

# Prevention Outcomes Annual Report

## Fiscal Year 2022

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# EXECUTIVE SUMMARY

This report summarizes prevention outcomes generated by the South Carolina County authority substance abuse prevention system in Fiscal Year 2022 (July 1, 2021 – June 30, 2022). The report focuses on 1) prevention outcomes generated through pre- and post-testing of middle and high school youth who participated in prevention programs, 2) Data related to county alcohol and tobacco environmental strategies (e.g., compliance checks, bar checks, and merchant education), 3) The Youth Access to Tobacco Study (Synar), and 4) The distribution of prevention services.

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

- There were 1,547 middle school participants with matched pre- and post-tests. Most (60.1%) participants were in 6<sup>th</sup> grade. By sex, the distribution was females (45.9%) and males (50.6%). Most participants identified as White (44.8%) or Black/African American (34.9%).
- There were 166 high school participants with matched pre- and post- tests. Most (48.2%) participants were in the 9<sup>th</sup> grade. By sex, the distribution was females (47.9%) and males (50.9%). Most participants identified as Black (45.5%) or White (46.1%).
- For middle school, the results showed **statistically significant positive changes on three of the five risk factor** measures: perceived risk, disapproval of use and perceived peer norms. For high school, the results showed **statistically significant positive changes on three of the five risk factor** measures: perceived risk, disapproval of use and perceived peer norms.
- For middle school substance use, there were statistically significant reductions in e-cigarette or vapes, marijuana and binge drinking use. For high school **substance use**, there were no statistically significant reductions.
- For **all eight substances measured**, more than **95.3% of middle school participants who were non-users at pre-test remained non-users at post-test** for each substance. For **all eight substances measured**, more than **92% of high school participants who were non-users at pre-test remained non-users at post-test** for each substance.
- **For all eight substances measured**, at least 26.2% of middle school participants who used it at pre-test **reported reducing their use** for that substance **at post-test**. **For all eight substances measured**, at least 33.3% of high school participants who used it at pre-test **reported reducing their use** for that substance **at post-test**.
- **Nine different curriculum-based programs were implemented**, with 100% of participants being in evidence-based programs.

The color-coded tables below summarize the pre- and post-test differences in risk scores and substance use rates for middle and high school.

### Summary of Statistically Significant Results, Middle School

Category (number)	Perceived Risk	Decision Making	Disapproval of Use	Perceived Peer Norms	Perceived Parental Attitudes	Other Tobacco	Cigarettes	E-Cigs or Vapes	Alcohol	Marijuana	Non-Medical Prescription Drugs	Binge Drinking (past 2 wks)
<b>MIDDLE SCHOOL DEMOGRAPHICS</b>												
Overall Middle School (1,547)	**		**	**								
Females (685)	**		**	**				**	**			
Males (755)	**		**	**				**		**		
American Indian (20)												
Asian (27)	*		*									
Black/African American (520)	**		*	**				**				
Multi-ethnic (117)	**							**				
Other (134)	**			**				**				
White (667)	**		**	***				**		**		
Hispanic (163)	**			*				**				
Not Hispanic (1292)	**		**	**				**		**		
<b>MIDDLE SCHOOL PROGRAMS</b>												
Alcohol Stories (2 sites; n = 298)	**											*
All Stars (1 site; n = 94)	**											
Keepin' It Real (5 sites; n = 70)	**											
Life Skills (3 sites; n = 882)	**		**	**				**				
Operation Prevention: Rx (1 site; n=110)					**							
Project Alert (1 site; n = 55)	**	**	**	**	**							
Why Try (1 site; n = 23)	*			**								
OVERALL (19 sites; n= 1,547)	**		**	**								
<b>LEGEND</b>												
Desired Marginally Significant (p<.10)	*	Desired Significant (p<.05)					**					
Undesired Marginally Significant (p<.10)	*	Undesired Significant (p<.05)					**					

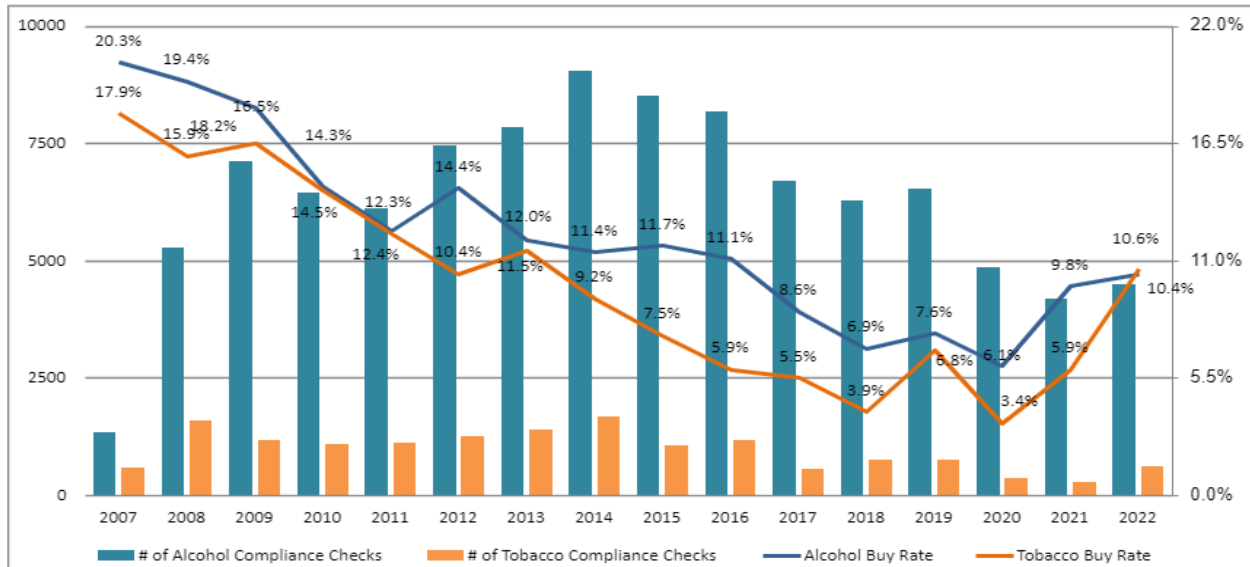
## Summary of Statistically Significant Results, High School

Category (number)	Perceived Risk	Decision Making	Disapproval of Use	Perceived Peer Norms	Perceived Parental Attitudes	Other Tobacco	Cigarettes	E-Cigs or Vapes	Alcohol	Marijuana	Non-Medical Prescription	Prescription Pain Pills	Heroin or Fentanyl	Cocaine	Other Illegal Drugs	Binge Drinking (past 2 wks)
<b>HIGH SCHOOL DEMOGRAPHICS</b>																
Overall High School (166)	**	*	**	**												
Females (79)	**	*	*	**												
Males (84)	**		**	**												
Black/African American (75)	**		*	**	**											
White (76)	**		**													
Not Hispanic (51)	**		**	**												
<b>HIGH SCHOOL PROGRAMS</b>																
Class Action (2 site; n=34)	**															
Life Skills (3 sites; n =95)	**	*		**				**								
Prime for Life (1 site; n=28)	**		**	**												
OVERALL (5 sites; n=166)	**	*	**	**												
<b>LEGEND</b>																
Desired Marginally Significant (p<.10)	*	Desired Significant (p<.05)									**					
Undesired Marginally Significant (p<.10)	*	Undesired Significant (p<.05)									**					

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

- County authority prevention staff returned forms on **4,495 alcohol compliance checks** and **601 tobacco compliance** checks. For alcohol, **10.4% of attempts generated sales**; for tobacco, **10.6% of attempts resulted in sales, both of which increased from 2021.**

**Annual Number of Compliance Checks and Annual Buy Rates**



- **AETs** reported a total of 685 **public safety checkpoints**, up from FY '21. AETs issued 97 DUI citations during the FY '22 checkpoints.
- In addition, there were 208 **saturation patrols** reported that generated another 2,200 tickets. The saturation patrol operations accounted for 15 DUI arrests, 88 drug possession cases, 3 fugitives apprehended, 51 open container tickets, 19 felony arrests, and 2,025 various misdemeanor offenses.
- **AETs** reported that 52 **parties were disbursed**, resulting in 224 tickets and arrests at gatherings involving 832 persons.
- The Palmetto Retailer Education Program (**PREP**) served **858 merchants**.
- More than **340 youth were in diversion program for youth alcohol and tobacco offenses** (202 served in the Alcohol Education Program and 147 served in the Tobacco Education Program).

The Youth Access to Tobacco Study (Synar) showed that **6.9% of retailers sold cigarettes to underage youth**, up from 5.3% in FY 2021.

# EVALUATION REPORT OVERVIEW

## State Prevention Evaluation Efforts

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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, 31 agencies serving the state's 46 counties. The South Carolina Act 301 of 1973 created the single and multi-county service provider system that exists today. 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

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This report provides prevention data for Fiscal Year 2022 (July 1, 2021 – June 30, 2022) from a variety of data sources. The report focuses on prevention outcomes generated through pre- and post-testing of middle and high school youth who participated in prevention programs. The report also includes data related to county alcohol and tobacco environmental strategies (e.g., compliance checks, bar checks, and merchant education), the Youth Access to Tobacco Study (also known as the Synar study), and the distribution of prevention services. Each section of the report is described below.

Section I focuses on the changes in substance use and associated risk factors reported by participants in DAODAS-funded prevention 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 II presents data from county alcohol and tobacco environmental strategies with a focus on compliance checks and Alcohol Enforcement Team (AET) efforts.

Section III covers results from the FFY '22 Youth Access to Tobacco Study (Synar).

Section IV 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 '22.



## Focusing on State Data Indicators

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This report can be reviewed in conjunction with the [2022 South Carolina County Profiles of Alcohol and Other Drug Use](#). The Profile is an overview of data indicators related to youth and adult drug use, consequences, and risk factors, and is an important measuring stick for the overall direction of the state in addressing its ATOD issues. Of note, the Profile provides updates on progress for the state's ATOD priorities determined by the Governor's Council on Substance Abuse Prevention and Treatment and covers a variety of topics including the following:

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

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

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

Each year, thousands of young people 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.<sup>1</sup> 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.

## **The Pre-Post Test Outcome Evaluation Instrument**

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The DAODAS Standard Surveys are comprised of a series of items that measure attitudes and behaviors related to substance use. Many of the items were drawn from the "Communities That Care" (CTC) survey which is endorsed by SAMHSA as a valid and reliable tool for gathering

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<sup>1</sup> 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.

information about substance use and associated risk and protective factors. DAODAS administers the CTC survey in school districts throughout the state every two years to generate county-level estimates of substance use behaviors and attitudes among middle and high school students. (The DAODAS Standard Surveys – Middle School and High School versions are included in Appendix C.) The following measures are used for the middle school version:

- 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 other tobacco products
- 30-day use of cigarettes
- 30-day use of e-cigarettes or vapes
- 30-day use of alcohol
- 30-day use of marijuana
- 30-day non-medical use of prescription drugs
- Binge drinking (over the past two weeks)

The following measures were also included on the high school version:

- 30-day non-medical use of prescription pain pills
- 30-day use of heroin or fentanyl
- 30-day use of cocaine
- 30-day use of other illegal 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 (Pacific Institute for Research and Evaluation) staff to have the responses scanned.

In March 2020, the coronavirus pandemic forced the physical closure of most South Carolina schools. Keystone Substance Abuse Prevention & Education asked DAODAS and PIRE to assist with developing an online survey. Consequently, four online surveys were developed to accommodate the request: pre & post-middle school online surveys and pre & post-high school online surveys. Prevention personnel used online surveys with the delivery of online or remote curriculum-based prevention education programs. Regardless of whether paper or online surveys, providers were instructed on participant protection procedures that would ensure confidentiality. A PowerPoint presentation titled, "DAODAS Standard Survey Overview Presentation," was developed by PIRE to guide paper and online procedures for pre-and-post-tests and was placed on the [South Carolina Prevention/Evaluation Resources](#) webpage.

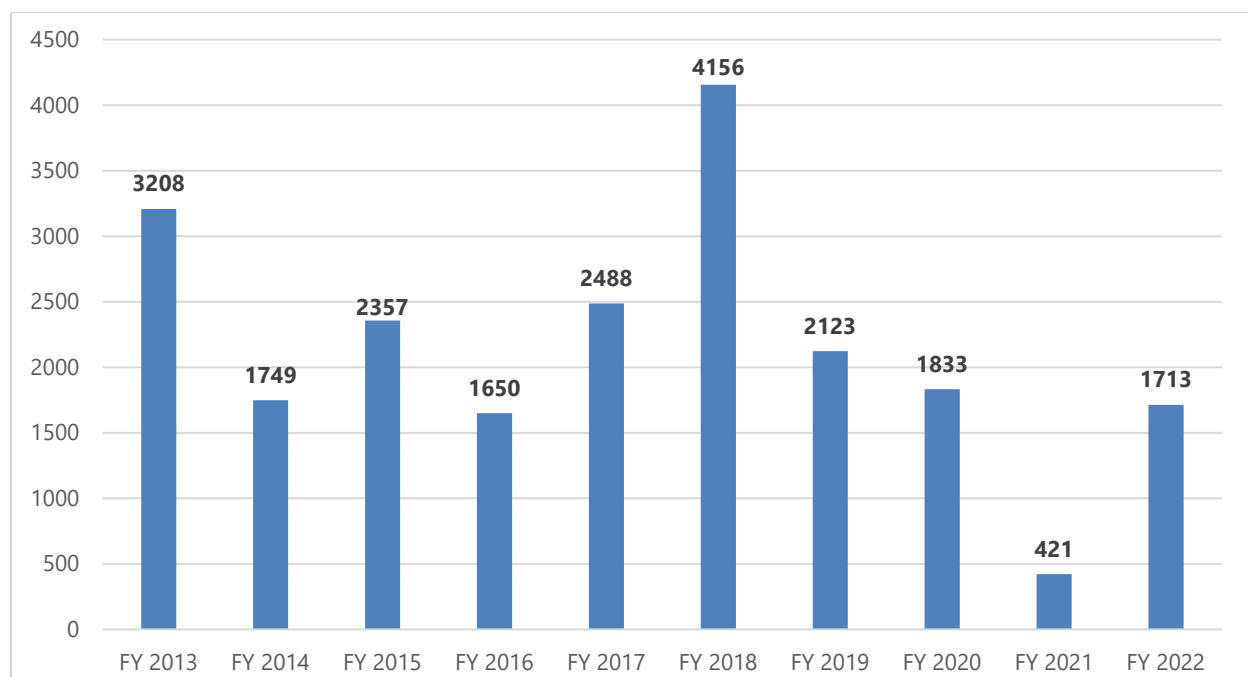
## Matched Participants

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 a match—i.e., a valid pre- and post-test—then neither test was included in the database that we analyzed. The middle school pre-test database contained 2,181 surveys while the post-test database contained 1,808 cases, which resulted in 1,547 matched cases or 71% of pre-test cases. The high school pre-test database contained 243 surveys while the post-test database contained 189 cases, which resulted in 166 matched cases or 68.3% of pre-test cases. The total number of matched cases was 1,713 (Figure 2) for an overall match rate of 70.7%. The number of matched cases reached levels similar to those seen before the pandemic.

**Figure 2. Matched Participants in Pre-Post Database, FY '13 through '22**



## Demographic Breakdown

The data in this section are from the middle and high school 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 Table 1, middle school matched participants were in grades 6 through 8. More males (50.6%) participated than females (45.9%) with 3.4% respondents preferring not to answer. Almost 45 percent (44.8%) of the participants were White, 34.9% were Black or African American, 9.0% of the participants associated with "other" race category, 7.9% were of multiethnic race, 1.8% were Asian, 1.3% were American Indian or Alaskan Native, and 0.2% were Pacific Islander. Hispanic/Latino ethnicity was reported by 11.2% of students.

High school matched participants were in grades 9, 10 and 12. More males (50.9%) than females (47.9%) participated; 45.5% of participants were Black or African American, 46.1% were White, 3.6% were in the multiethnic race category, and 2.4% were of "other" or American Indian race. Hispanic/Latino ethnicity was reported by 3.6% of students.

**Table 1. Demographics of Matched Participants**

	Middle School (n = 1,469)	High School (n = 166)
<b>GRADE</b>		
6 <sup>th</sup>	60.1%	-
7 <sup>th</sup>	15.7%	-
8 <sup>th</sup>	24.2%	-
9 <sup>th</sup>	-	48.2%
10 <sup>th</sup>	-	22.3%
11 <sup>th</sup>	-	19.9%
12 <sup>th</sup>	-	9.6%
<b>RACE</b>		
American Indian	1.3%	2.4%
Asian	1.8%	-
Black	34.9%	45.5%
Multiethnic	7.9%	3.6%
Other	9.0%	2.4%
Pacific	0.2%	-
White	44.8%	46.1%
<b>ETHNICITY</b>		
Hispanic/Latino	11.2%	3.6%
<b>SEX</b>		
Female	45.9%	47.9%
Male	50.6%	50.9%

## Risk-Factor Measures

Table 2 shows the results for the five risk factors included in the middle and high school versions of DAODAS Standard Survey. As shown in the table, for middle school, there were statistically significant ( $p < .05$ ) positive changes from pre- to post-test in FY '22 for three of the five measures (perceived risk, disapproval of use and perceived peer norms). For high school, there was a statistically significant ( $p < .05$ ) positive change from pre- to post-test in FY '22 for three of the five measures (perceived risk, disapproval of use and perceived parental attitudes).

