

# Fiscal Year 2015



## Prevention Outcomes Annual Report

South Carolina  
**DAODAS**  
Department of Alcohol and Other Drug Abuse Services



Pacific Institute for Research and Evaluation

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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 2015 (July 1, 2014 – June 30, 2015). Much of the report focuses on prevention outcomes generated through pre- and post-testing of middle and high school youth who participated in prevention programs. The report also includes data related to county alcohol and tobacco environmental strategies (e.g., compliance checks, bar checks, and merchant education), the Youth Access to Tobacco Study (Synar), and the distribution of prevention services.

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

- There were 2,357 participants with matched pre- and post-tests. Most (92.8%) participants were between the ages of 10 and 14. There was a slightly higher proportion of females (51.7%) than males (48.4%). Most participants identified as Black/African American (50.4%) or White (36.0%).
- The results showed **statistically significant positive changes on four of the five risk factor** measures: perceived risk, decision-making, disapproval of use, and peer norms).
- For **substance use**, there were **seven statistically significant changes in the desired direction**— reductions in cigarettes, other tobacco, alcohol, marijuana, inhalants, non-medical prescription drug use, and non-medical over-the-counter drug use.
- For **all eight substances measured**, more than **95% of participants who were non-users at pre-test remained non-users at post-test** for each substance.
- For **all eight substances measured**, the **vast majority** (least 78.8%) of those who used at pre-test **reported using less or not at all** for that substance **at post-test**.
- **Average age of first use for cigarettes, other tobacco products, and alcohol** ranged from **10.6 and 11.1** years. The average age of first use of **marijuana and other illegal drugs** was **12.1** years for both.
- **Nine different curriculum-based programs were implemented**, with 89.6% of participants being in evidence-based programs.

The color-coded table below summarizes the pre- and post-test differences in risk scores and substance use rates. As can be seen, there were widespread desired changes in risk factor scores and substance use rates in FY '15.

## Summary of Statistically Significant Results, By Demographics and Program

Category (number)	Perceived Risk	Decision Making	Disapproval of Use	Perceived Peer Norms	Perceived Parental Attitudes	Cigarettes	Other Tobacco	Alcohol	Marijuana	Other Illegal Drugs	Inhalants	Non-medical Use of Prescriptions	Non-medical Use of OTCs	
<b>DEMOGRAPHICS</b>														
Overall Middle School (1865)	*	*	*	*				*			*		*	
Overall High School (477)	*	*	*	*	*		*	*	*			*	*	
Females (1131)	*	*	*	*					*					
Males (1208)	*	*	*	*	*	*	*	*	*		*	*	*	
Black/African American (1173)	*	*	*	*	*	*	*	*	*		*	*		
White (837)	*	*	*				*					*	*	
Multi-ethnic (102)	*				*									
American Indian/Nat. American (44)														
Other (142)	*	*		*										
Hispanic (167)	*							*						
Not Hispanic (2091)	*	*	*	*		*	*	*	*		*	*	*	
<b>PROGRAMS</b>														
All Stars (3 sites; n = 303)	*	*	*	*				*					*	
Girls Circle (1 site; n = 28)														
Keepin' It Real (1; n = 119)	*				*									
Life Skills (10 sites; n = 1337)	*	*	*	*			*	*	*		*			
Project Alert (3 sites; n = 261)	*	*			*		*	*						
Project TND (1 site; n = 98)	*	*	*	*	*		*							
Project TNT (1 site; n = 32)	*	*	*											
Tobacco Education Program (1 site; n = 119)	*	*	*	*								*		
Why Try (2 sites; n = 60)	*	*	*	*					*	*				
OVERALL (18 sites; n = 2357)	*	*	*	*			*	*	*		*	*	*	
<b>LEGEND</b>														
Desired Marginally Significant		Desired Significant						*						
Undesired Marginally Significant		Undesired Significant						*						

