailer Sales by Demographic Characteristics

Compliance Check Characteristic	% Sales Completed—Alcohol	% Sales Completed—Tobacco
Clerk Age	**	**
15 - 17	12.2%	22.2%
18- 20	9.6%	4.3%
21 - 24	6.9%	7.4%
25 - 44	7.5%	2.5%
45 – 64	4.8%	2.3%
65+	6.2%	11.8%
Clerk Sex		
Female	6.6%	3.9%
Male	7.3%	3.8%
Clerk Race	**	
Black	7.9%	4.5%
Hispanic	11.4%	9.1%
Other	5.4%	1.4%
White	6.8%	4.2%
Buyer Age	***	
15	2.5%	3.3%
16	5.2%	5.0%
17	5.7%	3.5%
18	7.8%	7.1%
19	7.2%	N/A
20	12.0%	0.0%
Buyer Sex	*	
Female	7.8%	4.2%
Male	6.3%	3.6%
Buyer Race	**	
Black	7.2%	5.8%
Hispanic	5.4%	2.8%
Other	19.6%	0.0%
White	6.8%	3.5%

* $p < .05$
** $p < .01$
*** $p < .001$

Table 6 displays the percentages of sales completed when the sex and race of the clerk and buyer were the same and different. There were no significant differences in alcohol or tobacco buy rates for clerk or 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	6.5%	3.6%
Same	7.2%	4.2%
Clerk – Buyer Race		
Different	7.2%	4.2%
Same	6.6%	3.6%

* 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 6pm than after that time (p<.001). No relationship was found for alcohol sales before and after 3pm.

The average clerk fine for an alcohol sale, at the time of ticketing, was $601.37, and the most common amount was $672.50. The average fine for a tobacco sale ticket was $373.58, 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 435 cases in which a sale was made (alcohol and tobacco), there were 10 instances (2.3%) 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. In contrast, 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 207 operations recorded in FY 2018 in seven counties. The officers issued 158 tickets for fake IDs, 5 verbal or written warnings, and 14 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'18, five counties representing five circuits conducted shoulder taps a total of 8 different times, down from 9 in FY '17 and 19 in FY '16. Altogether, 77 individuals were approached in FY '18. One purchased alcohol for the youth, resulting in a 1.3% violation rate. In FY '17 the rate was 2.1%, and it was 3.2% in FY '16. Thirteen other charges were written during these operations.

Public Safety Checkpoints/Saturation Patrols

AETs across South Carolina recorded 530 public safety checkpoints in 20 counties. The checkpoints expended more than 770 hours. Officers recorded contact with 56,820 vehicles resulting in 3,548 citations and arrests. Highlights of those citations and arrests were 263 tickets for drug possession, 92 DUI arrests (.08 or greater BAC) among adults, 2 tickets for under 21 Zero Tolerance (.02 to .079 BAC), 1 stolen vehicle recovered, 12 fugitives apprehended, 153 tickets for open container, and 17 felony arrests. Twelve 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 2018, there were 190 saturation patrols that expended a total of 222 hours. This type of operation was recorded in 12 counties. The patrols resulted in 1,490 citations and arrests. In those violations, there were 144 tickets for drug possession, 28 DUI arrests, 12 fugitives apprehended, 65 tickets for open container, and 11 felony arrests. Five underage individuals were ticketed for alcohol possession/consumption.

Controlled Party Dispersals/Party Patrols

Alcohol Enforcement Teams in 9 counties recorded 129 party dispersals in FY 2018. A party dispersal is conducted when officers receive a complaint from a source and investigate that compliant. 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 2018, the predominant source for the party investigation was call for service (10.9%). There was a total of 1,004 officer hours recorded at the gatherings involving 3,253 people. Officers recorded 175 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 '18, 17 counties turned in tobacco agreements, the same as in FY ’17. 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 (Palmetto Retailer Education Program) curriculum. County authorities were each required to implement merchant education programming in FY ’18 and collectively served 1,411 retail staff, which is down from 1,658 in FY ’17. Thirty-seven of the 46 counties served at least one retailer in PREP, with Beaufort (374) serving 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 ’18, the average score was 94.9%.

Diversionary 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 334 youth served in AEP in FY '18, down from FY '17. The bulk of the youth served came from Pickens (160), Charleston (66), and Spartanburg (38).

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 '18, 287 youth participated in TEP, a decrease from FY '17. Ten counties delivered TEP in FY '18, six more than in FY '17, with Fairfield (228) 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 87 media placements (articles, TV stories, etc.) during FY '18, down from 387 in FY '17. There were 88 presentations and media events occurring during "Out of Their Hands" conducted the entire month of April 2018. During April 2018, an estimated 1.1 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 such as 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 '18 and during "Out of Their Hands" in April 2018. While the AETs noted the social media presence, data analytics were not transmitted to the reporting system, so the social media reach is difficult to measure. On the two Facebook pages maintained at the state level, "Parents Who Host, Lose the Most" (PWHLTM), and "SC Out of Their Hands" (OOTH), OOTH FB had a daily average of 139 LIKES, 14,756 post reach with 31,267 post impressions (views). Likewise, PWHLTM FB had a daily average of 454 LIKES, 11,929 post reach with 23,449 post impressions (views).

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,

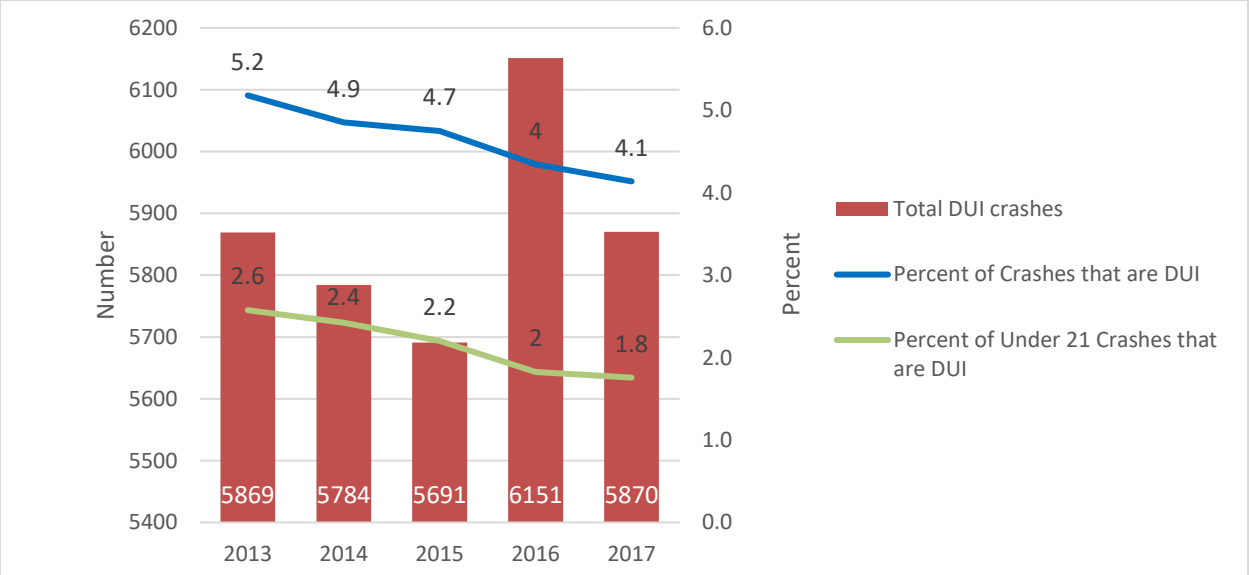
and other community partners to enforce underage drinking laws and educate citizens in the value of enforcing those laws.