**Table 2. Overall Results, Risk-Factor Measures, Middle and High School, FY '22**

Risk-Factor Measure (All Scale Scores Range from 0 – 3) <sup>a</sup>	Middle School			High School		
	Pre-Test Average	Post-Test Average	Percent Change	Pre-Test Average	Post-Test Average	Percent Change
Perceived Risk	2.21	2.41	8.87**	2.03	2.25	11.17**
Decision-Making	1.88	1.88	-0.31	1.81	1.90	5.07*
Disapproval of Use	2.56	2.59	1.39**	2.13	2.26	6.12**
Perceived Peer Norms	2.37	2.45	3.49**	1.88	2.06	9.44**
Perceived Parental Attitudes	2.79	2.78	-0.38	2.56	2.56	0.05

<sup>a</sup> Higher scores are more favorable.

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

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

A green cell denotes significant reduction in risk; a blue cell is significant increase in risk.

**Sex.** Table A1 in the Appendix shows results separated by sex for middle school. Females reported significant positive changes on three risk factors (perceived risk, disapproval of use and perceived peer norms). Males reported significant positive changes on three risk factors (perceived risk, disapproval of use and perceived peer norms) and a positive change in disapproval of use. Table A5 shows results separated by sex for high school. Females reported significant positive changes in two risk factors (perceived risk and perceived peer norms). Males reported significant positive changes in three risk factors (perceived risk, disapproval of use and perceived peer norms).

**Race/Ethnicity.** Table A2 shows middle school results separated by race (for those race groups with 20 or more participants) and Table A3 shows the middle school results by ethnicity. Participants who identified as Black/African American reported significant positive changes on two risk factors (perceived risk and perceived peer norms). Multiethnic participants reported significant desired change on one risk factor (perceived risk). Participants who identified as Other reported significant positive changes on two risk factors (perceived risk and perceived peer norms). White participants reported significant positive changes on three risk factors (perceived risk, disapproval of use and perceived peer norms). Participants of Hispanic, Latino, or Spanish descent or origin reported significant positive change on one risk factor (perceived risk) and participants not of Hispanic, Latino, or Spanish descent or origin reported significant positive changes on three risk factors (perceived risk, disapproval of use and perceived peer norms).

Table A6 shows high school results separated by race (for those race groups with 20 or more participants) and Table A7 shows high school results by ethnicity. Black or African American participants reported significant positive change in three risk factors (perceived risk, perceived peer norms and parental attitudes). White participants reported significant positive changes in two risk factors (perceived risk and disapproval of use). Participants not of Hispanic, Latino, or Spanish descent or origin reported significant positive changes in three risk factors (perceived risk, disapproval of use and perceived peer norms).

## Participant Substance Use

The DAODAS Standard Survey (Middle School) asked participants to indicate the extent of their other tobacco, cigarette, e-cigarettes or vapes, alcohol, marijuana, non-medical prescription drug, and binge drinking (past two weeks) in the past 30 days. The DAODAS Standard Survey (High School) asked participants to indicate the extent of their other tobacco, cigarette, e-cigarettes or vape, alcohol, marijuana, non-medical prescription drug, prescription pain pill, heroin or fentanyl, cocaine, other illegal drugs, and binge drinking (past two weeks) in the past 30 days. The percentage of participants that used each substance at any amount was calculated at pre- and post-test. FY '22 results are shown in Table 3.

For middle school youth, we found statistically significant reductions in use of two substances at post-test (e-cigs/vapes and binge drinking) and an increase in marijuana use. Figure 3 depicts the same data in graphic form. For high school youth, we found no statistically significant changes in substance use at post-test. (See also Figure 4.)

**Table 3. Overall Results, Substance Use Rates, Middle and High School, FY '22**

Substance <sup>a</sup>	Middle School			High School		
	% Using at Pre-Test	% Using at Post-Test	Percent Change	% Using at Pre-Test	% Using at Post-Test	Percent Change
Other Tobacco	0.59	0.92	55.93	1.81	1.20	-33.70
Cigarettes	1.24	0.97	-21.77	3.61	3.01	-16.62
E-Cigarettes or Vapes	5.61	1.43	-74.51**	24.70	21.08	-14.66
Alcohol	4.50	5.08	12.89	22.89	17.58	-23.20
Marijuana	3.00	4.88	62.67**	21.82	16.87	-22.69
Non-Medical Prescription Drugs	2.74	2.41	-12.04	1.81	3.61	99.45
Binge Drinking (past 2 weeks)	2.67	1.24	-53.56**	1.81	2.41	33.15
Prescription Pain Pills	-	-	-	1.81	0.60	-66.85
Heroin or Fentanyl	-	-	-	1.20	1.20	0.00
Cocaine	-	-	-	0.61	1.23	101.64
Other Illegal Drugs	-	-	-	8.48	6.02	-29.01

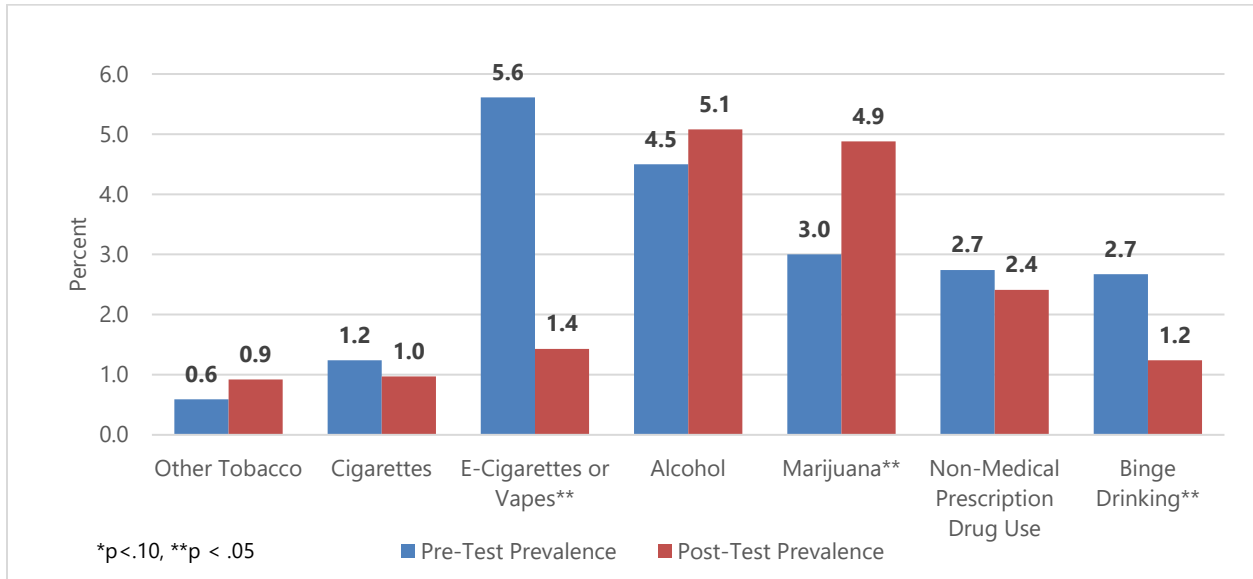
<sup>a</sup> Unless otherwise noted, substance use is measured as past 30-day use.

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

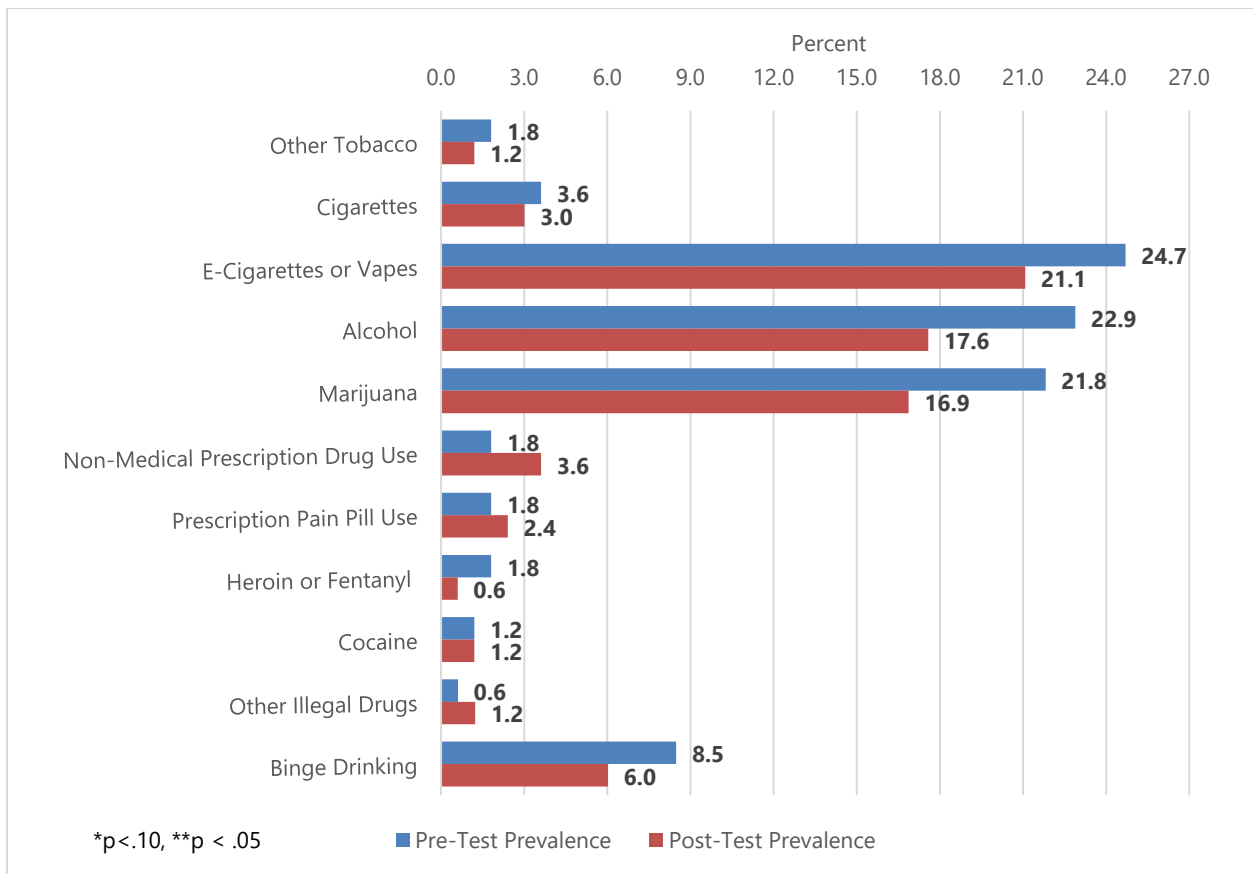
\*\* Pre- and post-test averages are significantly different (p<.05).

A green cell denotes significant reduction in use; a blue cell is significant increase in use.

**Figure 3. Pre- and Post-Test Substance Use Rates, Middle School, FY '22**



**Figure 4. Pre- and Post-Test Substance Use Rates, High School, FY '22**





**Sex.** Table A1 shows results separated by sex for middle school. Both Females and Males reported a decrease in e-cigarettes or vapes. Table A5 shows results separated by sex for high school. Looking at the data broken down by sex, there were no significant decreases in use.

**Race/Ethnicity.** Table A2 shows middle school results separated by race (for those race groups with 20 or more participants) and Table A3 shows the middle school results by ethnicity. Black/African American, Multiethnic, Other and White participants reported significant reductions in e-cigarettes or vapes. White students reported significant increases in marijuana use. Participants of and not of Hispanic, Latino, or Spanish descent reported significant reduction in e-cigarettes or vape use.

Table A6 shows high school results separated by race (for those race groups with 20 or more participants) and Table A7 shows the high school results by ethnicity. Looking at the data broken down by race and ethnicity, there were no significant decreases in use.

## 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 reported no use at post-test for middle (Figure 6) and high school (Figure 7) participants. The former analysis may be the most accurate assessment of the “preventive” effect of the programs.

Figure 5 shows that nearly all middle school participants who began programs as non-users remained non-users, ranging from 95.3% (marijuana) to 99.3% (other tobacco). That is, continued non-use of substances was nearly universal. The figure also shows that the percentage of users at pretest who reported no use at post-test ranged from 26.2% (non-medical prescription use) to 97.4% (binge drinking).

**Figure 5. Percent of Pre-Test Non-Users Who Remained Non-Users and Pre-Test Users Who Reported No Use at Post-Test, Middle School, FY '22**

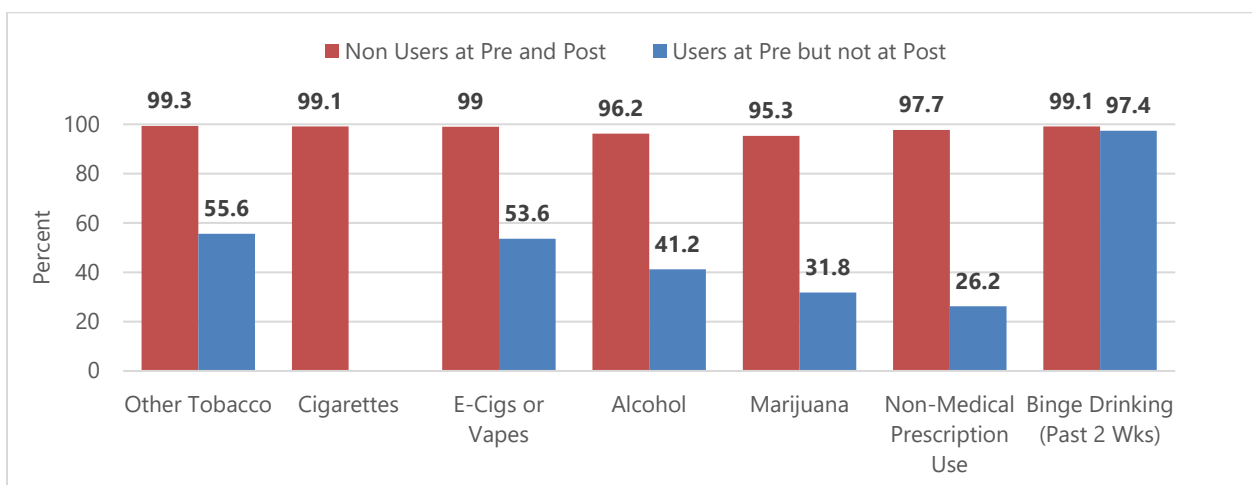
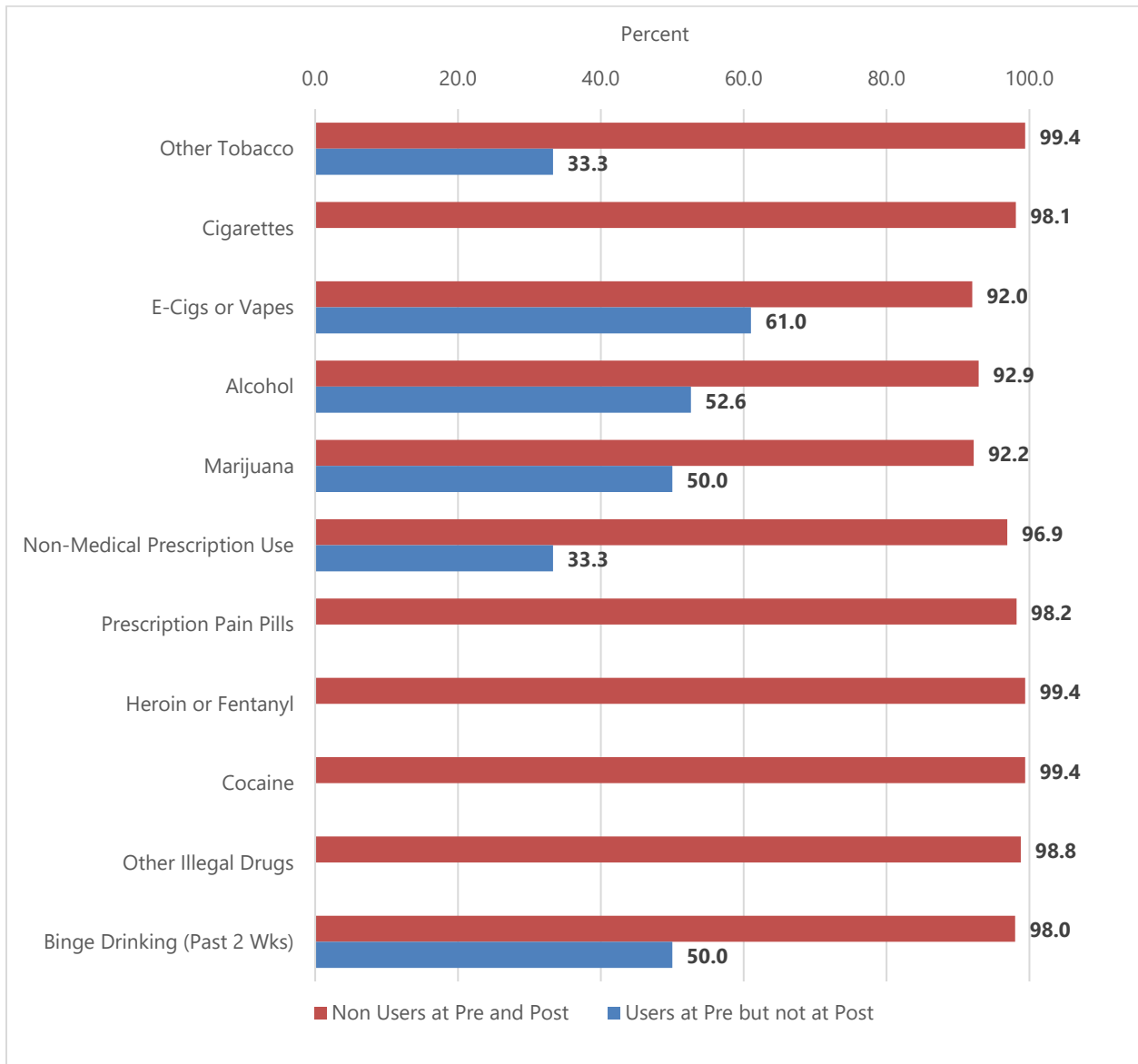


Figure 6 shows that nearly all high school participants who began programs as non-users remained non-users, ranging from 92% (e-cigs or vapes) to 99.4% (heroin or fentanyl and cocaine). The percent of users at pretest who reported no use at post-test ranged from 33.3% (other tobacco and non-medical prescription drugs) to 61% (e-cigs or vapes).