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

- County authority prevention staff returned forms on **8,499 alcohol compliance checks and 1,063 tobacco compliance** checks. For alcohol, 11.5% of attempts generated sales; for tobacco, 7.4% of attempts resulted in sales.
- The Palmetto Retailer Education Program (**PREP**) served **2,180 merchants**.
- **AETs** reported a total of **1,125 public safety checkpoints**, down slightly from FY '14. AETs issued 354 DUIs citations during the FY '15 checkpoints. In addition, there were **637 saturation patrols** reported that generated another 6,722 tickets. This operation accounted for 115 underage drinking citations, 93 DUIs, 90 open container violations, three fake ID violations, and 229 drug offenses.
- **AETs** reported that **130 parties were disbursed**, resulting in 484 violations, including 312 for underage drinking, seven for transfer of alcohol to an underage person, two for unlicensed keg possession, 24 for fake IDs, and 53 for drug possession.
- More **than 2,000 youth were in diversion program for youth alcohol and tobacco offenses** (551 served in the Alcohol Education Program and 1,691 served in the Tobacco Education Program).
- The Youth Access to Tobacco Study (Synar) showed that **7.7% of retailers sold cigarettes to underage youth**, down from 10.6% in FY 2014.

# EVALUATION REPORT OVERVIEW

## State Prevention Evaluation Efforts

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

## Contents of This Report

This report provides prevention data for Fiscal Year 2015 (July 1, 2014 – June 30, 2015) from a variety of data sources. Much of the report focuses on prevention outcomes generated through pre- and post-testing of middle and high school youth who participated in prevention programs. The report also includes data related to county alcohol and tobacco environmental strategies (e.g., compliance checks, bar checks, and merchant education), the Youth Access to Tobacco Study (Synar), and the distribution of prevention services. Each section of the report is described below.

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

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

Section III covers results from the FY '15 Youth Access to Tobacco Study (Synar).

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

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 '15.

## **Focusing on State Data Indicators**

In many ways, this annual outcomes report serves as a companion document to the *2013 South Carolina Profile on Alcohol, Tobacco, and Other Substance Related Indicators*. This overview of data indicators related to youth and adult drug use, consequences, and risk factors is an important measuring stick for the overall direction of the state in addressing its ATOD issues. In particular, the report 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

However, 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 ASSOCIATED RISK FACTORS (PRE- AND POST TESTS)**

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

It is important to note that the evaluation design is non-experimental. That is, pre- and post-surveys are required to be administered only to program participants and not to control groups, so we cannot tell what would have happened in the absence of the program. Despite this limitation, reported changes in the desired direction are expected to provide some level of comfort that the program seems to be leading to the outcomes anticipated for a program.<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 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.

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

## The Pre-Post Test Outcome Evaluation Instrument

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

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

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

In FY '11, there was only a minor change made in the content of the survey, one item was dropped, but the data entry process underwent a major change. Instead of local entry to student responses into the KIT Prevention online reporting system, PIRE created a "form" version of the survey where responses can be read by a batch scanner in the DAODAS office. No changes were made to the survey or to the surveying process through FY '15. The deadline for pre- or post-tests to be included in the final database for FY '15 was June 1, 2015.

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

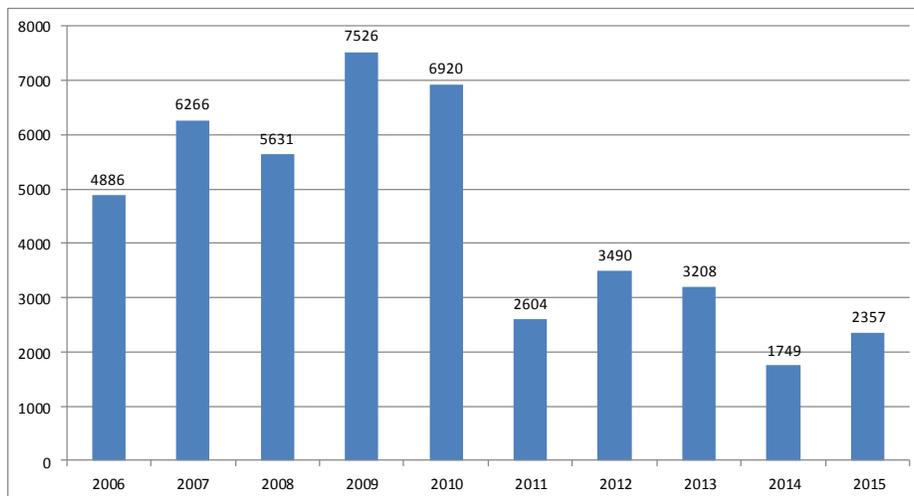
## Matched Participants

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

- 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 at a later time),
- The participant left so much of the survey blank that it was removed from the analyses,
- The participant refused to take the pre- or the post-test, or
- Surveys were misplaced or not given to DAODAS/PIRE by local prevention staff.