In FY '18, there were 20 training sessions conducted in 11 counties in South Carolina. These sessions were attended by 277 individuals, including 214 law enforcement officers. Among those participants attending were 35 youth and adults who participated as role-players in mock controlled 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.

Alcohol-Related Crashes

One of the main goals of environmental prevention strategies is to reduce alcohol-related traffic crashes. Figure 16 below shows that the total number of DUI crashes had decreased steadily from 2013 through 2015 then increased dramatically in 2016, reducing back to 2013 levels in 2017. It should be noted, however, that total crashes also increased dramatically in 2016 (not shown in the figure), suggesting that factors other than alcohol contributed to a higher number of crashes. In fact, the percent of crashes that were alcohol-related steadily decreased from 2015 to 2017 (total DUI crashes and crashes for people under the age of 21), suggesting that efforts to reduce DUI crashes have been fruitful.

Figure 16. Alcohol-Related Traffic Crashes, 2013 - 2017



Summary of Section III

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 6,287 alcohol compliance checks and 746 tobacco compliance checks. Sales were completed for 6.9% of alcohol attempts and 3.9% of tobacco attempts.

Most merchants asked to see the buyers' IDs (94.5% and 94.1% for alcohol and tobacco, respectively) and most merchants studied the IDs (79.2% and 67.4% for alcohol and tobacco, respectively). For alcohol sales, clerk age and race, and buyer age, sex, and race were statistically significant predictors of sales. For tobacco sales, clerk age was the only significant predictor of sales.

The counties served 1,411 merchants in the Palmetto Retailers Education Program (PREP) in FY '18, down from 1,658 in FY '17.

AETs reported a total of 530 public safety checkpoints. Among the violations, there were 94 DUIs. In addition, there were 190 saturation patrols reported. This operation generated another 1,490 tickets, among them 28 DUIs.

AETs dispersed 129 parties attended by 3,253 persons. 175 tickets and arrests were recorded at the gatherings. A total of 77 individuals were approached by the cooperating youth to purchase alcohol as part of Shoulder Tap operations, with 1 purchasing (1.3% sales).

In FY '18, there were 207 bar checks conducted, resulting in 158 fake ID violations and 9 other retailer and patron violations.

More than 600 youth were in diversion programs for youth alcohol and tobacco offenses (334 served in the Alcohol Education Program and 287 served in the Tobacco Education Program).

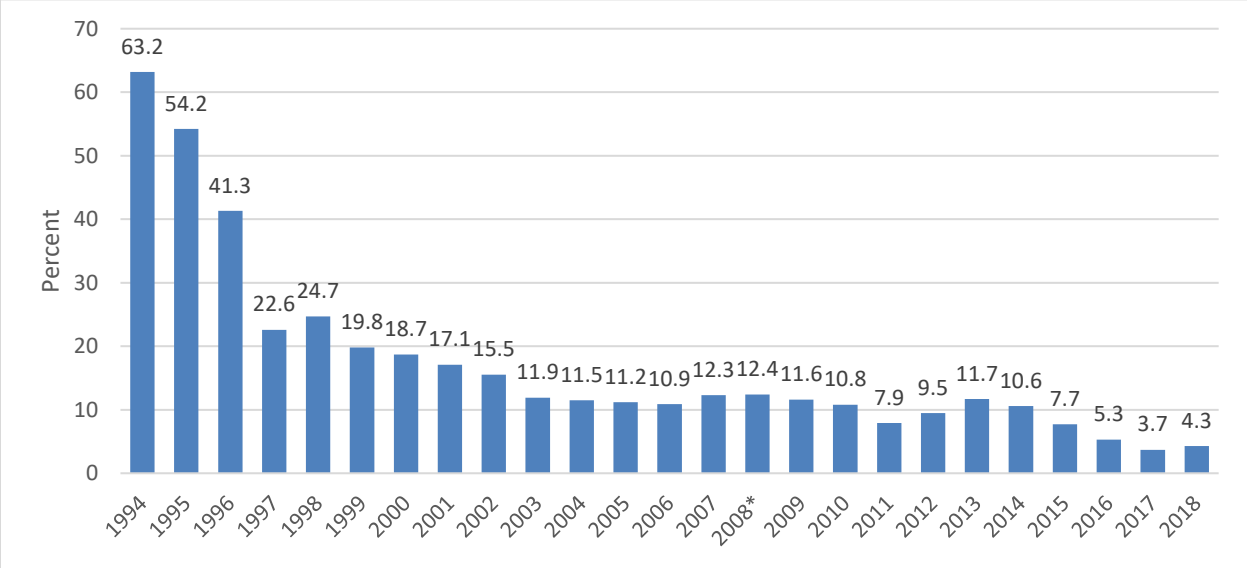
SECTION IV: YOUTH ACCESS TO TOBACCO STUDY (SYNAR)

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, 2018, 133 youth volunteers ages 15-17, under trained adult supervision, conducted unannounced cigarette purchase attempts in 256 randomly-selected retail outlets in all 46 counties. These outlets were randomly sampled from the estimated 6,766 outlets in the state.

Figure 17 shows the buy rates from the Synar Study since 1994. For 2018, the estimated overall sales rate (also known as a Retailer Violation Rate or RVR) was 4.3%. 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 2017 rate was 3.7%. Buy rates for each county are shown in Table 7.