**Figure 6. Percent of Pre-Test Non-Users Who Remained Non-Users and Pre-Test Users Who Reported No Use, High School, FY '22**

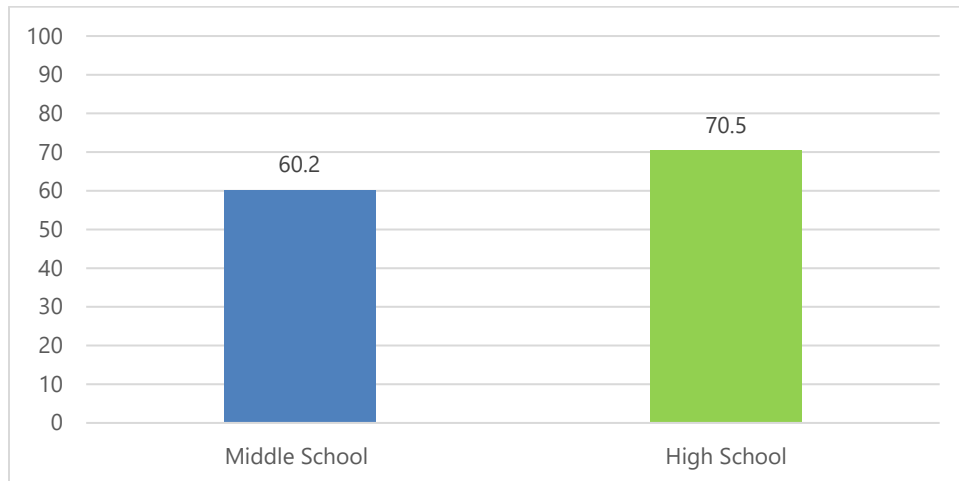


## Parent-Child Communication and Youth Exposure to Prevention Messages

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The survey also asks about parent-child communication. Figure 7 shows that 60.2% of middle school participants and 70.5% of high school participants had talked to their parents about the dangers of drugs in the past year.

**Figure 7. Parent Child Communication and Exposure to Prevention Messages, FY '22**



## Prevention Programs

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Across the provider network, 10 different programs were implemented in FY '22, up from four in FY'21 and down from 11 in FY'20. In this section, we describe the outcomes for the seven programs with 20 or more matched participants. The full tables with results by program are found in Appendix A in Table A4 for middle school and A8 for high school.

**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 298 matched middle school youth at two sites. There was a statistically significant positive change in perceived risk.

**All Stars** is a comprehensive ATOD prevention curriculum. This program was used by one middle school site with a total of 94 matched participants. There was a statistically significant positive change in perceived risk.

**Class Action** is a comprehensive ATOD prevention curriculum. This program was used by two high school sites with a total of 34 matched (high school) participants. There was a statistically significant positive change in perceived risk.

**Keepin' It Real** is a video-enhanced intervention for youth 10 to 17 that uses a culturally grounded resiliency model that incorporates traditional ethnic values and practices to protect against drug use. It was used by three sites with a total of 71 matched middle school participants. There was a statistically significant positive change in perceived risk.

**Life Skills Training** is a skill based ATOD prevention curriculum and was the most widely implemented program with eight sites and 882 matched middle and 95 high school participants. For middle school, there were statistically significant positive changes in perceived risk, disapproval of use, and perceived peer norms. For substance use, there was a statistically significant decrease in e-cigarette or vape use. For high school, there were statistically significant positive changes in perceived risk and perceived peer norms. Additionally, there was a significant decrease in e-cigs or vape use.

**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 middle school site with a total of 110 matched participants. There was a statistically significant undesired change in perceived parental attitudes. There were no statistically significant changes in substance use.

**Prime for Life: Exploring** is an evidence-based motivational prevention, intervention and pretreatment program specifically designed for people who might be making high-risk choices, was used by one high school site with a total of 28 matched participants. There were statistically significant desired changes in three of the five risk factors (perceived risk, disapproval of use and perceived peer norms). There were no significant changes in substance use.

**Project Alert**, a comprehensive ATOD prevention curriculum for middle school students, was delivered at one site with a total of 55 matched participants. There were statistically significant desired changes in all five risk factors. There were no significant changes in substance use.

**Why Try** is a comprehensive ATOD prevention curriculum, implemented at one middle school site with 23 matched participants. There was a significant desired change in perceived peer norms and no changes in substance use.

## Evidence-Based Programs

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County authorities are not required to use evidence-based interventions exclusively, though most do. In FY '22, 100% of participants were served in evidence-based programs.

## Summary of Section I

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Tables 4 and 5 summarize 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 with an asterisk (\*) signify changes that were at least marginally statistically significant ( $p < .10$ ) in the desired direction; desired changes that were statistically significant ( $p < .05$ ) include two asterisks (\*\*). Blue cells with an asterisk (\*) signify changes that were at least marginally statistically significant ( $p < .10$ ) in the undesired direction; undesired changes that were statistically significant ( $p < .05$ ) include two asterisks (\*\*).

Table 4 shows that there were widespread positive changes among middle school students in perceived risk, which were experienced by nearly all demographic groups and all programs. Similar desirable patterns were seen for perceived peer norms and perceive parental attitudes. There were also consistent reductions in e-cigarette/vape use among most demographic groups.

Table 5 shows that there were widespread positive changes among high school students in perceived risk, which were experienced by all demographic groups and all programs. Similar desirable patterns were seen for perceived peer norms and perceive parental attitudes. There was only one group that experienced reductions in substance use (e-cigarette/vape use among Life Skills participants).

**Table 4. Summary of Statistically Significant Results, Middle School**

Category (number)	Perceived Risk	Decision Making	Disapproval of Use	Perceived Peer Norms	Perceived Parental Attitudes	Other Tobacco	Cigarettes	E-Cigs or Vapes	Alcohol	Marijuana	Non-Medical Prescription Drugs	Binge Drinking (past 2 wks)
<b>MIDDLE SCHOOL DEMOGRAPHICS</b>												
Overall Middle School (1,547)	**		**	**								
Females (685)	**		**	**				**	**			
Males (755)	**		**	**				**		**		
American Indian (20)												
Asian (27)	*		*									
Black/African American (520)	**		*	**				**				
Multi-ethnic (117)	**							**				
Other (134)	**			**				**				
White (667)	**		**	***				**		**		
Hispanic (163)	**			*				**				
Not Hispanic (1292)	**		**	**				**		**		
<b>MIDDLE SCHOOL PROGRAMS</b>												
Alcohol Stories (2 sites; n = 298)	**											*
All Stars (1 site; n = 94)	**											
Keepin' It Real (5 sites; n = 70)	**											
Life Skills (3 sites; n = 882)	**		**	**				**				
Operation Prevention: Rx (1 site; n=110)					**							
Project Alert (1 site; n = 55)	**	**	**	**	**							
Why Try (1 site; n = 23)	*			**								
OVERALL (19 sites; n= 1,547)	**		**	**								
<b>LEGEND</b>												
Desired Marginally Significant (p<.10)	*	Desired Significant (p<.05)					**					
Undesired Marginally Significant (p<.10)	*	Undesired Significant (p<.05)					**					

**Table 5. Summary of Statistically Significant Results, High School**

Category (number)	Perceived Risk	Decision Making	Disapproval of Use	Perceived Peer Norms	Perceived Parental Attitudes	Other Tobacco	Cigarettes	E-Cigs or Vapes	Alcohol	Marijuana	Non-Medical Prescription Drugs	Prescription Pain Pills	Heroin or Fentanyl	Cocaine	Other Illegal Drugs	Binge Drinking (past 2 wks)
<b>HIGH SCHOOL DEMOGRAPHICS</b>																
Overall High School (166)	**	*	**	**												
Females (79)	**	*	*	**												
Males (84)	**		**	**												
Black/African American (75)	**		*	**	**											
White (76)	**		**													
Not Hispanic (51)	**		**	**												
<b>HIGH SCHOOL PROGRAMS</b>																
Class Action (2 site; n=34)	**															
Life Skills (3 sites; n =95)	**	*		**				**								
Prime for Life (1 site; n=28)	**		**	**												
OVERALL (5 sites; n=166)	**	*	**	**												
<b>LEGEND</b>																
Desired Marginally Significant (p<.10)	*	Desired Significant (p<.05)								**						
Undesired Marginally Significant (p<.10)	*	Undesired Significant (p<.05)								**						

Table 6 provides information about the significant changes in substance use across years for all programs that were implemented at least once during the past ten years (since 2011) and for which more than 20 participants had participated per year, on average. The programs are grouped by average number of annual participants; programs with more participants have more statistical power to detect significant results. Within the groupings, programs are ordered by the number of years of implementation, recognizing that having more years of implementation provides more opportunities for more significant results. Finally, programs that are more limited in their target outcomes (e.g., focus primarily on alcohol) are noted with an asterisk (\*), recognizing that programs that target fewer outcomes should be expected to have fewer opportunities for significant changes.

Highlights from the table include the following:

- Life Skills has been implemented in all 12 years and, by far, has reached the most participants. Life Skills had 13 significant decreases in substance use and no increases.
- Within the group of programs with an average of 100 – 999 participants, five programs have been implemented for at least six years. Among those implemented for the most years, All Stars participants experienced the most significant decreases and no increases.
- Within the group of programs with an average of 20 - 99 participants, two programs have been implemented for at least six years. Project TND had 11 significant decreases in substance use and only two increases.



**Table 6. Changes in Substance Use by Program, 2011 - 2022**

	<b>Years Implemented</b>	<b>Avg N</b>	<b>Significant Decreases</b>	<b>Significant Increases</b>
<b>AVERAGE N GREATER 1,000 OR MORE</b>				
Life Skills	12	1,523	13	
<b>AVERAGE N FROM 100 - 999</b>				
Keepin' It Real	12	286	2	1
All Stars	10	258	5	
Project Alert	10	200	3	
Too Good for Drugs	8	206		
Alcohol True Stories*	7	245	3	1
Project TNT*	4	102		
Operation Prevention*	4	181	2	
ATOD 101	3	133		
Responding in Peaceful and Positive Ways	1	295	1	
Tobacco Education Program*	1	119	1	
<b>AVERAGE N FROM 20 - 99</b>				
Project TND	9	90	11	2
Why Try	9	52	2	
Project Northland*	5	90	1	
Class Action*	6	41	2	
G.I.R.L. Power Series	3	39		
Prime for Life: Exploring	4	92	2	
Girls Circle	2	40		
Keep A Clear Mind	1	53		
Street Smart	1	53		2
Wise Guys	1	47		
* Indicates a program that is targeted to a smaller set of substance use outcomes.				

## SECTION II: ALCOHOL AND TOBACCO ENVIRONMENTAL PREVENTION STRATEGIES

County authorities have been implementing or assisting with the implementation of environmental strategies for many years. These efforts were boosted in FY '07 with the creation of the Synar Tobacco Enforcement Partnerships (STEP) and Alcohol Strategy Incentive Program (ASIP). In FY'08, the ASIP program ended due to the creation of the state Alcohol Enforcement Teams (AET) program, which now reports on most of the same strategies that had been tracked through ASIP. STEP continued into FY'22 and is most identified with its year-end monetary three incentives to local providers based on the amount of tobacco-related environmental strategies implemented. Under STEP, counties could receive points for educating merchants through PREP (Palmetto Retailer Education Program), implementing tobacco compliance checks, acquiring 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

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

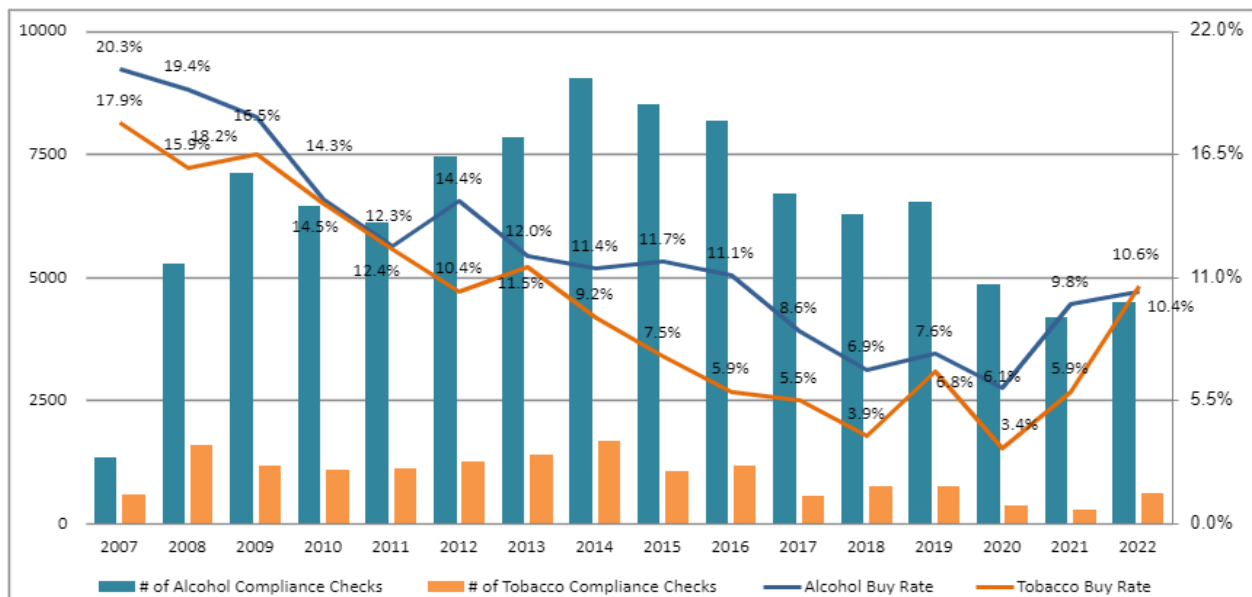
- Publicity to alcohol and tobacco sales staff that enforcement operations will be increasing,

- 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 online Environmental Prevention Strategies (EPS) Reporting system version of the DAODAS Compliance Check Form when cooperating with local and state 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'22, there were 4,495 alcohol compliance checks and 601 tobacco compliance checks entered in the online AET reporting system. In FY '22, 41 counties submitted alcohol compliance checks and 18 counties submitted tobacco forms, compared to 34 counties and 13 counties, respectively, in FY '21. There may have been additional compliance checks for which a form was not entered in the online system, so the data received may not reflect every compliance check during the year, though it should contain most of the enforcement activity. As shown in Figure 8, the data suggested that both alcohol and tobacco buy rates increased from FY'21 from 9.8% to 10.4% for alcohol and from 5.9% to 10.6% for tobacco. The buy-rate for alcohol is the highest level reported since 2016 and the buy-rate for tobacco is at the highest level since 2011.

**Figure 8. Annual Number of Compliance Checks and Annual Buy Rates**



County Name	Alcohol			Tobacco		
	Total Eligible Purchase Attempts	Buy	Buy Rate	Total Eligible Purchase Attempts	Buy	Buy Rate
Abbeville	0	0	N/A	0	0	N/A
Aiken	46	9	19.6%	0	0	N/A
Allendale	18	4	22.2%	0	0	N/A
Anderson	74	15	20.3%	1	0	0.0%
Bamberg	38	0	0.0%	42	0	0.0%
Barnwell	29	1	3.4%	11	4	36.4%
Beaufort	11	2	18.2%	0	0	N/A
Berkeley	66	2	3.0%	0	0	N/A
Calhoun	14	1	7.1%	17	2	11.8%
Charleston	252	39	15.5%	0	0	N/A
Cherokee	0	0	N/A	0	0	N/A
Chester	35	1	2.9%	0	0	N/A
Chesterfield	95	4	4.2%	10	0	0.0%
Clarendon	0	0	N/A	0	0	N/A
Colleton	19	0	0.0%	0	0	N/A
Darlington	86	4	4.7%	0	0	N/A
Dillon	63	8	12.7%	0	0	N/A
Dorchester	47	4	8.5%	34	0	0.0%
Edgefield	23	1	4.3%	0	0	N/A
Fairfield	0	0	N/A	0	0	N/A
Florence	43	4	9.3%	0	0	N/A
Georgetown	215	12	5.6%	1	1	100%
Greenville	377	57	15.1%	19	3	15.8%
Greenwood	58	5	8.6%	2	1	50%
Hampton	35	3	8.6%	2	0	0.0%
Horry	456	19	4.2%	30	6	20%
Jasper	51	5	9.8%	0	0	N/A
Kershaw	22	0	0.0%	0	0	N/A
Lancaster	176	29	16.5%	12	2	16.7%
Laurens	78	3	3.8%	16	7	43.8%
Lee	1	1	100%	0	0	N/A
Lexington	481	38	7.9%	83	9	10.8%
Marion	106	23	21.7%	0	0	N/A
Marlboro	67	3	4.5%	0	0	N/A
McCormick	19	1	5.3%	0	0	N/A
Newberry	12	2	16.7%	0	0	N/A
Oconee	50	19	38%	0	0	N/A

County Name	Alcohol			Tobacco		
	Total Eligible Purchase Attempts	Buy	Buy Rate	Total Eligible Purchase Attempts	Buy	Buy Rate
Orangeburg	47	4	8.5%	55	5	9.1%
Pickens	131	18	13.7%	19	4	21.1%
Richland	110	18	16.4%	0	0	N/A
Saluda	8	0	0.0%	0	0	N/A
Spartanburg	85	1	1.2%	0	0	N/A
Sumter	90	25	27.8%	2	2	100%
Union	0	0	N/A	0	0	N/A
Williamsburg	5	1	20%	0	0	N/A
York	856	81	9.5%	245	18	7.3%

Most FY'22 alcohol compliance checks were conducted at convenience stores (60.8%). The next most common type of location was liquor stores (11.6%), then large grocery stores (7.9%), small grocery stores (6.2%), restaurants (6%), drug stores (5%), other outlets (1.4%), bars (1%), and hotels (0.2%). In most cases, the youth attempted to buy beer (77.8%) although a substantial number attempted to buy liquor (10.7%) or alcopop drinks (5.8%). Wine or wine coolers were attempted 3.1% of the time. Most youth volunteers were between the ages of 16 and 19 (97.2%). More purchase attempts were made by males (52.3%) than females. Most alcohol checks were conducted by White youth (89.7%), followed by Black or African American youth (5.9%).