If a participant did not have matched, valid pre- and post-tests, then neither test was included in the database that we analyzed. The final database had 2,357 matched participants (Figure 1). The ending of the Safe and Drug-Free Schools funding at the end of FY '10 accounts for much of the drop from earlier years.

**Figure 1. Matched Participants in Pre-Post Database, FY '06-'15**



The pre-test database contained 2,571 surveys while the post-test database contained 2,538 cases, which resulted in 2,357 matched cases or 91.7% of pre-test cases. The 2,571 total youth that completed a pre-test do not necessarily reflect all school age youth to receive curriculum program services. DAODAS' prevention reporting system showed 5,821 total participants in recurring services for FY '15, most of which were aimed at school-aged youth. However, because elementary school programs and some

other types of programs are allowed exceptions to not use the DAODAS Standard Survey, it is reasonable that a smaller total would have been given a pre-test, though this gap appears larger than it should be.

### Demographic Breakdown

The data in this section are from the participants' responses to the demographic items on their pre-test. The same items appeared on their post-tests but are not reported here.

*Age.* A majority (92.8%) of participants were between the ages of 10 and 14, with an average age of 12.1, which is very similar to the FY '14 average age of 12.4. Consistent with the last two years, middle school students make up a sizable portion of the total population. Table 1 shows the complete breakdown. The only programs that were primarily for older age students had small numbers of participants served.

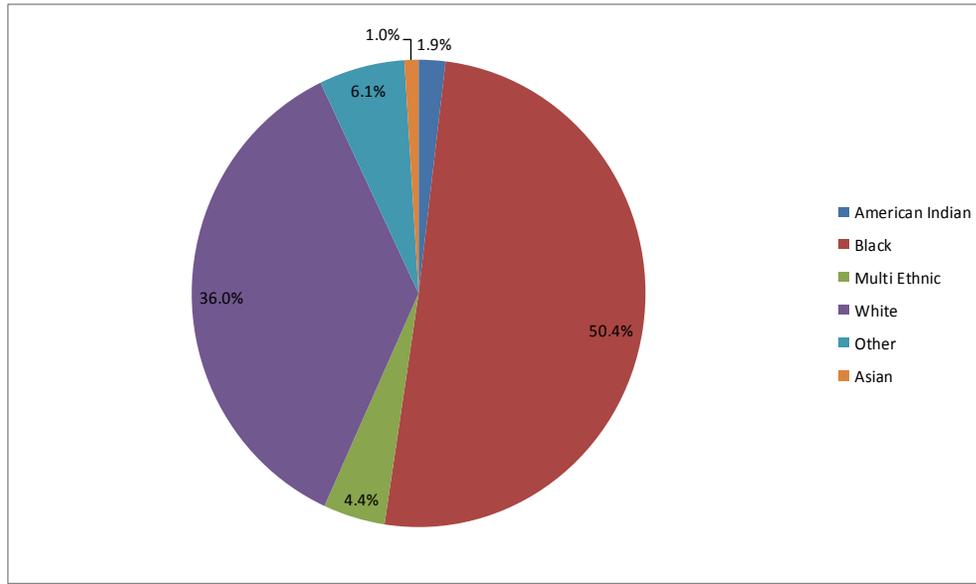
**Table 1. Age Distribution of Program Participants**

Age	% of Participants	
	FY '15	FY '14
10	15.5	13.2
11	26.3	17.6
12	22.0	19.6
13	15.8	30.0
14	13.2	12.1
15	3.8	3.3
16	1.6	2.6
17	1.2	1.0
18	0.7	0.6

*Sex.* The matched participants were fairly evenly split by sex (51.7% male and 48.4% female). The only programs that did not have a relatively even sex breakdown were Girl Power, Project TND, and Why Try.