Figure 17. YATS (Synar) Cigarette Purchase Rates (FY 1994 - 2018)[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.
* Beginning in 2008, the state did not allow 14-year-old inspectors, who consistently had lower purchase rates than 15- to 17-year-olds.

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

Table 7. YATS (Synar) Raw Buy Rates 2018

County Name	Total Eligible Attempts	No Buy	Buy	Buy Rate
Abbeville	2	2	0	0.0%
Aiken	8	6	0	0.0%
Allendale	2	2	0	0.0%
Anderson	17	16	1	5.9%
Bamberg	1	1	0	0.0%
Barnwell	3	3	0	0.0%
Beaufort	24	24	0	0.0%
Berkeley	11	11	0	0.0%
Calhoun	1	1	0	0.0%
Charleston	30	30	0	0.0%
Cherokee	2	2	0	0.0%
Chester	1	1	0	0.0%
Chesterfield	2	2	0	0.0%
Clarendon	3	3	0	0.0%
Colleton	6	6	0	0.0%
Darlington	7	7	0	0.0%
Dillon	2	2	0	0.0%
Dorchester	4	4	0	0.0%
Edgefield	2	2	0	0.0%
Fairfield	1	1	0	0.0%
Florence	11	11	0	0.0%
Georgetown	6	6	0	0.0%
Greenville	22	22	0	0.0%
Greenwood	4	4	0	0.0%
Hampton	3	2	1	33.3%
Horry	22	22	0	0.0%
Jasper	3	2	1	33.3%
Kershaw	3	3	0	0.0%
Lancaster	3	3	0	0.0%
Laurens	1	1	0	0.0%
Lee	4	4	0	0.0%
Lexington	12	12	0	0.0%
Marion	2	2	0	0.0%
Marlboro	2	2	0	0.0%
McCormick	3	3	0	0.0%
Newberry	3	3	0	0.0%
Oconee	1	1	0	0.0%
Orangeburg	11	11	0	0.0%

Table 7. YATS (Synar) Raw Buy Rates 2018

County Name	Total Eligible Attempts	No Buy	Buy	Buy Rate
Pickens	8	8	0	0.0%
Richland	22	20	2	10.5%
Saluda	2	2	0	0.0%
Spartanburg	20	18	2	10.0%
Sumter	9	8	1	11.1%
Union	2	2	0	0.0%
Williamsburg	6	5	1	16.6%
York	12	10	2	16.7%

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, 2018

Characteristic	Buy Rate
Age	
15	3.3
16	2.3
17	7.9
Sex	
Female	4.1
Male	4.5
Race	
Black	2.3
Other	5.0
White	6.3
Buyer Race	
Black-Female	1.4
Other-Female	12.5
White-Female	6.7
Black-Male	3.7
Other-Male	0.0
White-Male	6.1

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, 2018

Characteristic	Buy Rate
Age	
Teenager	0.0
20's	7.1
30's	3.9
40's	0.0
50's	3.4
60+	10.5
Sex	
Female	4.9
Male	3.3
Race	
Black	8.6
Hispanic	0.0
Other	3.8
White	1.8
Clerk Race	
Black-Female	7.8
Hispanic-Female	0.0
Other-Female	7.1
White-Female	2.5
Black-Male	11.8
Hispanic-Male	0.0
Other-Male	2.6
White-Male	0.0

* $p < .05$

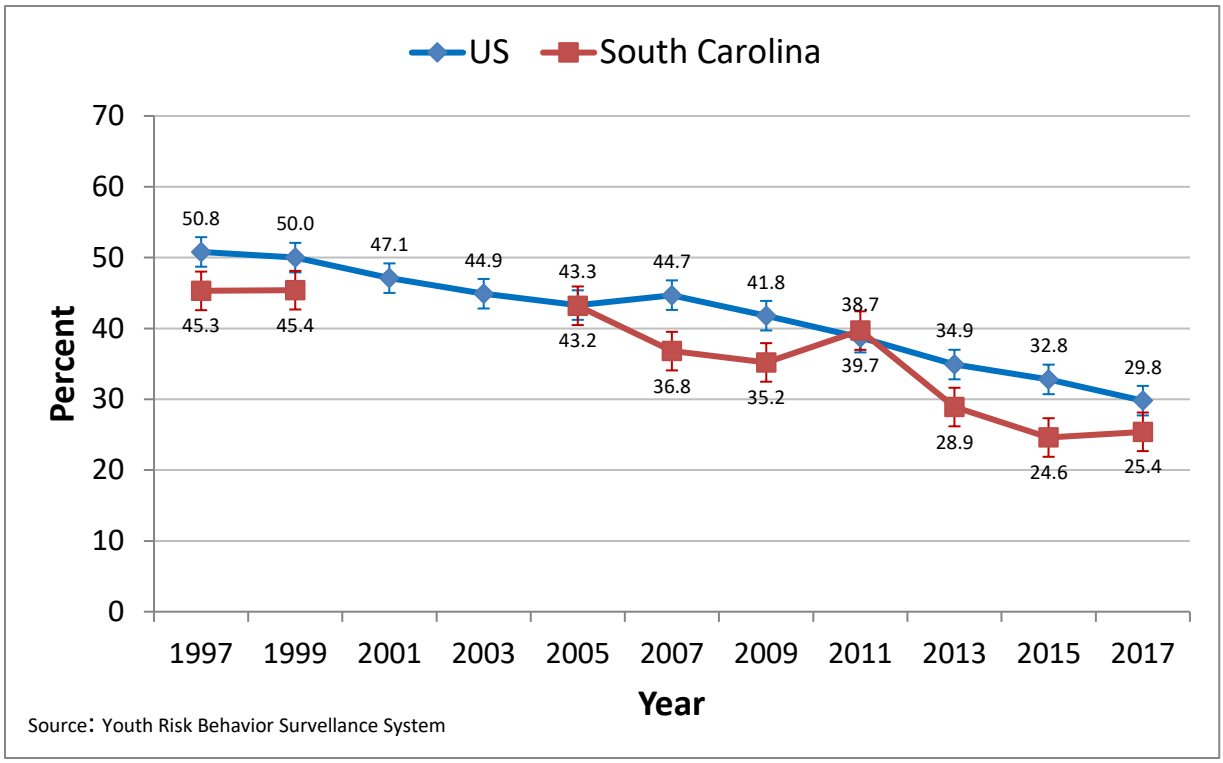
SECTION V: STATEWIDE YOUTH SUBSTANCE USE TRENDS

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.