For tobacco compliance checks, 74.2% were conducted at convenience stores, followed by other tobacco outlets (11%), large grocery stores (6.8%), small grocery stores (5%), drug stores (2.8%) and liquor stores (0.2%). In most cases, youth attempted to buy cigarettes (42.6%). The remaining attempts were made for e-cigarettes or vaping products (juice, cartridges) (35.8%), cigarillos or little cigars (1.5%) and cigars (1.5%). To place this in context, in FY '08, only 5% of attempts were for these non-cigarette tobacco products. In FY '22, the most common age for youth volunteers was 16 (50.1%) and 17 (18.2%). More purchase attempts were made by females (72.2%) than males. White youth conducted 75.7% of tobacco compliance checks, and more than one race youth conducted 17% of the checks.

Figure 9 shows how buy rates for different products have changed over the past five years. As can be seen, the buy rates for alcopops/alcohol energy drinks and liquor decreased this year, whereas the buy rates increased for beer and remained steady for wine/wine coolers.

**Figure 9. Alcohol Buy Rates by Type of Product, Five-Year Trends**

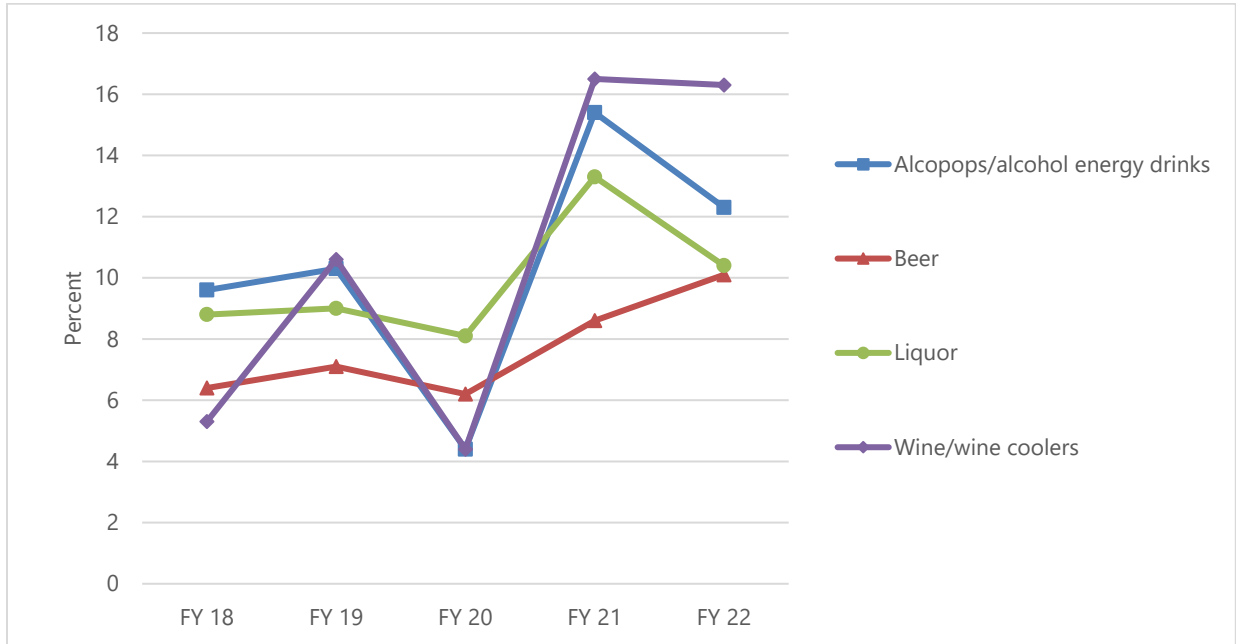


Figure 10 shows alcohol merchant practices over the past five years, including elevated levels and increases in best practices.

**Figure 10. Alcohol Merchant Practices, Five-Year Trends**

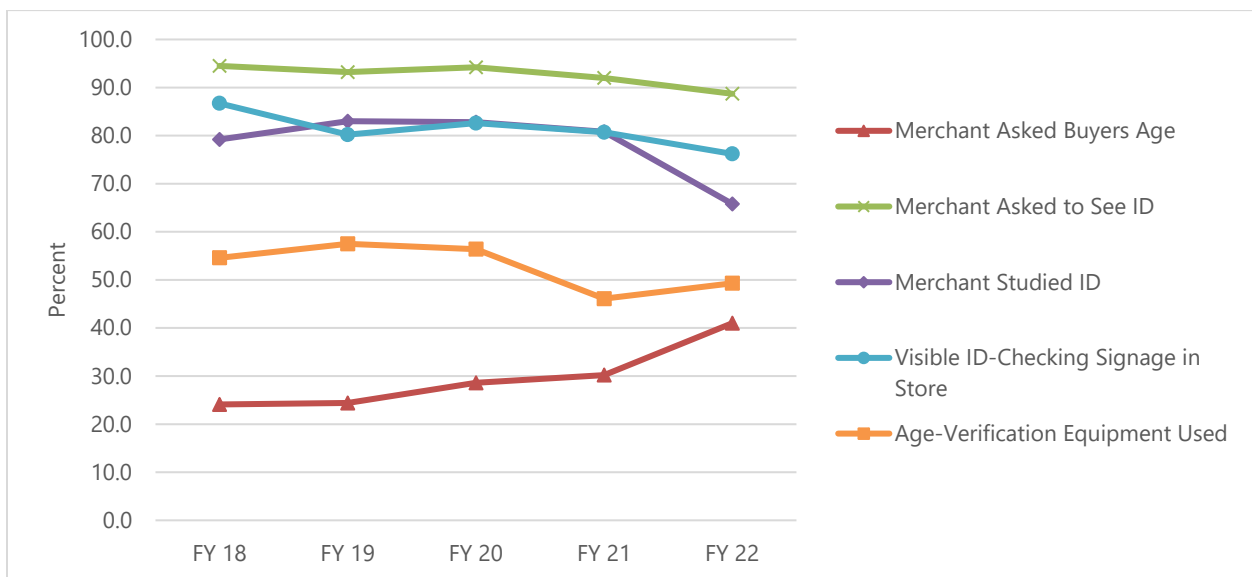


Figure 11 shows how buy rates for different products have changed over the past five years. Buy rates increased for cigarettes, cigarillos, cigars, and electronic cigarettes. During the last year, the buy rate for cigars rose dramatically (9.1% to 44.4%).

**Figure 11. Tobacco Buy Rates by Type of Product, Five-Year Trends**

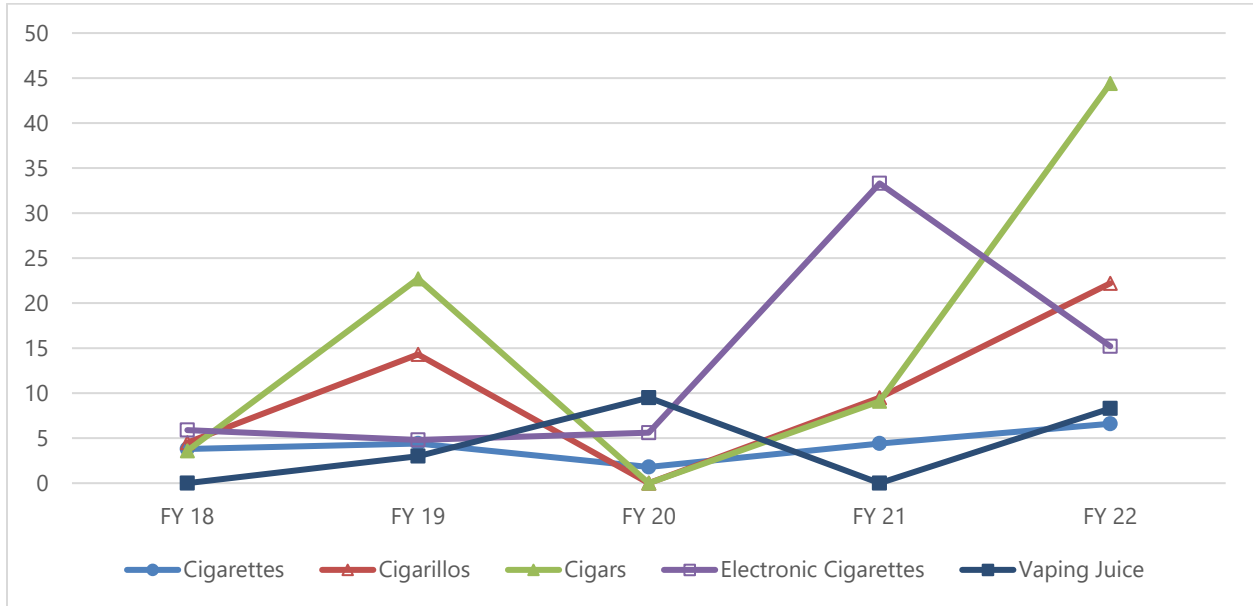


Figure 12 shows tobacco merchant practices over the past five years.

**Figure 12. Tobacco Merchant Practices, Five Year Trends**

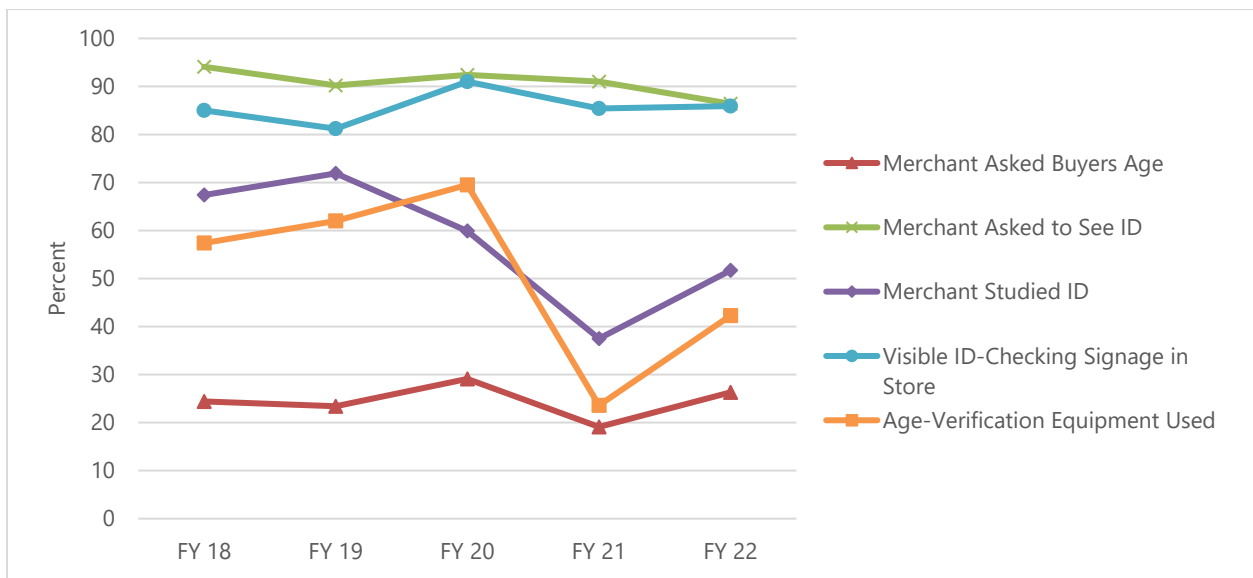


Figure 13 shows the percentage of alcohol sales completed by type of business for places that had at least 50 attempts for FY '21 and FY '22.

**Figure 13. Percentage of Completed Alcohol Sales by Type of Business**

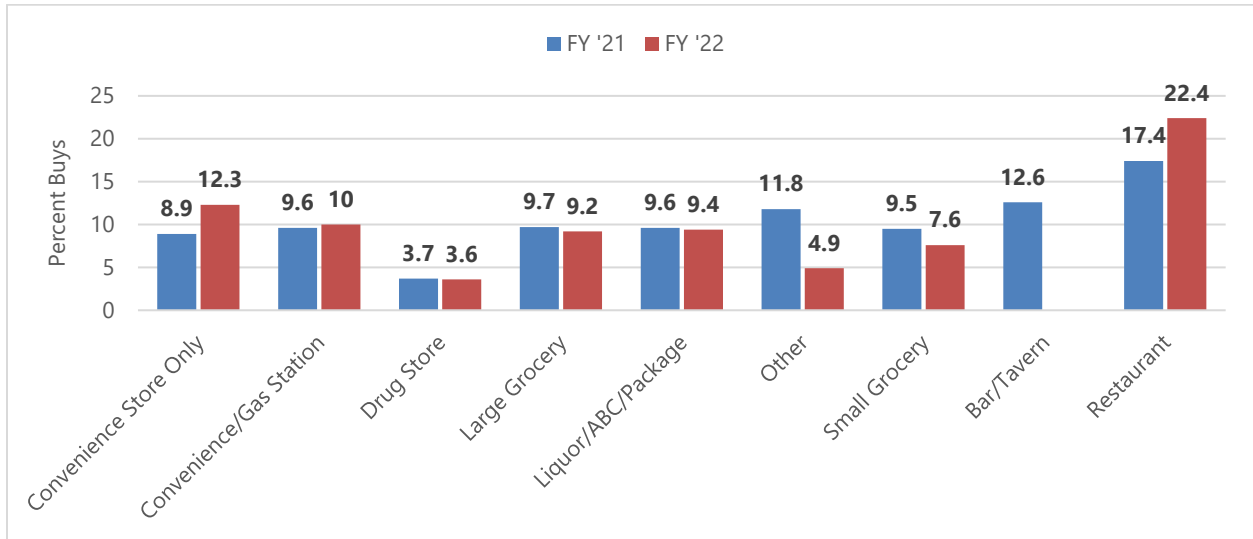
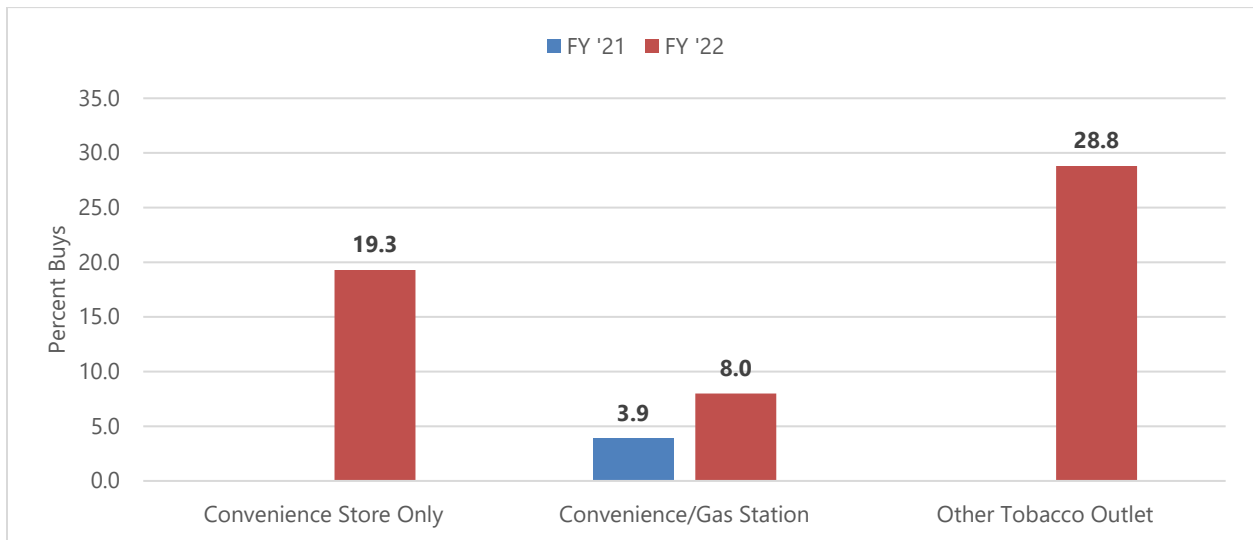


Figure 14 shows the percentage of tobacco sales completed by type of business for places that had at least 50 attempts for FY '21 and FY '22.

**Figure 14. Percentage of Completed Tobacco Sales by Type of Business**



Note: In FY '21, there were not more than 50 attempts made in Convenience Stores Only or Other Tobacco Outlets.



Table 8 displays the percentages of sales completed based on demographic characteristics of the clerks and buyers. For alcohol, sales were higher depending on the race of the clerk, with American Indian/Native and Other clerks having the lowest rates of sales. In addition, alcohol sales were influenced by the age of the clerk (more sales among younger clerks) and the age of the buyer (more sales among older buyers). For tobacco, sales were higher when the clerk was younger, male or Multiracial or when the buyer was younger, or White.