*Race/Ethnicity.* Of the matched participants, 50.4% were Black or African American, 36.0% were White, 6.1% were of “other” race, 4.4% were in the multiethnic race category, 1.9% were American Indian or Alaskan Native, and 1.0% were Asian (Figure 2). These percentages are similar to those for FY ’14. The percentage of Hispanic, Latino, or Spanish origin students was 7.4% in 2015 compared to 7.5% in 2014.

**Figure 2. Matched Participants by Race/Ethnicity**



**Risk-Factor Measures**

Table 2 shows the results for the five risk factors included on the DAODAS Standard Survey. As shown in the table, there was a statistically significant ( $p < .05$ ) positive change from pre- to post-test for four of the five measures (perceived risk, decision-making, disapproval of use, and peer norms). The largest positive percentage change was for perceived risk (15.2% improvement). In FY 14, there were statistically significant changes in the desired direction in four of the five risk factors.

**Table 2. Overall Results, Risk-Factor Measures, FY ‘15 and ‘14**

Risk-Factor Measure	Possible Range of Scores	Pre-Test Average	Post-Test Average	FY ‘15% Change	FY ‘14 % Change
Perceived Risk	0-3	1.85	2.13	15.23*	11.58*
Decision-Making	0-3	1.79	1.93	7.70*	3.91*
Disapproval of Use	0-2	1.51	1.58	4.56*	2.60*
Perceived Peer Norms	0-10	8.31	8.50	2.22*	0.95*
Perceived Parental Attitudes	0-3	2.80	2.82	0.59	0.35

Positive scores are more favorable.

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

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

*Age.* Table A1 shows results separated by age range: middle school age (ages 10 to 13) and high school age (ages 14 to 19). As expected, younger participants had higher pre-test scores. Middle school students reported significant changes in the desired direction on four risk factors (perceived risk, decision-making, disapproval of use, and perceived peer norms). High school students had significant changes in the desired direction on all risk factors.

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

*Race/Ethnicity.* Table A3 shows data results separated by race (for those race groups with 40 or more participants), and Table A4 shows the results by ethnicity. African-American participants reported significant positive changes on all risk factors. White participants reported significant desired changes on three risk factors (perceived risk, decision-making, and disapproval of use). Participants who identified as Multi-Ethnic reported positive changes on two risk factors (perceived risk and perceived parental attitudes). Participants who identified as Other reported positive changes on two risk factors (perceived risk and perceived peer norms). Participants of Hispanic, Latino, or Spanish descent or origin reported statistically significant positive changes on one risk factor (perceived risk).

## Participant Substance Use

The DAODAS Standard Survey asked participants to indicate the extent of their cigarette, other tobacco, alcohol, marijuana, other illegal drug, inhalant, non-medical prescription drug, and non-medical over-the-counter drug use in the past 30 days. Using these responses, the percentage of participants that used each substance at any amount was calculated at pre- and post-test. FY '15 results, along with the corresponding changes in use for FY '14, are shown in Table 3.