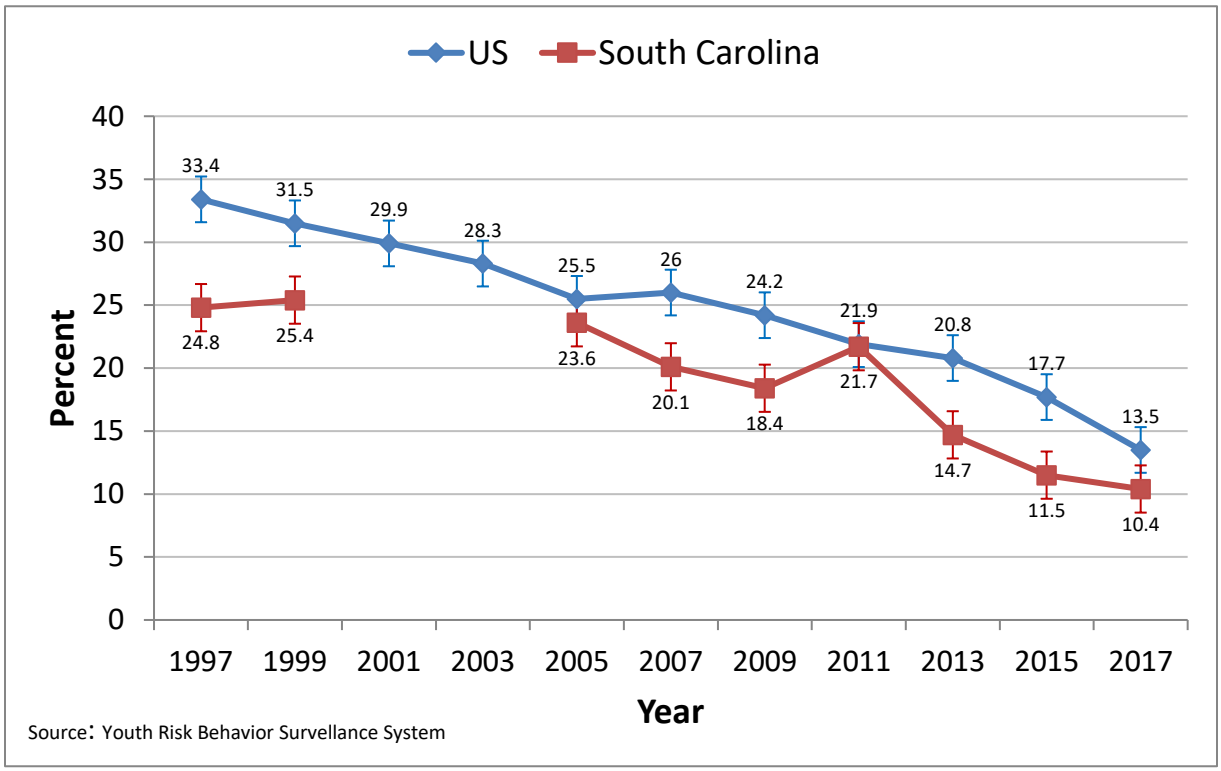
It should be noted that in 2017 (the most recent data available), several 30-day substance use measures showed a slight trend in the undesired direction, including alcohol, cigarettes, and marijuana. In addition, data on lifetime use of various harmful substances (e.g., heroin, methamphetamines, Ecstasy, and synthetic marijuana) showed substantial movement in the undesired direction (Figure 23). 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 18. Past 30-Day Alcohol Use, High School Students



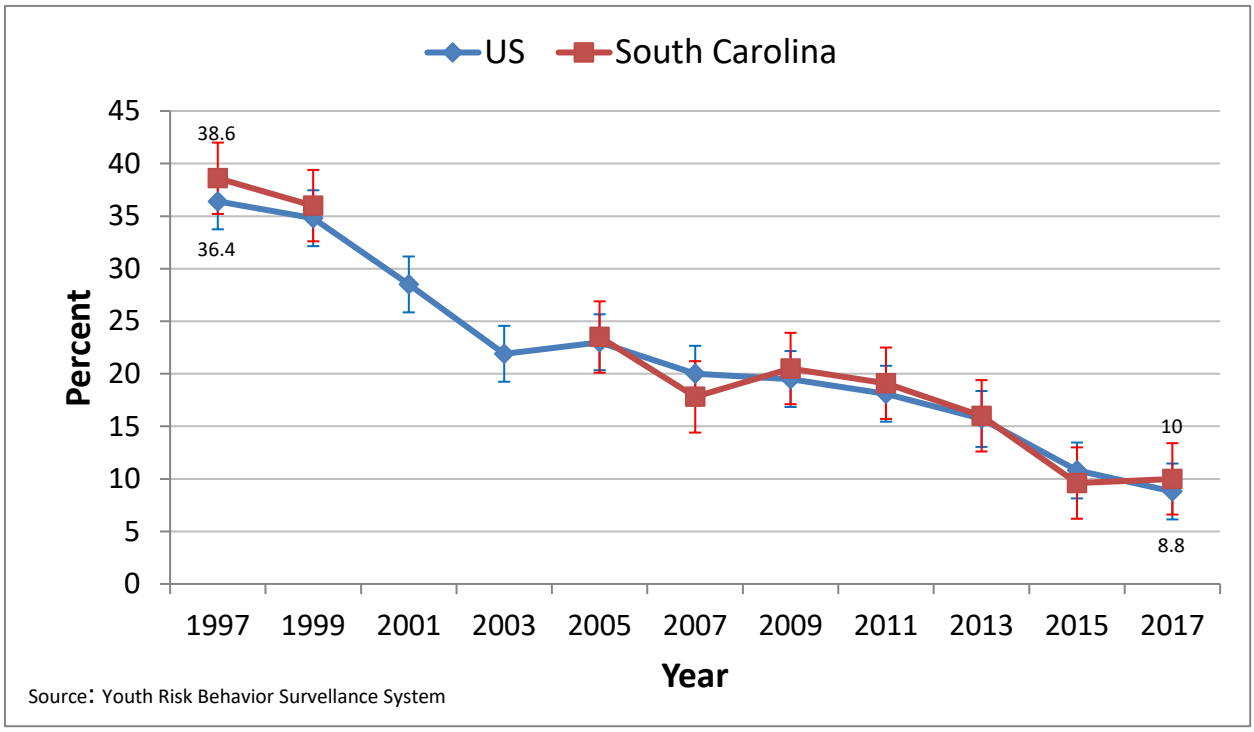
Source: Youth Risk Behavior Surveillance System