**Table 8. Percentage of Retailer Sales by Demographic Characteristics**

Compliance Check Characteristic	% Completed Sales	
	Alcohol	Tobacco
<b>CLERK AGE</b>	***	***
15 - 17	27.6	25.0
18- 20	19.8	21.1
21 - 24	12.7	8.5
25 - 44	9.1	13.2
45 – 64	9.1	3.1
65+	12.5	6.3
<b>CLERK SEX</b>		**
Female	10.4	7.6
Male	10.4	14.8
<b>CLERK RACE</b>	**	*
Asian	10.9	10.3
Black	12.2	8.4
American Indian/Native	2.6	NA
Other	7.7	12.2
White	10.5	10.6
Multiracial	12.0	50.0
<b>BUYER AGE</b>	***	*
15	11.1	11.3
16	5.6	10.1
17	8.5	19.4
18	12.6	2.3
19	10.5	6.7
20	21.6	NA
<b>BUYER SEX</b>		
Female	10.6	10.4
Male	10.2	11.4
<b>BUYER RACE</b>		**
Asian	8.9	1.6
Black	10.2	6.3
Multiracial	4.5	4.7
Other	16.4	1.6
White	10.5	85.9

\* p < .05; \*\* p < .01; \*\*\* p < .001

Table 9 displays the percentages of sales completed when the sex and race of the clerk and buyer were the same and different. For alcohol and tobacco, there were no statistically significant differences in sales based on matches between clerk and buyer sex and race.

We also conducted analyses to see if the time of the inspection was a significant factor in whether a sale is made. First, an analysis was done based on whether the inspection was conducted before or after 3 pm, approximating whether youth would normally be in or out of school. In the second analysis, 6 pm was used as a day/night proxy. The first analysis indicated that sales of alcohol and tobacco after school were more likely to occur than during school hours.

**Table 9. Percentage of Retailer Sales by Demographic Characteristics and Time of Day**

Compliance Check Characteristic	% Completed Sales	
	Alcohol	Tobacco
<b>CLERK – BUYER SEX</b>		
Different	10.9	10.8
Same	9.9	10.5
<b>CLERK – BUYER RACE</b>		
Different	10.1	10.0
Same	10.7	21.1
<b>SCHOOL DAY</b>	***	***
7:00 am – 2:59 pm	8.0	7.2
3:00 pm – 11:59 pm	12.9	12.7
<b>DAY VS. NIGHT</b>	***	
6:00 am – 5:59 pm	9.3	9.8
6:00 pm – 5:59 am	13.0	12.6
* p < .05 ** p < .01 *** p < .001		

The average clerk fine for an alcohol sale, at the time of ticketing, was \$531.07, and the most common amount was \$672.50. The average fine for a tobacco sale ticket was \$383.40, with \$465 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 531 cases in which a sale was made (alcohol and tobacco), there were 8 instances (1.5%) in which the offender indicated they had taken a class.

## Bar Checks

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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-premises 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 318 operations recorded in FY '22 in nine counties, up from 284 operations in FY '21. The officers issued 54 tickets for fake IDs, 7 verbal or written warnings, and 51 various retailer violations.

## Shoulder Taps

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Shoulder tap operations involve an underage volunteer standing outside of an off-premises establishment and asking adults going in to purchase alcohol for them. Those who do are ticketed. In FY'22, three counties representing three circuits conducted shoulder taps a total of four different times, up from two in FY '21 and down from five in FY '20. Altogether, 68 individuals were approached in FY '22 compared to 22 in FY '21. No one purchased alcohol for the youth. In FY '21 the rate was 0%, and it was 6.2% in FY '20. Twenty-eight (28) other charges were written during these operations.

## Public Safety Checkpoints/Saturation Patrols

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In FY'22, AETs across South Carolina recorded 685 public safety checkpoints in 27 counties. The checkpoints expended more than 916 hours (about 1 and a half months). Officers recorded contact with approximately 40,214 vehicles resulting in 3,875 citations and arrests. Highlights of those citations and arrests were 315 tickets for drug possession, 97 DUI arrests (.08 or greater BAC [Blood Alcohol Concentration]) among adults, 8 fugitives apprehended, 136 tickets for open container, and 42 felony arrests. Thirty-eight (38) 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 stationary 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 2022, there were 208 saturation patrols that expended a total of 582 hours and involved 621 officers. This type of operation was recorded in 19 counties. The patrols resulted in 2,200 citations and arrests. In those violations, there were 88 tickets for drug

possession, 15 DUI arrests, 3 fugitives apprehended, 51 tickets for open container, and 19 felony arrests.

## **Controlled Party Dispersals/Party Patrols**

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Alcohol Enforcement Teams in seven counties recorded 52 party dispersals in FY '22. A party dispersal is conducted when officers receive a complaint from a source and investigate that complaint. In some cases, officers observe a social gathering involving individuals under the legal alcohol drinking age of 21 years old while on duty and investigating the gathering. In FY '22, the predominant source for the party investigation was reported party dispersal/noise complaint. There was a total of 139 officer hours recorded at the gatherings involving 832 people. Officers recorded 224 tickets and arrests at the gatherings.

## **Multi-Jurisdictional Law Enforcement Agreements and Efforts**

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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 sustain consistent enforcement. In FY '22, 25 counties had tobacco agreements with their local law enforcement on file in their counties and at DAODAS. 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.

In FY '22, 71 law enforcement agencies conducted enforcement activities as a part of the Alcohol Enforcement Team (AET) efforts. In FY '21 and FY '20, 71 and 85 agencies; respectively, law enforcement agencies participated. As stated earlier in this report, 4,495 alcohol and tobacco compliance checks accounted for the largest number of enforcement activities reported in the Environmental Prevention Strategies (EPS) Reporting system in FY '22. In FY '20, 5,215 alcohol and tobacco compliance checks were reported.

Slightly more than 47% (47.4%) percent of the compliance checks were submitted as multi-jurisdictional (involving more than one law enforcement agency). The South Carolina State Law Enforcement Division (SLED) Alcohol Enforcement partnered with local law enforcement agencies on 50.3% of the alcohol compliance checks. In FY'21, SLED partnered with local law enforcement on 34.2% of the alcohol compliance checks, 42.7% of the alcohol compliance checks in FY'20, 42.1% of the alcohol compliance checks in FY'19, 38% of the alcohol checks in FY'18, and on 27% of the alcohol checks in FY '17. This attests to the strength of the partnership between SLED and local law enforcement and their combined commitment to reducing underage access to alcoholic beverages through retail outlets.

## Merchant Education

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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 '22 and collectively served 858 retail staff, which is up from 515 in FY '21. Thirty-five of the 46 counties served at least one retailer in PREP, with Lexington (117) 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 '22, the average score was 95.0%.

## Diversions or Court-mandated Youth Programs

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County authorities often play a role in the post-arrest process for youth violators of alcohol or tobacco laws. The COVID-19 pandemic affected enforcement efforts for both underage alcohol and tobacco. 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. Two hundred two (202) youth were served in AEP in FY '22, up from FY '21 (178 youth). The bulk of the youth served came from Pickens (166 youth) and Charleston served (32 youth). New Life Center, Beaufort, Fairfield, and Dorchester served 1 young person each.

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'22, 147 youth participated in TEP, up from FY '21 when 110 youth participated.

## Alcohol Enforcement Team Awareness Activities

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AET awareness activities included holding town hall meetings, doing educational sessions for youth or adults, and conducting local media campaigns. Activities also include 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 1,217 media placements (e.g., articles, TV stories, webpages, and social media posts) during FY'22. Approximately 2.7 million people were estimated to view the events. AETs across the state conducted an additional 56 prevention activities meant to educate residents about substance abuse and misuse. Officers, AET Coordinators, and Prevention personnel estimated that 5,504 individuals were exposed to (participated in or observed) the events.

Since 2010, AETs have participated in April's statewide Out of Their Hands campaign. Out of Their Hands comprises high-visibility enforcement focused on reducing alcohol access for

individuals under 21 years old. Although high school proms traditionally are held beginning the last week of March through the first week of May, April was chosen because it is also recognized nationally as "Alcohol Awareness Month." As a result, law enforcement across South Carolina stepped-up enforcement of underage drinking laws and conducted education and community awareness of the public health and public safety consequences of consuming alcoholic beverages in collaboration with prevention personnel. For instance, in FY'19, AETs conducted 47 presentations and media events during "Out of Their Hands" throughout April 2019. As a result, in April 2019, an estimated 700,000 South Carolinians received information about underage drinking through the "Out of Their Hands" media activities.

The COVID-19 pandemic began in late February 2020 and affected OOTH activities in April each year in FY'20 and FY'21. In FY'22, AETs used social media and other earned media, such as press releases and media ride-along events to extend the message that high school proms and spring break activities should not include alcoholic beverages. Additionally, some AETs used paid media such as radio PSAs and electronic billboards to share the message. It is estimated that approximately 1 million viewers saw the media message.

Because OOTH combines media with enforcement operations, law enforcement officers working with AET reported 517 enforcement operations resulting in 614 tickets and arrests.

## **Alcohol Enforcement Team Training**

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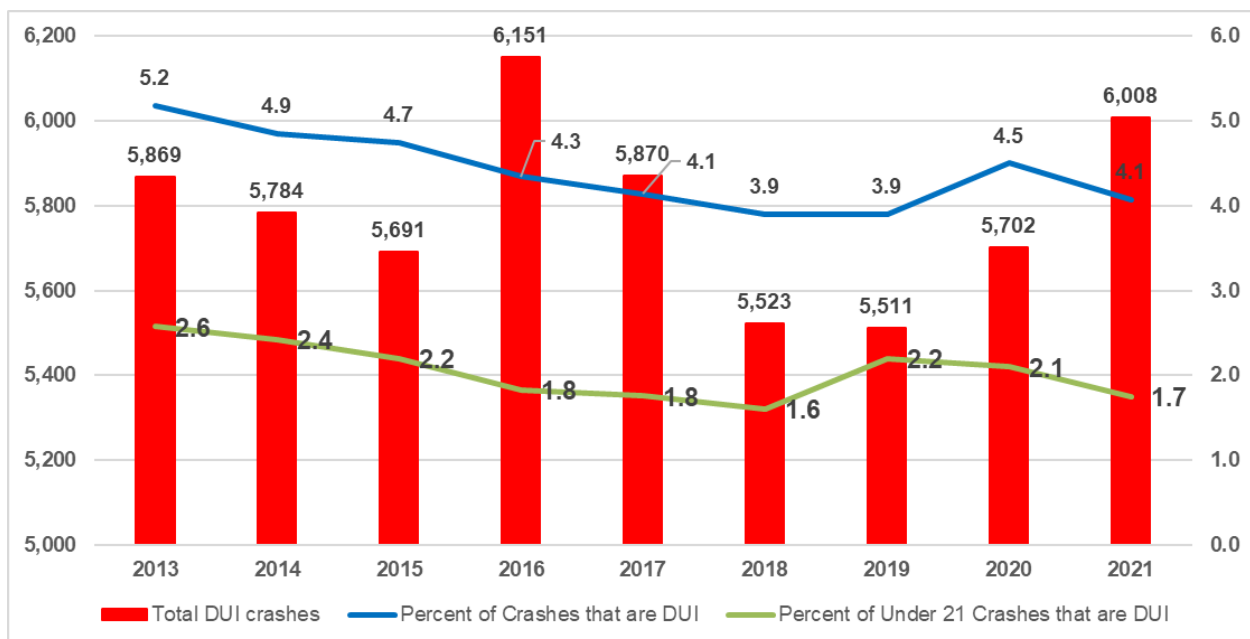
A vital component of the AET model utilized in South Carolina involves developing and maintaining local law enforcement support for underage drinking prevention and enforcement efforts. Ongoing training opportunities for law enforcement officers in such topics as Fake IDs, Public Safety Checkpoints, Source Investigation, and other topics are designed to increase the 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 '22, DAODAS and the circuit AETs offered 5 training courses with 65 participants and volunteers. The six volunteers assisted with the Mock Party Dispersal training. The FY '22 training courses equals FY '21. Unfortunately, the COVID-19 pandemic severely restricted the in-person training previously conducted in previous years, a training model for AETs since its statewide inception in 2007. Plans are in place to revitalize AET training sessions and will be implemented later in FY'24.

## Alcohol-Related Crashes

One of the main goals of environmental prevention strategies is to reduce alcohol-related traffic crashes. Figure 15 below shows that the total number of DUI crashes decreased steadily from 2013 through 2015 then increased dramatically in 2016, reducing back to 2013 levels in 2017, then lower in 2018 and 2019. It should be noted, however, that total crashes also increased dramatically in 2016 (not shown on graph) and remained level through 2019, suggesting that factors other than alcohol contributed to a higher number of crashes. In fact, the percentage of crashes that were alcohol-related steadily decreased from 2015 to 2018, suggesting that efforts to reduce DUI crashes have been fruitful. Comparing 2019 data to preliminary 2020 data, the percentage of crashes that were DUI for all age groups increased from 3.9% to 4.5%. In contrast, the percentage of crashes that were DUI for people under the age of 21 remained basically the same (2.2% vs. 2.1%). In the preliminary 2021 crash data, the percent of DUI crashes for all groups dropped to 4.1% with total crashes increasing by 21.8%. Crashes involving impaired drivers under 21 years old decreased from 2.1% (2020) to 1.7% (2021).

**Figure 15. Alcohol-Related Traffic Crashes, 2013 - 2019**



## Summary of Section II

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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 electronic forms on 4,495 alcohol compliance checks and 601 tobacco compliance checks. Sales were completed for 10.4% of alcohol attempts and 10.6% of tobacco attempts.

Most merchants asked to see the buyers' IDs (88.7% and 86.4% for alcohol and tobacco, respectively) and most merchants had visible ID checking signage in store (76.2% and 85.9% for alcohol and tobacco, respectively). For alcohol, sales were higher when the clerk was younger or Black or when the buyer was older and Black, the race of the clerk and buyer was the same, if the gender of the clerk and buyer was different, and the attempt was made after 6:00pm. For tobacco, sales were higher when the buyer was male, white, and the race of the clerk and buyer was the same or if the gender of the clerk and buyer were different.

The counties served 858 merchants in the Palmetto Retailers Education Program (PREP) in FY '22, up from 515 in FY '21.

AETs reported a total of 685 public safety checkpoints. Among the violations, there were 97 DUIs. In addition, there were 208 saturation patrols reported. This operation generated another 2,202 tickets. The enforcement activity included 15 DUIs, 88 drug possession cases, 3 fugitives apprehended, 51 open container tickets, and 19 felony arrests.

AETs dispersed 52 parties attended by 832 persons, with 224 tickets and arrests recorded at the gatherings. A total of 68 individuals were approached by the cooperating youth to purchase alcohol as part of Shoulder Tap operations, with no individual purchasing alcohol for the cooperating youth. Twenty-eight (28) other charges were written during these operations.

In FY '22, there were 318 bar checks conducted, resulting in 54 fake ID violations, 7 warnings for various activity, and 51 retailer and patron violations.

349 youth were in diversion program for youth alcohol and tobacco offenses (202 served in the Alcohol Education Program and 147 served in the Tobacco Education Program).

Comparing preliminary 2020 data to preliminary 2021 data, the percentage of crashes that were DUI for all age groups decreased from 4.5% to 4.1%. Similarly, the percentage of crashes that were DUI for people under the age of 21 decreased from 2.1% to 1.7%.

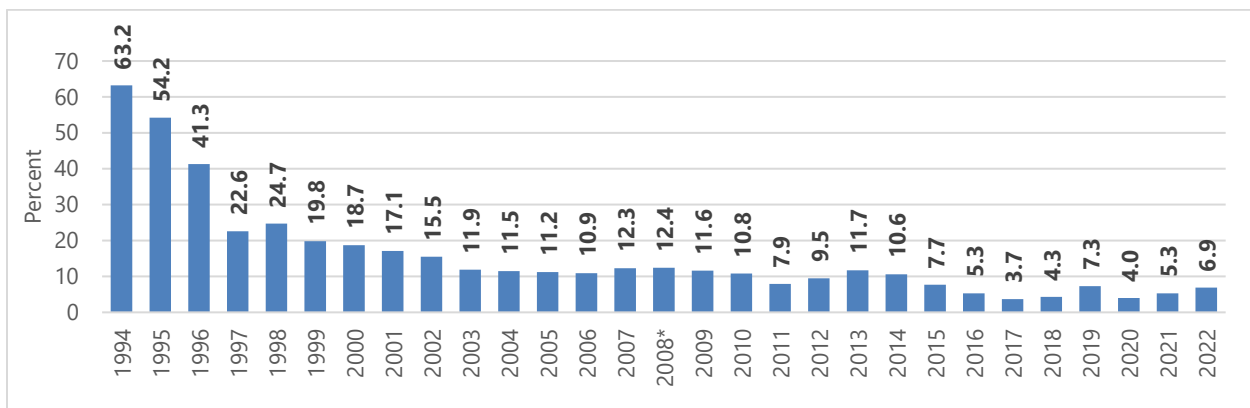


## SECTION III: YOUTH ACCESS TO TOBACCO STUDY (SYNAR)

As per the Federal Synar Regulation, South Carolina conducts annual, unannounced inspections of a valid probability sample of tobacco outlets that are accessible to minors.<sup>2</sup> 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, 2022, 126 youth volunteers ages 15-17, under trained adult supervision, conducted unannounced cigarette purchase attempts in 178 randomly selected retail outlets in 40 counties. These outlets were randomly sampled from the estimated 7,095 outlets in the state. Figure 16 shows the buy rates from the Synar Study since 1994. For 2022, the estimated overall sales rate (also known as a Retailer Violation Rate or RVR) was 6.9%, higher than last year's rate of 5.3%. 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. Buy rates for each county are shown in Table 10.