Figure 19. Past 30-Day Binge Drinking, High School Students



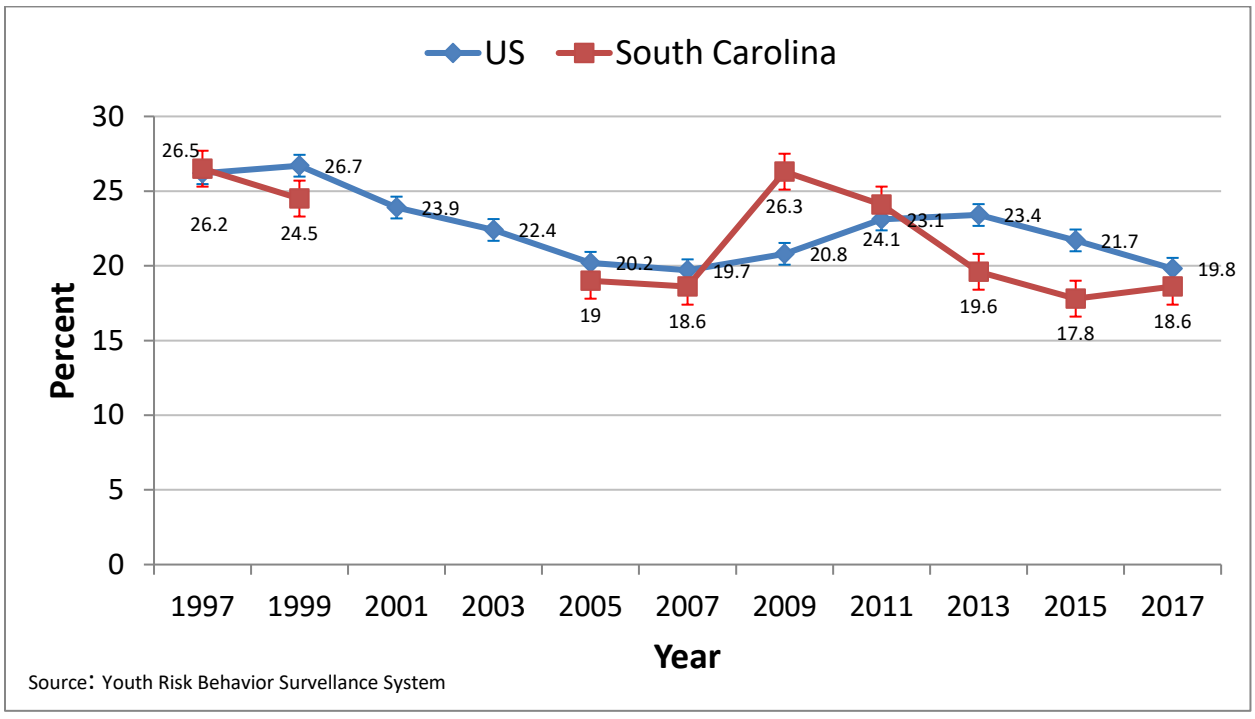
Source: Youth Risk Behavior Surveillance System

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



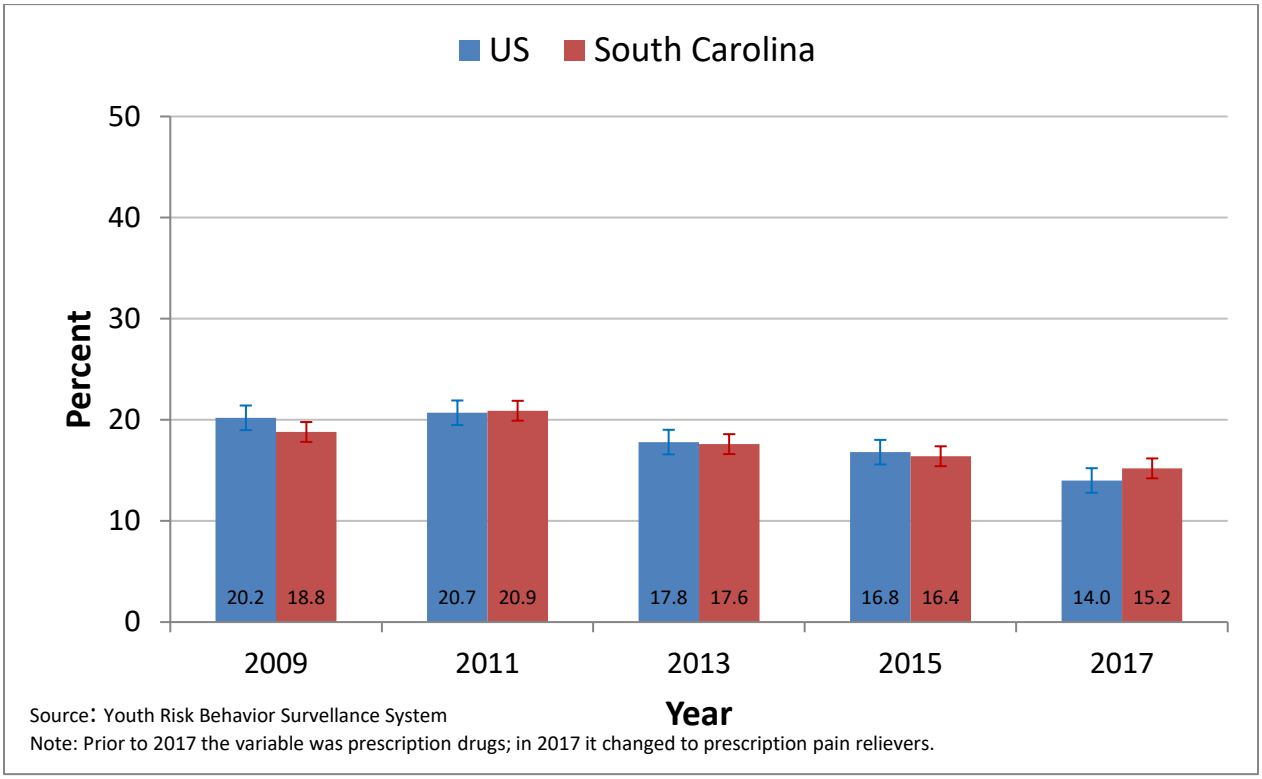
Source: Youth Risk Behavior Survellance System