**Figure 16. YATS (Synar) Cigarette Purchase Rates (FY 1994 - 2022)<sup>a</sup>**



<sup>a</sup> 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.

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

**Table 10. YATS (Synar) Raw Buy Rates 2021**

County Name	Total Eligible Attempts	No Buy	Buy	Buy Rate
Abbeville	3	3	0	0.0%
Aiken	8	8	0	0.0%
Allendale	2	2	0	0.0%
Anderson	8	8	0	0.0%
Bamberg	1	1	0	0.0%
Barnwell	2	2	0	0.0%
Beaufort	5	5	0	0.0%
Berkeley	8	5	3	37.5%
Calhoun	1	0	1	100%
Charleston	17	17	0	0.0%
Cherokee	3	3	0	0.0%
Chester	-	-	-	-
Chesterfield	-	-	-	-
Clarendon	-	-	-	-
Colleton	2	2	0	0.0%
Darlington	-	-	-	-
Dillon	-	-	-	-
Dorchester	5	5	0	0.0%
Edgefield	1	1	0	0.0%
Fairfield	1	1	0	0.0%
Florence	-	-	-	-
Georgetown	-	-	-	-
Greenville	18	17	1	5.6%
Greenwood	5	5	0	0.0%
Hampton	1	0	1	100%
Horry	13	12	1	7.7%
Jasper	3	2	1	33.3%
Kershaw	-	-	-	-
Lancaster	-	-	-	-
Laurens	4	4	0	0.0%
Lee	-	-	-	-
Lexington	-	-	-	-
Marion	-	-	-	-
Marlboro	-	-	-	-
McCormick	2	2	0	0.0%
Newberry	3	3	0	0.0%
Oconee	4	3	1	25.0%

County Name	Total Eligible Attempts	No Buy	Buy	Buy Rate
Orangeburg	7	5	2	28.6%
Pickens	5	5	0	0.0%
Richland	9	9	0	0.0%
Saluda	1	1	0	0.0%
Spartanburg	13	13	0	0.0%
Sumter	-	-	-	-
Union	2	2	0	0.0%
Williamsburg	-	-	-	-
York	-	-	-	-
- Indicates the county did not participate in the study.				

Table 11 shows Synar buy rates, broken down by the demographic characteristics of the youth purchaser. Purchaser sex and race were significantly related to the likelihood of a successful buy.

**Table 11. YATS (Synar) Percent of Outlets Selling Cigarettes to Youth by Characteristics of Youth, 2021**

Characteristic	Buy Rate (%)
<b>AGE</b>	
15	7.5
16	1.8
17	11.9
<b>SEX</b>	***
Female	9.8
Male	3.8
<b>RACE</b>	***
Black	8.4
Other	9.1
White	4.5
<b>BUYER RACE - SEX</b>	
Black-Female	9.8
Other-Female	25.0
White-Female	7.7
Black-Male	6.3
Other-Male	0.0
White-Male	2.4
* p < .05; ** p < .01; *** p < .001	

Table 12 shows Synar buy rates, broken down by the demographic characteristics of the clerk. Clerk age, sex and race were significantly related to the likelihood of a successful buy.

**Table 12. YATS (Synar) Percent of Outlets Selling Cigarettes to Youth by Characteristics of Clerk, 2021**

Characteristic	Buy Rate (%)
<b>AGE</b>	***
Teenager	25.0
20's	10.0
30's	4.3
40's	5.6
50's	7.7
60+	0.0
<b>SEX</b>	***
Female	7.1
Male	7.1
<b>RACE</b>	***
Black	7.7
Hispanic	0.0
Other	3.4
White	9.0
<b>CLERK RACE - SEX</b>	
Black-Female	7.5
Hispanic-Female	-
Other-Female	0.0
White-Female	8.5
Black-Male	8.3
Hispanic-Male	-
Other-Male	5.3
White-Male	10.0
* p < .05; ** p < .01; *** p < .001	

## SECTION IV: 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.

### YRBS Data

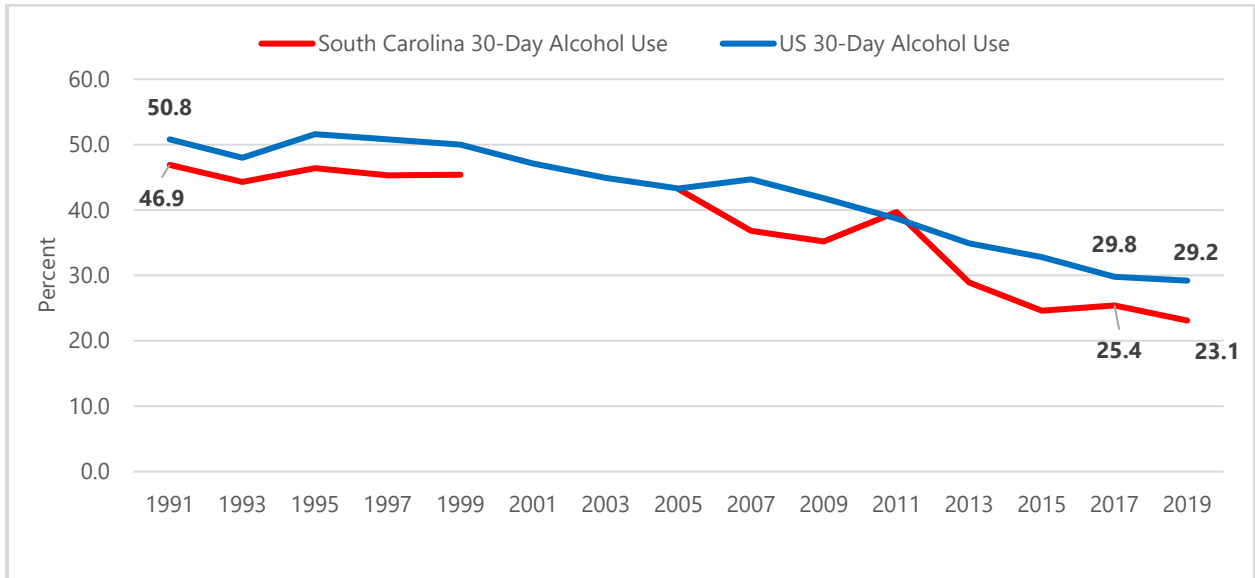
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The figures below show long-term trends (where data were available) in youth substance use, using data from the Youth Risk Behavior Survey (YRBS). Where possible, we compare South Carolina data with those of the United States. As can be seen, South 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.

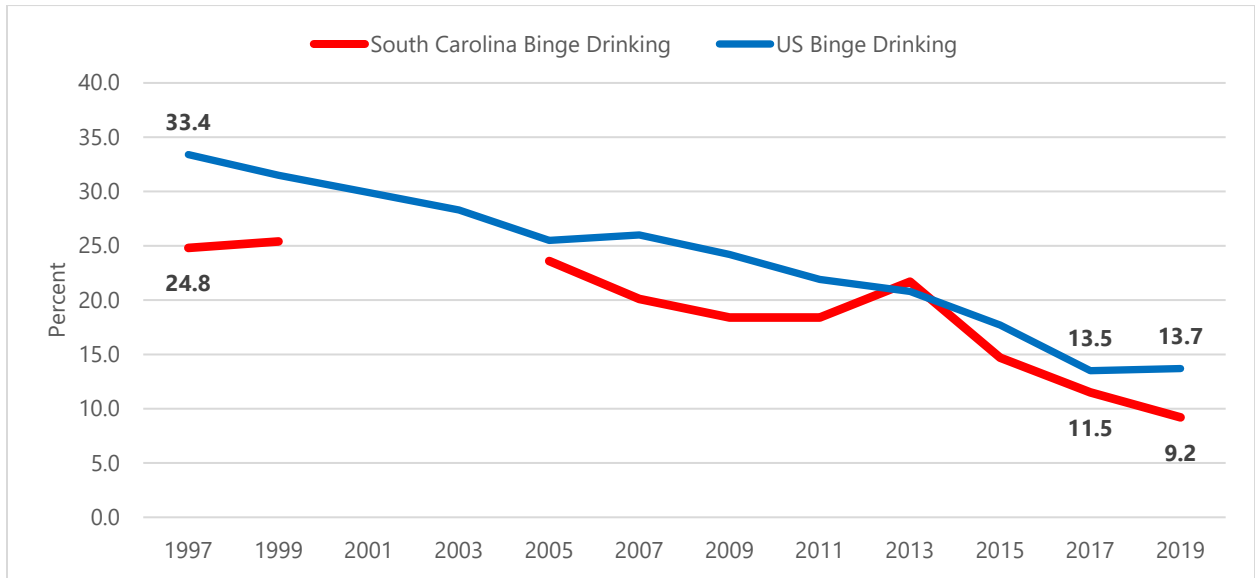
Normally conducted every other year (odd-numbered years) in the United States, including South Carolina, the 2021 YRBS survey was canceled because of the uncertainty in middle schools and high schools related to the COVID-19 pandemic. The survey was scheduled to be conducted again in spring 2022 in South Carolina; however, it was postponed. Consequently, the last available survey data is from the 2019 South Carolina and United States YRBS.

It should be noted that in 2019, several 30-day substance use measures showed a downward trend, including alcohol, cigarettes, and marijuana. However, data on lifetime use of various harmful substances (e.g., heroin, methamphetamines, Ecstasy, and synthetic marijuana) showed movement in the undesired direction (Figure 17). Prevention stakeholders should continue to monitor all trends and ensure that evidence-based prevention strategies continue to be implemented as broadly as possible in their communities.

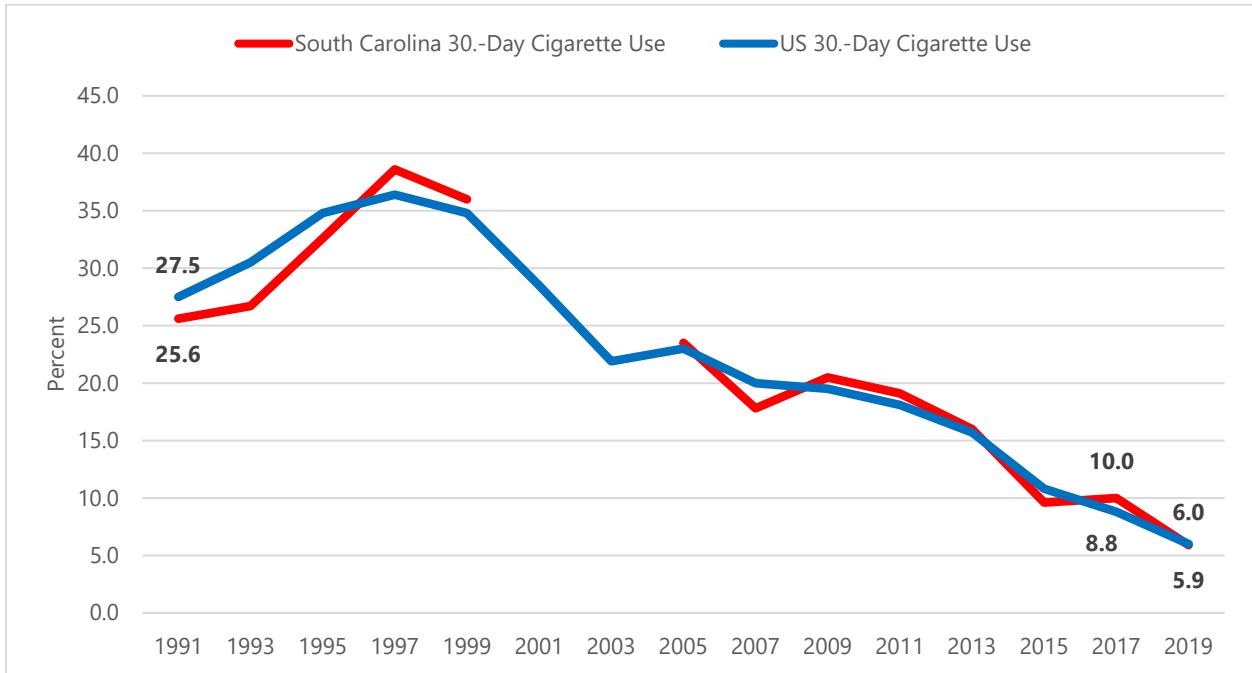
**Figure 17. Past 30-Day Alcohol Use, High School Students, South Carolina and United States**



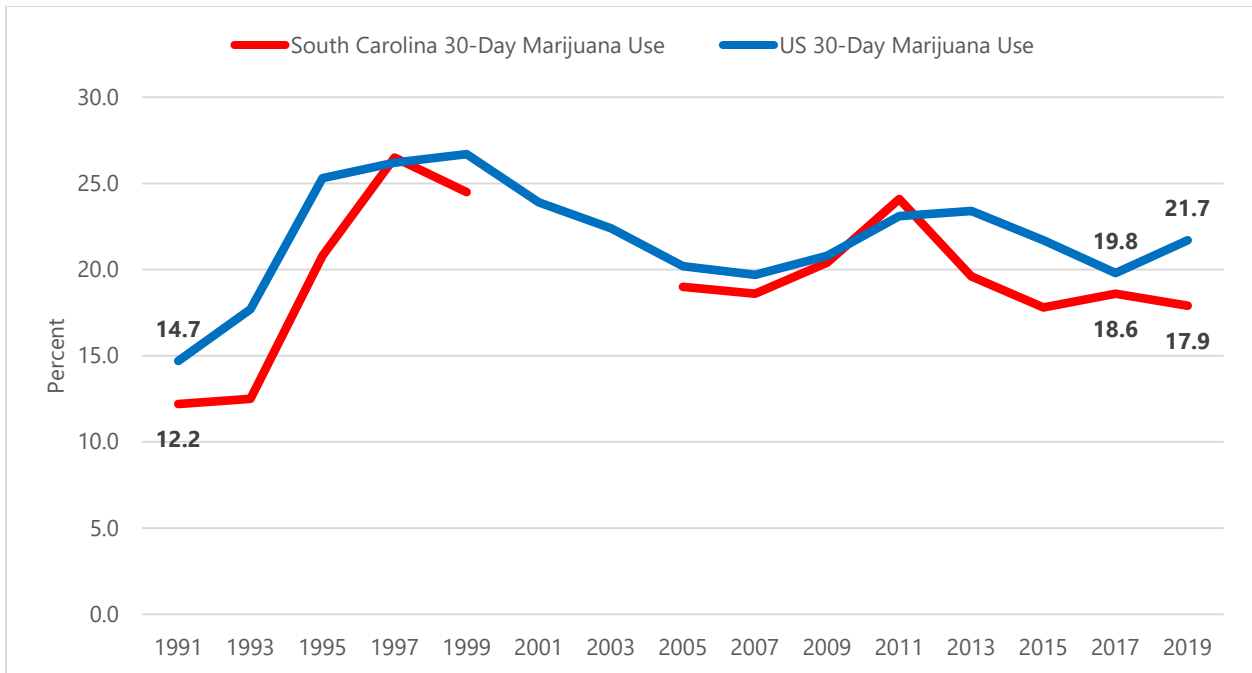
**Figure 18. Past 30-Day Binge Drinking, High School Students, South Carolina and United States**



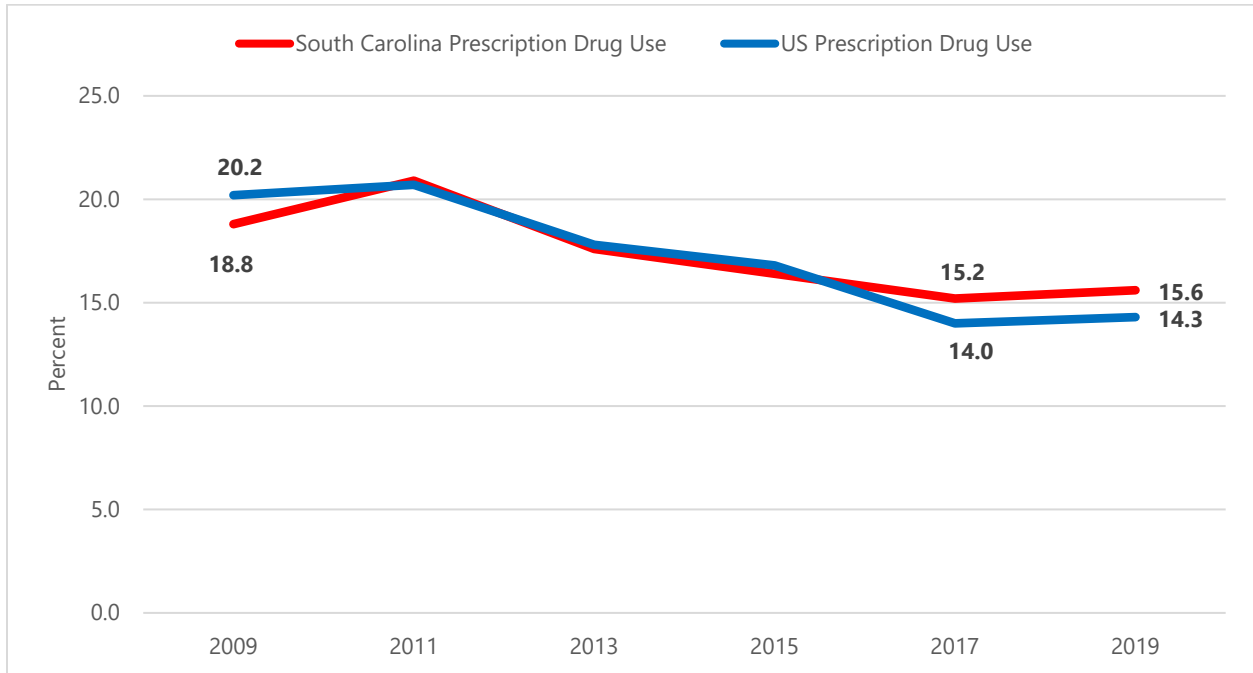
**Figure 19. Past 30-Day Cigarette Use, High School Students, South Carolina, and United States**



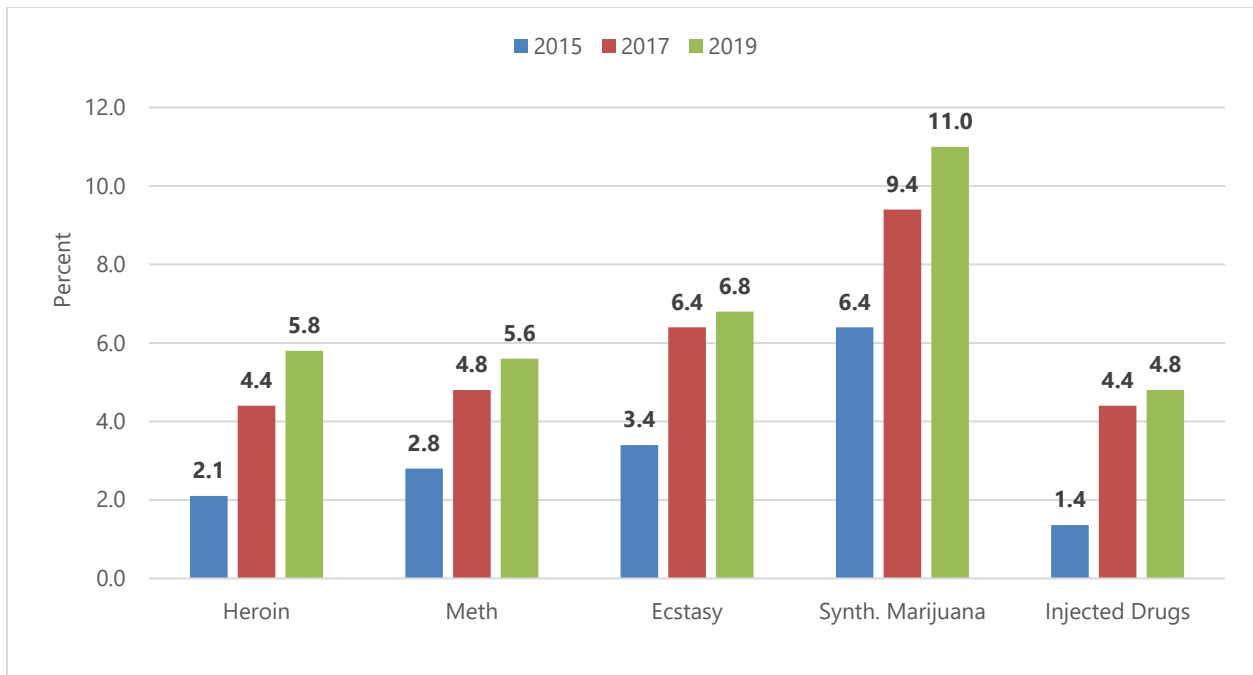
**Figure 20. Past 30-Day Marijuana Use, High School Students, South Carolina, and United States**



**Figure 21. Ever Used Prescription Drugs (Pain Relievers) without Doctor's Prescription, High School Students, South Carolina, and United States**



**Figure 22. Ever Used Various Drugs, High School Students, 2015 - 2019, South Carolina**





## CSAP State Block Grant Goals

Table 13 displays statewide data in relation to the Block Grant goals set by DAODAS. As can be seen, three of the four Year 1 alcohol-related targets and three of the four Year 2 alcohol-related targets were met. Two of the six Year 1 tobacco targets and four of the six Year 2 tobacco targets were met. The marijuana targets have not been met and, in one case, the most recent rate available exceeds the baseline rate. Overall, five of the twelve Year 1 targets and seven of the twelve Year 2 targets have been met when looking at the most recent data available.

**Table 13. Statewide Substance Use Data and Block Grant Goals**

Priority Area	Underage Alcohol Use	Underage Alcohol Use	Underage Alcohol Use	Alcohol-Related Crashes	Youth Tobacco Use	Youth Tobacco Use	Youth Tobacco Use	Youth Tobacco Use	Youth Tobacco Use	Youth Tobacco Use	Youth Marijuana Use	Youth Rx Misuse
<b>Indicator</b>	30-day use	30-day use	Retail access	Alcohol-related fatalities	Retail access	30-day use of tobacco	Retail access	30-day use of cigarettes	30-day use of smokeless	30-day use of vaping	30-day use	Ever used
<b>Data Source</b>	YRBS	CTC	EPRS	FARS	Synar	YRBS	EPRS	CTC	CTC	CTC	YRBS	YRBS
<b>Baseline</b>	23% (2017)	16% (2018)	6.9% (2018)	32% (2017)	4.3% (2018)	21.6% (2017)	4.0% (2018)	4.6% (2018)	6.5% (2018)	11.5% (2018)	18.6% (2017)	15.2% (2017)
<b>Year 1 Target</b>	22% or less (2019)	15%	10% or less	31% or less	5% or less	20% or less	5% or less	5% or less	5% or less	10% or less	17% or less	15% or less
<b>Year 1 Data</b>	23.1% (2019)	10.4% (2020)	7.6% (2019)	28% (2018)	7.3% (2019)	23% (2019)	6.8% (2019)	2.4% (2020)	3.2% (2020)	10.8% (2020)	17.9% (2019)	15.6% (2019)
<b>Year 2 Target</b>	21% or less (2021)	14% or less (2022)	10% or less (2020)	31% or less (2019)	5% or less (2020)	20% or less (2021)	5% or less (2020)	5% or less (2022)	5% or less (2022)	10% or less (2022)	17% or less (2021)	15% or less (2021)
<b>Year 2 Data</b>	See <b>NOTE</b>	9.8% (2022)	6.1% (2020)	28% (2019)	4.0% (2020)	See <b>NOTE</b>	3.4% (2020)	1.3% (2022)	2.0% (2022)	13.4% (2022)	See <b>NOTE</b>	See <b>NOTE</b>
<p><b>Legend:</b>            YRBS = Youth Risk Behavior Survey, conducted at the state-level every two years (odd years). <b>NOTE:</b> The 2021 YRBS was postponed until spring 2022.            CTC= Communities That Care Survey, conducted in select counties, every two years (even years).            FARS = Fatality Analysis Reporting System, administered by the National Highway Traffic Safety Administration.  <b>Green cell</b> indicates that most rates met or exceeded the target. <b>Blue cell</b> indicates that rates are higher than the baseline rates.</p>												

## APPENDIX A: ADDITIONAL DATA TABLES

**Table A1. Overall Results by Sex – Middle School**

Risk Factor Scores, Range (Positive score is favorable)	Middle School - Females (n=685)			Middle School- Males (n=755)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	2.33	2.48	6.42**	2.23	2.49	11.44**
Decision-Making Skills, 0-3	2.01	2.00	-0.29	1.93	1.92	-0.24
Disapproval of Use, 0-3	2.62	2.65	1.19**	2.61	2.66	1.79**
Perceived Peer Norms, 0-3	2.52	2.57	1.76**	2.49	2.57	3.15**
Perceived Parental Attitudes, 0-3	2.83	2.84	0.17	2.82	2.81	-0.05

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Other Tobacco	0.44	0.88	100.00	0.53	0.80	50.94
Cigarettes	0.73	0.44	-39.73	1.19	1.20	0.84
E-Cigarettes or Vapes	7.16	0.73	-89.80**	4.25	1.60	-62.35**
Alcohol	3.81	5.72	50.13**	4.38	4.26	-2.74
Marijuana	3.07	4.39	43.00	2.79	5.05	81.00**
Non-Medical Prescription Drug Use	3.07	2.49	-18.89	2.66	1.60	-39.85
Binge Drinking (past 2 weeks)	2.35	1.18	-49.79	2.12	1.21	-42.92

\* 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 Race Group – Middle School**

Risk Factor Scores, Range (Positive score is favorable)	American Indian participants (n=20)			Asian participants (n=27)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	2.30	2.40	4.36	2.44	2.54	4.17*
Decision-Making Skills, 0-3	1.97	1.86	-5.30	1.98	2.03	2.49
Disapproval of Use, 0-3	2.61	2.56	-2.01	2.73	2.81	2.92*
Perceived Peer Norms, 0-3	2.53	2.36	-6.81	2.68	2.59	-3.25
Perceived Parental Attitudes, 0-3	2.88	2.77	-3.65	2.79	2.86	2.46

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Other Tobacco	0.00	0.00	-	0.00	0.00	-
Cigarettes	5.00	0.00	-100.00	0.00	0.00	-
E-Cigarettes or Vapes	10.00	5.00	-50.00	0.00	0.00	-
Alcohol	5.00	10.00	100.00	0.00	0.00	-
Marijuana	5.26	5.00	-4.94	0.00	0.00	-
Non-Medical Prescription Drug Use	5.00	0.00	-100.00	7.41	0.00	-100.00
Binge Drinking (past 2 weeks)	5.00	0.00	-100.00	7.41	0.00	-100.00

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

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

**Table A2. Overall Results by Race Group – Middle School (continued)**

Risk Factor Scores, Range (Positive score is favorable)	Black/African American participants (n=520)			Multiethnic participants (n=117)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	2.20	2.34	6.55**	2.32	2.50	7.76**
Decision-Making Skills, 0-3	1.94	1.94	-0.10	1.94	1.90	-2.28
Disapproval of Use, 0-3	2.49	2.54	2.01*	2.60	2.60	0.14
Perceived Peer Norms, 0-3	2.40	2.47	2.65**	2.41	2.48	3.02
Perceived Parental Attitudes, 0-3	2.76	2.76	0.00	2.82	2.80	-0.88

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Other Tobacco	0.58	1.17	101.72	1.72	0.00	-100.00
Cigarettes	1.35	1.15	-14.81	0.86	0.85	-1.16
E-Cigarettes or Vapes	7.53	2.13	-71.71**	7.76	1.71	-77.96**
Alcohol	5.20	6.17	18.65	5.17	6.96	34.62
Marijuana	4.06	5.38	32.51	3.45	5.17	49.86
Non-Medical Prescription Drug Use	3.66	3.28	-10.38	2.59	3.45	33.20
Binge Drinking (past 2 weeks)	2.88	1.58	-45.14	2.56	0.85	-66.80

\* 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 Race Group – Middle School (continued)**

Risk Factor Scores, Range (Positive score is favorable)	Other participants (n=134)			White participants (n=667)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	2.22	2.41	8.57**	2.44	2.60	6.59**
Decision-Making Skills, 0-3	1.85	1.89	2.34	2.00	2.00	-0.34
Disapproval of Use, 0-3	2.53	2.52	-0.12	2.72	2.77	1.73**
Perceived Peer Norms, 0-3	2.32	2.46	5.98**	2.62	2.68	2.53**
Perceived Parental Attitudes, 0-3	2.74	2.74	0.20	2.88	2.89	0.18

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Other Tobacco	0.00	1.50	-	0.45	0.60	33.33
Cigarettes	1.49	0.00	-100.00	0.75	0.90	20.00
E-Cigarettes or Vapes	8.96	0.76	-91.52**	3.45	0.76	-77.97**
Alcohol	9.70	8.27	-14.74	2.71	3.47	28.04
Marijuana	5.22	7.52	44.06	1.35	4.07	201.48**
Non-Medical Prescription Drug Use	7.52	3.76	-50.00	1.05	0.91	-13.33
Binge Drinking (past 2 weeks)	3.01	0.76	-74.75	1.96	1.05	-46.43

\* 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 Ethnicity – Middle School**

Risk Factor Scores, Range (Positive score is favorable)	Participants of Hispanic, Latino, or Spanish Descent or Origin (n=163)			Participants Not of Hispanic, Latino, or Spanish Descent or Origin (n=1292)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	2.28	2.46	7.90**	2.34	2.49	6.40**
Decision-Making Skills, 0-3	1.87	1.86	-0.44	1.97	1.97	0.00
Disapproval of Use, 0-3	2.54	2.55	0.71	2.62	2.67	1.63**
Perceived Peer Norms, 0-3	2.41	2.50	3.81*	2.52	2.59	2.70**
Perceived Parental Attitudes, 0-3	2.80	2.80	-0.06	2.83	2.83	0.02

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Other Tobacco	0.00	1.23	-	0.63	0.71	12.70
Cigarettes	2.45	0.61	-75.10	0.86	0.86	0.00
E-Cigarettes or Vapes	8.59	1.85	-78.46**	4.94	1.18	-76.11**
Alcohol	7.98	8.07	1.13	3.69	4.54	23.04
Marijuana	4.29	5.52	28.67	2.28	4.54	99.12**
Non-Medical Prescription Drug Use	3.70	3.09	-16.49	2.59	2.11	-18.53
Binge Drinking (past 2 weeks)	1.84	0.00	-100.00	2.58	1.18	-54.26

\* 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 Program – Middle School**

Risk Factor Scores, Range (Positive score is favorable)	All Programs (n=1,547)			Alcohol Stories (n=298)		
	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Perceived Risk, 0-3	2.21	2.41	8.87**	2.25	2.36	5.25**
Decision-Making Skills, 0-3	1.88	1.88	-0.31	1.82	1.78	-2.17
Disapproval of Use, 0-3	2.56	2.59	1.39**	2.46	2.47	0.46
Perceived Peer Norms, 0-3	2.37	2.45	3.49**	2.29	2.31	0.78
Perceived Parental Attitudes, 0-3	2.79	2.78	-0.38	2.80	2.78	-0.53

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Other Tobacco	0.59	0.92	55.93	0.67	1.36	102.99
Cigarettes	1.24	0.97	-21.77	1.01	0.67	-33.66
E-cigarettes or Vapes	5.61	1.43	-74.51	14.48	1.01	-93.02
Alcohol	4.50	5.08	12.89	6.08	10.85	78.45
Marijuana	3.00	4.88	62.67	6.06	7.77	28.22
Non-Medical Prescription Drug Use	2.74	2.41	-12.04	2.36	3.37	42.80
Binge Drinking (past 2 weeks)	2.67	1.24	-53.56	2.69	0.67	-75.09*

\* 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 Program – Middle School (continued)**

Risk Factor Scores, Range (Positive score is favorable)	All Stars (n=94)			Keepin It Real (n=71)		
	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Perceived Risk, 0-3	2.10	2.30	9.45**	1.78	2.12	19.10**
Decision-Making Skills, 0-3	1.98	1.94	-1.97	1.92	1.86	-3.12
Disapproval of Use, 0-3	2.52	2.54	0.87	2.53	2.55	1.00
Perceived Peer Norms, 0-3	2.36	2.33	-1.22	2.35	2.36	0.33
Perceived Parental Attitudes, 0-3	2.72	2.75	1.15	2.63	2.66	1.15

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Other Tobacco	0.00	0.00	-	2.82	1.45	-48.58
Cigarettes	1.06	0.00	-100.00	1.41	0.00	-100.00
E-cigarettes or Vapes	2.13	3.23	51.64	4.29	4.23	-1.40
Alcohol	4.26	6.38	49.77	8.45	4.23	-49.94
Marijuana	1.06	3.19	200.94	2.82	7.04	149.65
Non-Medical Prescription Drug Use	4.26	2.13	-50.00	11.27	2.82	-74.98
Binge Drinking (past 2 weeks)	1.06	1.11	4.72	2.82	1.43	-49.29

\* 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 Program – Middle School (continued)**

Risk Factor Scores, Range (Positive score is favorable)	Life Skills (n=882)			Operation Prevention: Rx (n=110)		
	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Perceived Risk, 0-3	2.32	2.53	8.97**	2.09	2.07	-0.98
Decision-Making Skills, 0-3	1.93	1.93	0.22	1.82	1.72	-5.25
Disapproval of Use, 0-3	2.65	2.69	1.28**	2.38	2.34	-1.42
Perceived Peer Norms, 0-3	2.46	2.57	4.77**	2.20	2.10	-4.45
Perceived Parental Attitudes, 0-3	2.82	2.81	-0.25	2.79	2.60	-6.94**

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Other Tobacco	0.57	0.92	61.40	0.00	0.00	-
Cigarettes	1.26	1.48	17.46	0.00	0.00	-
E-cigarettes or Vapes	2.64	1.03	-60.98**	5.45	1.82	-66.61
Alcohol	3.21	2.86	-10.90	5.45	6.36	16.70
Marijuana	1.73	4.12	138.15	2.73	2.73	0.00
Non-Medical Prescription Drug Use	1.72	1.95	13.37	5.45	2.73	-49.91
Binge Drinking (past 2 weeks)	2.86	1.61	-43.71	3.64	0.00	-100.00

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

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

**Table A4. Overall Results by Program – Middle School (continued)**

Risk Factor Scores, Range (Positive score is favorable)	Project Alert (n=55)			Why Try (n=23)		
	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Perceived Risk, 0-3	1.65	2.22	34.88**	1.50	1.86	23.73*
Decision-Making Skills, 0-3	1.65	1.88	14.36**	1.58	1.75	11.03
Disapproval of Use, 0-3	2.19	2.47	12.56**	1.95	2.17	11.27
Perceived Peer Norms, 0-3	2.02	2.33	15.72**	1.57	2.14	36.61**
Perceived Parental Attitudes, 0-3	2.64	2.77	4.93**	2.49	2.61	4.80