Figure 21. Past 30-Day Marijuana Use, High School Students



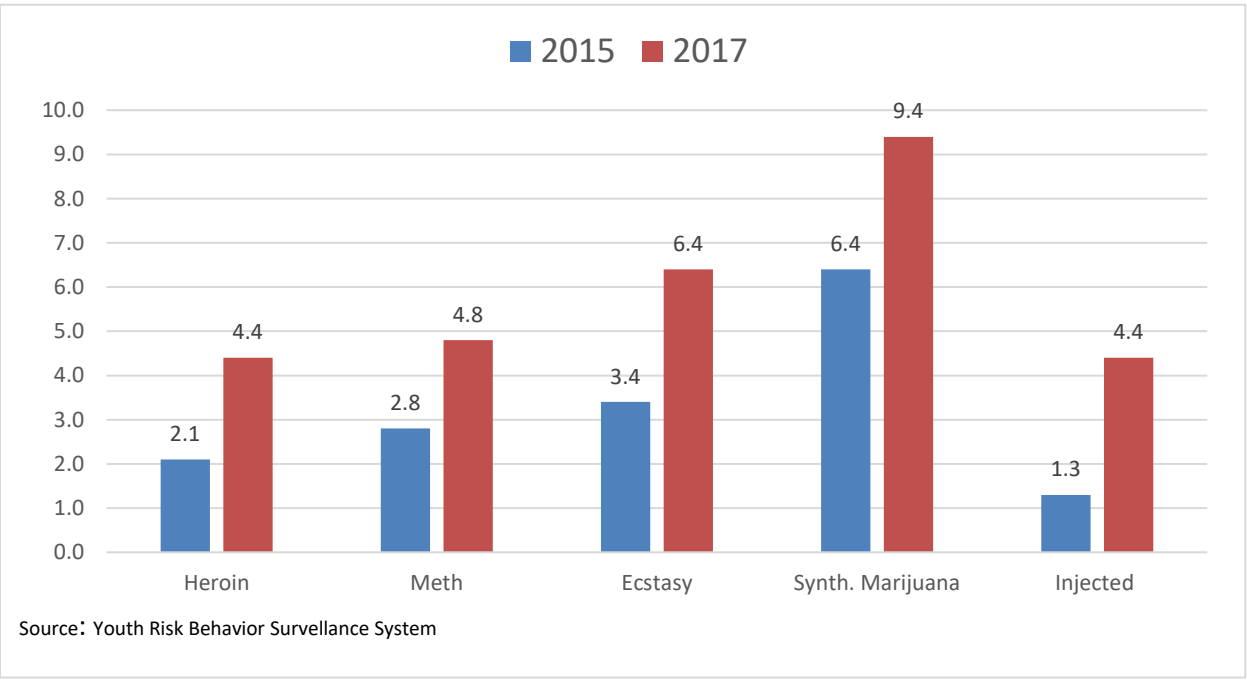
Source: Youth Risk Behavior Survellance System

Figure 22. Ever Used Prescription Drugs (Pain Relievers) without Doctor's Prescription, High School Students



Source: Youth Risk Behavior Surveillance System
Note: Prior to 2017 the variable was prescription drugs; in 2017 it changed to prescription pain relievers.

Figure 23. Ever Used Various Drugs, High School Students, 2015 and 2017



Source: Youth Risk Behavior Surveillance System

APPENDIX A: ADDITIONAL DATA TABLES

Table A1. Overall Results by Age

Risk Factor Scores, Range (Positive score is favorable)	Middle School (n=2707)			High School (n=1412)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.99	2.11	6.28**	1.85	2.04	9.99**
Decision-Making Skills, 0-3	1.86	1.90	2.27**	1.83	1.87	2.02**
Disapproval of Use, 0-2	1.71	1.74	1.80**	1.39	1.40	0.57
Perceived Peer Norms, 0-10	8.82	8.88	0.71**	7.62	7.66	0.65
Perceived Parental Attitudes, 0-3	2.89	2.88	-0.25	2.75	2.69	-2.26**

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	1.60	1.01	-36.88**	4.40	3.97	-9.77
Other Tobacco	1.37	0.82	-40.15*	4.89	4.33	-11.45
Alcohol	4.53	3.16	-30.24**	13.63	11.64	-14.60**
Marijuana	2.08	1.49	-28.37**	11.00	10.15	-7.73
Other Illegal Drugs	1.11	0.71	-36.04	4.12	3.48	-15.53
Inhalants	2.90	2.79	-3.79	2.20	1.56	-29.09
Non-Medical Prescription Drug Use	2.12	1.68	-20.75	4.40	3.62	-17.73
Non-Medical Over-The-Counter Drug Use	1.79	1.20	-32.96*	2.56	2.21	-13.67

* 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=2201)			Males (n=1935)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.99	2.15	8.02**	1.88	2.02	7.14**
Decision-Making Skills, 0-3	1.90	1.94	1.82**	1.77	1.82	2.82**
Disapproval of Use, 0-2	1.65	1.67	1.18**	1.54	1.57	2.02**
Perceived Peer Norms, 0-10	8.45	8.51	0.78**	8.35	8.41	0.68**
Perceived Parental Attitudes, 0-3	2.85	2.83	-0.74**	2.83	2.80	-1.00**

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	2.66	2.25	-15.41	2.40	1.78	-25.83
Other Tobacco	1.60	1.28	-20.00	3.65	2.87	-21.37
Alcohol	8.47	6.88	-18.77**	6.67	5.11	-23.39**
Marijuana	5.18	4.45	-14.09	5.06	4.44	-12.25
Other Illegal Drugs	2.02	1.61	-20.30	2.24	1.72	-23.21
Inhalants	2.56	2.29	-10.55	2.71	2.40	-11.44
Non-Medical Prescription Drug Use	3.02	2.48	-17.88	2.71	2.20	-18.82
Non-Medical Over-The-Counter Drug Use	1.97	1.43	-27.41	2.09	1.68	-19.62

* 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=80)			Asian participants (n=60)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.94	1.98	1.94	1.98	2.30	16.24**
Decision-Making Skills, 0-3	1.90	1.89	-0.16	2.12	2.03	-4.06
Disapproval of Use, 0-2	1.61	1.60	-0.58	1.64	1.70	4.12
Perceived Peer Norms, 0-10	8.39	8.44	0.56	8.72	8.87	1.66
Perceived Parental Attitudes, 0-3	2.81	2.81	-0.09	2.94	2.91	-1.13