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Other Tobacco	0.00	1.82	-	0.00	0.00	-
Cigarettes	0.00	0.00	-	13.04	0.00	-100.00
E-cigarettes or Vapes	0.00	0.00	-	34.78	9.09	-73.86
Alcohol	1.82	0.00	-100.00	26.09	17.39	-33.35
Marijuana	0.00	1.82	-	26.09	17.39	-33.35
Non-Medical Prescription Drug Use	0.00	0.00	-	4.35	13.04	199.77
Binge Drinking (past 2 weeks)	0.00	0.00	-	4.35	4.76	9.43

\* 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 Sex – High School**

Risk Factor Scores, Range (Positive score is favorable)	High School - Females (n=79)			High School- Males (n=84)		
	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Perceived Risk, 0-3	2.07	2.30	11.39**	1.98	2.22	12.10**
Decision-Making Skills, 0-3	1.79	1.92	7.25*	1.85	1.92	3.81
Disapproval of Use, 0-3	2.11	2.22	5.06*	2.15	2.29	6.43**
Perceived Peer Norms, 0-3	1.91	2.06	8.14**	1.89	2.07	9.81**
Perceived Parental Attitudes, 0-3	2.57	2.57	0.00	2.56	2.55	-0.56

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Other Tobacco	0.00	0.00	-	2.38	2.38	0.00
Cigarettes	2.53	2.53	0.00	3.57	2.38	-33.33
E-Cigarettes or Vapes	30.38	26.58	-12.51	17.86	16.67	-6.66
Alcohol	24.05	21.52	-10.52	20.24	14.46	-28.56
Marijuana	25.32	18.99	-25.00	16.87	14.29	-15.29
Non-Medical Prescription Drug Use	2.53	5.06	100.00	0.00	2.38	-
Prescription Pain Pills	3.80	2.53	-33.42	0.00	2.38	-
Heroin or Fentanyl	2.53	2.53	0.00	0.00	1.19	-
Cocaine	1.27	1.27	0.00	0.00	1.19	-
Other Illegal Drugs	0.00	1.30	-	0.00	1.22	-
Binge Drinking (past 2 weeks)	7.59	3.80	-49.93	8.43	8.33	-1.19

\* 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 A6. Overall Results by Race Group – High School**

Risk Factor Scores, Range (Positive score is favorable)	Black/African American Participants (n=75)			White Participants (n=76)		
	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Perceived Risk, 0-3	1.97	2.18	10.54**	2.10	2.40	14.12**
Decision-Making Skills, 0-3	1.88	2.01	6.83	1.77	1.84	3.90
Disapproval of Use, 0-3	2.10	2.24	6.37*	2.16	2.32	7.68**
Perceived Peer Norms, 0-3	1.95	2.25	15.47**	1.92	1.98	3.47
Perceived Parental Attitudes, 0-3	2.49	2.63	5.56**	2.62	2.54	-2.92

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Other Tobacco	0.00	0.00	-	2.63	1.32	-49.81
Cigarettes	1.33	2.67	100.75	5.26	1.32	-74.90
E-Cigarettes or Vapes	18.67	14.67	-21.42	26.32	23.68	-10.03
Alcohol	12.00	5.41	-54.92	28.95	25.00	-13.64
Marijuana	26.67	17.33	-35.02	16.00	13.16	-17.75
Non-Medical Prescription Drug Use	0.00	2.67	-	2.63	2.63	0.00
Prescription Pain Pills	1.33	1.33	0.00	2.63	2.63	0.00
Heroin or Fentanyl	2.67	0.00	-100.00	0.00	0.00	-
Cocaine	0.00	0.00	-	2.63	1.32	-49.81
Other Illegal Drugs	0.00	0.00	-	1.32	0.00	-100.00
Binge Drinking (past 2 weeks)	2.70	0.00	-100.00	13.16	9.21	-30.02

\* 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 A7. Overall Results by Ethnicity – High School**

Risk Factor Scores, Range (Positive score is favorable)	Participants Not of Hispanic, Latino, or Spanish Descent or Origin (n=159)		
	Pre-Average	Post Average	% Change
Perceived Risk, 0-3	2.04	2.28	11.47**
Decision-Making Skills, 0-3	1.80	1.88	4.44
Disapproval of Use, 0-3	2.14	2.27	5.95**
Perceived Peer Norms, 0-3	1.88	2.06	9.80**
Perceived Parental Attitudes, 0-3	2.58	2.58	0.10

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre-Average	Post Average	% Change
Other Tobacco	1.89	1.26	-33.33
Cigarettes	3.77	3.14	-16.71
E-Cigarettes or Vapes	24.53	20.13	-17.94
Alcohol	22.01	16.46	-25.22
Marijuana	21.52	16.98	-21.10
Non-Medical Prescription Drug Use	1.26	2.52	100.00
Prescription Pain Pills	1.26	2.52	100.00
Heroin or Fentanyl	1.89	0.63	-66.67
Cocaine	1.26	1.26	0.00
Other Illegal Drugs	0.63	1.26	100.00
Binge Drinking (past 2 weeks)	8.23	6.29	-23.57

\* 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 A8. Overall Results by Program – High School**

Risk Factor Scores, Range (Positive score is favorable)	All Programs (n=166)			Class Action (n=34)		
	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Perceived Risk, 0-3	2.03	2.25	11.17**	1.98	2.35	18.95**
Decision-Making Skills, 0-3	1.81	1.90	5.07*	1.95	1.93	-1.13
Disapproval of Use, 0-3	2.13	2.26	6.12**	2.11	2.20	4.18
Perceived Peer Norms, 0-3	1.88	2.06	9.44**	1.88	1.92	2.18
Perceived Parental Attitudes, 0-3	2.56	2.56	0.05	2.61	2.42	-7.44

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Other Tobacco	1.81	1.20	-33.70	0.00	2.94	-
Cigarettes	3.61	3.01	-16.62	0.00	2.94	-
E-Cigarettes or Vapes	24.70	21.08	-14.66	23.53	23.53	0.00
Alcohol	22.89	17.58	-23.20	32.35	26.47	-18.18
Marijuana	21.82	16.87	-22.69	23.53	14.71	-37.48
Non-Medical Prescription Drug Use	1.81	3.61	99.45	2.94	5.88	100.00
Prescription Pain Pills	1.81	2.41	33.15	2.94	2.94	0.00
Heroin or Fentanyl	1.81	0.60	-66.85	2.94	2.94	0.00
Cocaine	1.20	1.20	0.00	0.00	2.94	-
Other Illegal Drugs	0.61	1.23	101.64	0.00	5.88	-
Binge Drinking (past 2 weeks)	8.48	6.02	-29.01	14.71	8.82	-40.04

\* 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 A8. Overall Results by Program – High School (continued)**

Risk Factor Scores, Range (Positive score is favorable)	Life Skills (n=95)			Prime for Life (n=28)		
	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Perceived Risk, 0-3	2.04	2.18	6.80**	2.32	2.73	17.54**
Decision-Making Skills, 0-3	1.78	1.88	5.92*	1.82	1.90	4.41
Disapproval of Use, 0-3	2.13	2.22	4.28	2.36	2.69	13.94**
Perceived Peer Norms, 0-3	1.86	2.07	11.12**	2.13	2.34	9.73**
Perceived Parental Attitudes, 0-3	2.49	2.56	3.05	2.85	2.86	0.50

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre-Average	Post Average	% Change	Pre-Average	Post Average	% Change
Other Tobacco	2.11	0.00	-100.00	3.57	3.57	0.00
Cigarettes	5.26	4.21	-19.96	3.57	0.00	-100.00
E-Cigarettes or Vapes	26.32	16.84	-36.02**	17.86	17.86	0.00
Alcohol	18.95	13.83	-27.02	32.14	21.43	-33.32
Marijuana	25.26	18.95	-24.98	7.41	3.57	-51.82
Non-Medical Prescription Drug Use	2.11	4.21	99.53	0.00	0.00	-
Prescription Pain Pills	2.11	3.16	49.76	0.00	0.00	-
Heroin or Fentanyl	2.11	0.00	-100.00	0.00	0.00	-
Cocaine	2.11	1.05	-50.24	0.00	0.00	-
Other Illegal Drugs	1.06	0.00	-100.00	0.00	0.00	-
Binge Drinking (past 2 weeks)	3.19	1.05	-67.08	21.43	21.43	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)

# 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

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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 for 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 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 set 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. Many 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 today 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 fewer positive outcomes.

## **Program Implementation Issues**

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Program implementation issues acknowledge possible limitations in program effectiveness due to 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 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 over 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**

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**Testing Pre- and Post-Survey Differences in Risk-Factor Scores:** We used SPSS 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 because 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

# SOUTH CAROLINA MIDDLE SCHOOL STUDENT PREVENTION SURVEY

Private Student Code

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

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



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

<b>1. How much do you think people risk harming themselves physically and in other ways when they . . .</b>	<b>No Risk</b>	<b>Slight Risk</b>	<b>Moderate Risk</b>	<b>Great Risk</b>
a) Smoke one or more packs of cigarettes per day?	○	○	○	○
b) Use e-cigarettes or vaping pens daily (e.g., JUULs)?	○	○	○	○
c) Use marijuana once or twice per week?	○	○	○	○
d) Have five or more drinks of an alcoholic beverage in a short period of time once or twice a week?	○	○	○	○
e) Use prescription drugs without a doctor's prescription? (This does NOT include things like Advil, Tylenol, aspirin or cough syrup.)	○	○	○	○

<b>2. How wrong do you think it is for someone your age to...</b>	<b>Not at all wrong</b>	<b>A little bit wrong</b>	<b>Wrong</b>	<b>Very Wrong</b>
a) Drink beer, wine or hard liquor (e.g., vodka, whiskey or gin)?	○	○	○	○
b) Smoke cigarettes?	○	○	○	○
c) Smoke e-cigarettes or vaping pens (e.g., JUULs)?	○	○	○	○
d) Use marijuana?	○	○	○	○
e) Use prescription drugs without a doctor's prescription? (This does NOT include things like Advil, Tylenol, aspirin or cough syrup.)	○	○	○	○

Private Student Code:

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<b>3. How wrong do you think your <u>parents</u> feel it would be for YOU to...</b>	<b>Not at all wrong</b>	<b>A little bit wrong</b>	<b>Wrong</b>	<b>Very Wrong</b>
a) Have one or two drinks of an alcoholic beverage nearly every day?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Smoke cigarettes?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Use e-cigarettes or vaping pens (e.g., JUULs)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Use marijuana?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Use prescription drugs without a doctor's prescription? (This does NOT include things like Advil, Tylenol, aspirin or cough syrup.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<b>4. How wrong do your <u>friends</u> feel it would be for YOU to...</b>	<b>Not at all wrong</b>	<b>A little bit wrong</b>	<b>Wrong</b>	<b>Very Wrong</b>
a) Have one or two drinks of an alcoholic beverage nearly every day?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Smoke cigarettes?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Use e-cigarettes or vaping pens (e.g., JUULs)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Use marijuana?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Use prescription drugs without a doctor's prescription? (This does NOT include things like Advil, Tylenol, aspirin or cough syrup.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<b>5. Please respond to the following questions and statements about decision-making.</b>	<b>Never</b>	<b>Sometimes, but not often</b>	<b>Often</b>	<b>All the time</b>
a) How often do you stop to think about your options before you make a decision?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) How often do you stop to think about how your decisions may affect others' feelings?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) How often do you stop and think about all of the things that may happen as a result of your decisions?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) I make good decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Private Student Code:

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6. During the past 30 days, have you...	Yes	No
a) used chewing tobacco, snuff or dip?	<input type="radio"/>	<input type="radio"/>
b) smoked cigarettes?	<input type="radio"/>	<input type="radio"/>
c) smoked e-cigarettes or vapes (e.g., JUULs)?	<input type="radio"/>	<input type="radio"/>
d) had alcoholic beverages (beer, wine, or hard liquor) - more than just a few sips?	<input type="radio"/>	<input type="radio"/>
e) used marijuana (weed, pot), edibles, or hashish (hash, hash oil)?	<input type="radio"/>	<input type="radio"/>
f) used prescription drugs without a doctor's prescription? (This does NOT include things like Advil, Tylenol, aspirin or cough syrup.)	<input type="radio"/>	<input type="radio"/>

7. Think back over the last two weeks. Have you had 5 or more alcoholic drinks in a row within a short period of time?

Yes  No

8. Have you talked to at least one of your parents about the dangers of alcohol, tobacco, or other drugs? By parents, we mean either your biological parents, adoptive parents, step parents, or adult guardians - whether or not they live with you.

Yes  No

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

9. What grade are you in?  6th grade  7th grade  8th grade

10. What is your gender?  Male  Female  Prefer not to answer

11. Are you Hispanic or Latino?  Yes  No

12. Which of the following describes you? (please choose ONE)

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

**THE END**

**SOUTH CAROLINA HIGH SCHOOL  
STUDENT  
PREVENTION SURVEY**

Private Student Code

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

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



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

<b>1. How much do you think people risk harming themselves physically and in other ways when they . . .</b>	<b>No Risk</b>	<b>Slight Risk</b>	<b>Moderate Risk</b>	<b>Great Risk</b>
a) Smoke one or more packs of cigarettes per day?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Use e-cigarettes or vaping pens daily (e.g., JUULs)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Use marijuana once or twice per week?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Have five or more drinks of an alcoholic beverage within a short period once or twice a week?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Use prescription drugs without a doctor's prescription? (This does NOT include things like Advil, Tylenol, aspirin or cough syrup.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Use prescription <b>pain pills</b> (e.g., OxyContin, Vicodin, etc.) not prescribed to them?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<b>2. How wrong do you think it is for someone your age to...</b>	<b>Not at all wrong</b>	<b>A little bit wrong</b>	<b>Wrong</b>	<b>Very Wrong</b>
a) Drink beer, wine or hard liquor (e.g., vodka, whiskey or gin)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Smoke cigarettes?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Smoke e-cigarettes or vaping pens (e.g. JUULs)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Use marijuana?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Use prescription drugs without a doctor's prescription? (This does NOT include things like Advil, Tylenol, aspirin or cough syrup.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Use prescription <b>pain pills</b> (e.g., OxyContin, Vicodin, etc.) not prescribed to them?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Private Student Code:

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<b>3. How wrong do you think your <u>parents</u> feel it would be for YOU to...</b>	<b>Not at all wrong</b>	<b>A little bit wrong</b>	<b>Wrong</b>	<b>Very Wrong</b>
a) Have one or two drinks of an alcoholic beverage nearly every day?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Smoke cigarettes?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Use e-cigarettes or vaping pens (e.g. JUULs)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Use marijuana?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Use prescription drugs without a doctor's prescription? (This does NOT include things like Advil, Tylenol, aspirin or cough syrup.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Use prescription <b>pain pills</b> (e.g., OxyContin, Vicodin, etc.) not prescribed to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<b>4. How wrong do your <u>friends</u> feel it would be for YOU to...</b>	<b>Not at all wrong</b>	<b>A little bit wrong</b>	<b>Wrong</b>	<b>Very Wrong</b>
a) Have one or two drinks of an alcoholic beverage nearly every day?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Smoke cigarettes?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Use e-cigarettes or vaping pens (e.g. JUULs)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Use marijuana?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Use prescription drugs not prescribed to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Use prescription <b>pain pills</b> (e.g., OxyContin, Vicodin, etc.) not prescribed to you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<b>5. Please respond to the following questions and statements about decision-making.</b>	<b>Never</b>	<b>Sometimes, but not often</b>	<b>Often</b>	<b>All the time</b>
a) How often do you stop to think about your options before you make a decision?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) How often do you stop to think about how your decisions may affect others' feelings?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) How often do you stop and think about all of the things that may happen as a result of your decisions?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) I make good decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Private Student Code:

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6. During the past 30 days, have you...	Yes	No
a) used chewing tobacco, snuff or dip?	<input type="radio"/>	<input type="radio"/>
b) smoked cigarettes?	<input type="radio"/>	<input type="radio"/>
c) smoked e-cigarettes or vapes (e.g. JUULs)?	<input type="radio"/>	<input type="radio"/>
d) had alcoholic beverages (beer, wine, or hard liquor) - more than just a few sips?	<input type="radio"/>	<input type="radio"/>
e) used marijuana (weed, pot), edibles, or hashish (hash, hash oil)?	<input type="radio"/>	<input type="radio"/>
f) used prescription drugs without a doctor's prescription? (This does NOT include things like Advil, Tylenol, aspirin or cough syrup.)	<input type="radio"/>	<input type="radio"/>
g) used prescription pain pills (e.g., OxyContin, Vicodin, etc.) without a doctor's prescription?	<input type="radio"/>	<input type="radio"/>
h) used heroin or fentanyl?	<input type="radio"/>	<input type="radio"/>
i) used cocaine?	<input type="radio"/>	<input type="radio"/>
j) used other illegal drugs such as LSD (acid), amphetamines, methamphetamines, or Ecstasy (MDMA)	<input type="radio"/>	<input type="radio"/>

7. Think back over the last two weeks. Have you had 5 or more alcoholic drinks in a row within a short period of time?

Yes  No

8. Have you talked to at least one of your parents about the dangers of alcohol, tobacco, or other drugs? By parents, we mean either your biological parents, adoptive parents, step parents, or adult guardians - whether or not they live with you.

Yes  No

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

9. What grade are you in?  9th Grade  10th grade  11th grade  12th grade

10. What is your gender?  Male  Female  Prefer not to answer

11. Are you Hispanic or Latino?  Yes  No

12. Which of the following describes you? (please choose ONE)

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