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	3.80	5.00	31.58	0.00	0.00	N/A
Other Tobacco	5.00	3.75	-25.00	1.67	0.00	-100.00
Alcohol	11.25	11.25	0.00	1.67	3.33	99.40
Marijuana	3.80	5.00	31.58	1.67	3.33	99.40
Other Illegal Drugs	1.25	1.25	0.00	0.00	0.00	N/A
Inhalants	5.00	1.25	-75.00	1.67	3.33	99.40
Non-Medical Prescription Drug Use	1.25	1.25	0.00	3.33	0.00	-100.00
Non-Medical Over-The-Counter Drug Use	0.00	1.25	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 A3. Overall Results by Race Group (continued)

Risk Factor Scores, Range (Positive score is favorable)	Black/African American participants (n=1403)			White participants (n=1897)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.81	2.01	10.73**	2.01	2.13	6.30**
Decision-Making Skills, 0-3	1.78	1.86	4.63**	1.88	1.91	1.34**
Disapproval of Use, 0-2	1.51	1.57	4.16**	1.66	1.67	0.40
Perceived Peer Norms, 0-10	8.26	8.36	1.20**	8.48	8.52	0.43
Perceived Parental Attitudes, 0-3	2.83	2.80	-1.30**	2.85	2.83	-0.67**

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	2.97	1.45	-51.18**	2.43	2.65	9.05
Other Tobacco	3.11	1.81	-41.80**	2.43	2.28	-6.17
Alcohol	7.26	4.50	-38.02**	7.98	7.52	-5.76
Marijuana	7.47	5.45	-27.04**	3.86	4.07	5.44
Other Illegal Drugs	2.68	1.74	-35.07	1.69	1.59	-5.92
Inhalants	2.97	3.20	7.74	1.95	1.75	-10.26
Non-Medical Prescription Drug Use	2.17	2.04	-5.99	3.44	2.59	-24.71*
Non-Medical Over-The-Counter Drug Use	2.33	2.12	-9.01	2.01	1.54	-23.38

* 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=368)			Other (n=306)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	2.02	2.15	6.34**	1.98	2.07	4.71**
Decision-Making Skills, 0-3	1.81	1.83	1.18	1.85	1.88	1.43
Disapproval of Use, 0-2	1.60	1.61	0.58	1.59	1.60	0.33
Perceived Peer Norms, 0-10	8.42	8.48	0.66	8.44	8.53	1.03
Perceived Parental Attitudes, 0-3	2.82	2.82	0.32	2.83	2.79	-1.60*

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	1.64	1.09	-33.54	2.95	1.65	-44.07
Other Tobacco	1.09	1.63	49.54	2.61	1.64	-37.16
Alcohol	6.54	4.09	-37.46*	9.15	4.61	-49.62**
Marijuana	4.09	3.54	-13.45	4.92	3.28	-33.33
Other Illegal Drugs	1.37	1.91	39.42	4.25	1.98	-53.41*
Inhalants	2.46	2.73	10.98	5.57	1.97	-64.63**
Non-Medical Prescription Drug Use	3.54	2.19	-38.14	2.61	2.63	0.77
Non-Medical Over-The-Counter Drug Use	1.64	0.27	-83.54	2.62	0.33	-87.40**

* 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=391)			Participants Not of Hispanic, Latino, or Spanish Descent or Origin (n=3658)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	2.00	2.11	5.40**	1.94	2.09	7.76**
Decision-Making Skills, 0-3	1.83	1.89	3.30**	1.85	1.89	2.11**
Disapproval of Use, 0-2	1.57	1.57	-0.11	1.60	1.63	1.64**
Perceived Peer Norms, 0-10	8.24	8.35	1.31	8.43	8.48	0.63**
Perceived Parental Attitudes, 0-3	2.80	2.72	-2.68**	2.85	2.83	-0.74**

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	2.82	1.54	-45.39	2.56	2.07	-19.14*
Other Tobacco	2.05	2.30	12.20	2.55	1.95	-23.53*
Alcohol	11.25	7.16	-36.36**	7.29	6.00	-17.70**
Marijuana	5.90	4.60	-22.03	5.06	4.41	-12.85**
Other Illegal Drugs	3.85	2.06	-46.49	1.98	1.60	-19.19
Inhalants	4.62	2.56	-44.59	2.45	2.34	-4.49
Non-Medical Prescription Drug Use	4.09	2.31	-43.52	2.72	2.34	-13.97
Non-Medical Over-The-Counter Drug Use	2.31	1.03	-55.41	1.98	1.55	-21.72

* 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=4156)			Alcohol Stories (n=417)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.94	2.09	7.70**	1.98	2.22	12.06**
Decision-Making Skills, 0-3	1.84	1.88	2.31**	1.92	1.94	1.40
Disapproval of Use, 0-2	1.59	1.62	1.68**	1.61	1.63	1.72
Perceived Peer Norms, 0-10	8.40	8.46	0.77**	8.55	8.66	1.38**
Perceived Parental Attitudes, 0-3	2.84	2.82	-0.86**	2.84	2.75	-3.01**

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	2.55	2.02	-20.78**	0.48	1.68	250.00
Other Tobacco	2.57	2.04	-20.62*	1.44	0.96	-33.33
Alcohol	7.65	6.06	-20.78**	6.00	3.84	-36.00*
Marijuana	5.13	4.45	-13.26**	2.65	2.16	-18.49
Other Illegal Drugs	2.14	1.65	-22.90*	1.92	0.96	-50.00
Inhalants	2.65	2.38	-10.19	2.64	2.16	-18.18
Non-Medical Prescription Drug Use	2.89	2.34	-19.03*	2.89	2.40	-16.96
Non-Medical Over-The-Counter Drug Use	2.04	1.54	-24.51*	1.68	0.96	-42.86

* 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 A5. Overall Results by Program (continued)

Risk Factor Scores, Range (Positive score is favorable)	All Stars (n=183)			Class Action (n=92)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.94	2.25	15.90**	1.67	1.77	6.01
Decision-Making Skills, 0-3	1.67	1.79	7.43**	1.83	1.80	-1.63
Disapproval of Use, 0-2	1.54	1.66	7.70**	1.21	1.27	4.39
Perceived Peer Norms, 0-10	8.11	8.26	1.76	6.88	6.89	0.00
Perceived Parental Attitudes, 0-3	2.87	2.83	-1.18	2.59	2.46	-4.96

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	1.10	0.55	-50.00	9.89	9.89	0.00
Other Tobacco	2.21	0.00	-100.00	15.22	11.11	-27.00
Alcohol	9.44	3.85	-59.22**	18.89	23.33	23.50
Marijuana	6.08	3.28	-46.05	8.79	10.11	15.02
Other Illegal Drugs	1.66	1.09	-34.34	5.62	5.56	-1.07
Inhalants	1.11	0.55	-50.45	3.30	2.22	-32.73
Non-Medical Prescription Drug Use	2.23	0.55	-75.34	7.69	7.78	1.17
Non-Medical Over-The-Counter Drug Use	2.79	1.66	-40.50	3.33	6.67	100.30

* 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)	Keepin' It Real (n=60)			Life Skills (n=2730)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	2.10	2.07	-1.74	1.97	2.06	4.61**
Decision-Making Skills, 0-3	2.03	1.86	-8.47**	1.83	1.86	1.48**
Disapproval of Use, 0-2	1.79	1.74	-3.20	1.65	1.66	0.59
Perceived Peer Norms, 0-10	8.88	9.03	1.69	8.61	8.62	0.14
Perceived Parental Attitudes, 0-3	2.97	2.96	-0.37	2.87	2.86	-0.37

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	1.67	1.67	0.00	2.48	1.49	-39.92**
Other Tobacco	1.67	3.33	99.40	2.22	1.75	-21.17
Alcohol	5.00	1.67	-66.60	6.52	5.43	-16.72**
Marijuana	0.00	0.00	-	4.08	3.53	-13.48
Other Illegal Drugs	0.00	0.00	-	1.70	1.38	-18.82
Inhalants	3.33	5.00	50.15	2.48	2.60	4.84
Non-Medical Prescription Drug Use	0.00	1.67	-	2.82	2.12	-24.82
Non-Medical Over-The-Counter Drug Use	1.67	0.00	-100.00	1.71	1.31	-23.39

* 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)	Operation Prevention: Rx (n=249)			Prime For Life: Exploring (n=61)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.85	2.06	11.35**	1.63	2.34	43.47**
Decision-Making Skills, 0-3	1.91	1.99	4.15**	1.77	1.81	2.55
Disapproval of Use, 0-2	1.32	1.34	1.49	1.16	1.40	20.29**
Perceived Peer Norms, 0-10	7.01	7.20	2.70**	7.53	7.52	-0.16
Perceived Parental Attitudes, 0-3	2.69	2.64	-1.69*	2.74	2.66	-2.99**

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	4.05	5.22	28.89	4.92	4.92	0.00
Other Tobacco	2.42	2.81	16.12	1.64	0.00	-100.00
Alcohol	15.32	13.25	-13.51	11.48	8.20	-28.57
Marijuana	10.48	11.24	7.25	6.56	4.92	-25.00
Other Illegal Drugs	4.44	3.21	-27.70	3.28	1.64	-50.00
Inhalants	0.81	0.00	-100.00	8.20	3.28	-60.00
Non-Medical Prescription Drug Use	4.03	4.42	9.68	1.64	0.00	-100.00
Non-Medical Over-The-Counter Drug Use	4.03	2.42	-39.95	0.00	0.00	-

* 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=57)			Project Northland (n=16)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	2.06	2.15	4.04	2.33	1.97	-15.43**
Decision-Making Skills, 0-3	1.82	1.93	6.47	1.98	2.14	7.87
Disapproval of Use, 0-2	1.84	1.82	-1.05	1.94	1.79	-7.74
Perceived Peer Norms, 0-10	8.98	8.98	-0.02	8.92	8.97	0.51
Perceived Parental Attitudes, 0-3	2.91	2.87	-1.29	2.88	2.85	-0.72

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	0.00	1.79	-	0.00	0.00	-
Other Tobacco	3.51	1.79	-49.00	0.00	0.00	-
Alcohol	10.53	5.36	-49.10	0.00	0.00	-
Marijuana	5.26	1.79	-65.97	0.00	0.00	-
Other Illegal Drugs	0.00	1.79	-	0.00	0.00	-
Inhalants	1.75	1.79	2.29	6.25	0.00	-100.00
Non-Medical Prescription Drug Use	0.00	3.57	-	0.00	0.00	-
Non-Medical Over-The-Counter Drug Use	1.75	3.57	104.00	0.00	0.00	-

* 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 TND (n=56)			Too Good For Drugs (n=207)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.59	1.71	7.56	1.81	2.26	25.00**
Decision-Making Skills, 0-3	1.66	1.66	-0.09	1.91	2.11	10.44**
Disapproval of Use, 0-2	1.10	1.04	-5.74	1.59	1.72	8.08**
Perceived Peer Norms, 0-10	7.14	6.96	-2.51	8.41	8.84	5.09**
Perceived Parental Attitudes, 0-3	2.64	2.54	-4.06	2.85	2.87	0.45

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	0.00	0.00	-	2.45	1.94	-20.82
Other Tobacco	5.36	12.50	133.21	2.44	1.94	-20.49
Alcohol	16.07	5.36	-66.65**	5.39	4.35	-19.29
Marijuana	30.36	32.14	5.86	4.88	4.35	-10.86
Other Illegal Drugs	10.71	7.14	-33.33	1.46	0.97	-33.56
Inhalants	1.79	3.70	106.70	5.37	2.90	-46.00
Non-Medical Prescription Drug Use	1.79	0.00	-100.00	1.94	1.94	0.00
Non-Medical Over-The-Counter Drug Use	3.57	1.82	-49.02	2.44	1.95	-20.08

* 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=25)		
	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.33	1.95	46.98**
Decision-Making Skills, 0-3	1.39	1.72	23.74**
Disapproval of Use, 0-2	0.92	1.42	53.91**
Perceived Peer Norms, 0-10	6.41	7.23	12.77**
Perceived Parental Attitudes, 0-3	2.28	2.47	8.19

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change
Cigarettes	24.00	16.00	-33.33
Other Tobacco	16.00	8.00	-50.00
Alcohol	24.00	20.00	-16.67
Marijuana	44.00	20.00	-54.55**
Other Illegal Drugs	16.00	16.00	0.00
Inhalants	12.00	8.00	-33.33
Non-Medical Prescription Drug Use	16.00	12.00	-25.00
Non-Medical Over-The-Counter Drug Use	16.00	8.00	-50.00

* 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 Section II. 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. Like 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