**Table 3. Overall Results, Substance Use Rates, FY 2014-15**

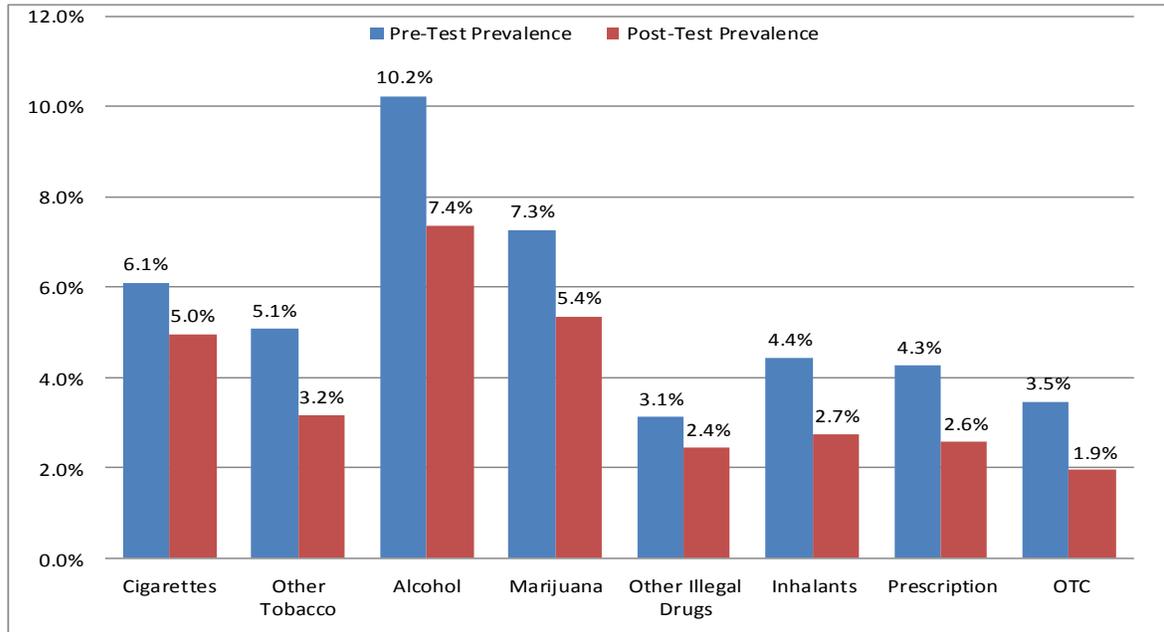
Risk-Factor Measure: 30 Day Use	% Using at Pre-Test	% Using at Post-Test	FY '15 % Change	FY '14 % Change
Cigarettes	6.09	4.96	-18.56*	-12.89
Other Tobacco	5.07	3.16	-37.67*	-23.18
Alcohol	10.21	7.35	-28.01*	-15.31
Marijuana	7.25	5.35	-26.21*	-25.78*
Other Illegal Drugs	3.17	2.44	-21.79	-4.26
Inhalants	4.44	2.74	-38.29*	-3.62
Non-Medical Prescription Drugs	4.26	2.57	-39.67*	-23.52
Non-Medical OTC Drugs	3.46	1.94	-43.93*	-14.87

Negative changes are desired for these items

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

For FY '15, there were seven statistically significant changes in substance use—reductions in cigarettes, other tobacco, alcohol, marijuana, inhalants, non-medical prescription drug use, and non-medical over-the-counter drug use. There was a reduction of 21.8% on the remaining substance use variable (other illegal drugs) but it was not statistically significant. Last year (FY '14) there was only statistically significant reduction among all the substance use variables. Figure 3 depicts these same data in graphic form, showing pre-test and post-test use rates for FY '15.

**Figure 3. Pre- and Post-Test Substance Use Rates, FY '15**



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

*Age.* Table A1 shows data results separated by middle school (ages 10 to 13) and high school (ages 14 to 19) age ranges. The middle school participant group had changes in the desired direction for use of all substances. There were statistically significant decreases in the percentage of users of alcohol, inhalants, and over-the-counter drug use. There was a near significant change in the percentage of marijuana users. Among high school students, there were decreases in use for all substances. Seven observed reductions were greater than 20%, with other tobacco, alcohol, marijuana, prescription drug, and over-the-counter drug use being statistically significant. Reported decreases in substance use were quite substantial, ranging from 19.12% (cigarettes) to 61.09% (prescription drugs).

*Sex.* Table A2 shows data results separated by sex. Males generally had a higher baseline level of substance use than females. Among females, rates of marijuana use decreased significantly, while among males there were seven statistically significant decreases.

*Race/Ethnicity.* Table A3 shows data results separated by race (for those race groups with 20 or more participants), and Table A4 shows the results by ethnicity. Among the two largest race groups in the dataset, White and African-American participants, decreases in use were found for all substances examined. African-Americans reported statistically significant decreases in cigarettes, other tobacco, alcohol, marijuana inhalants, and non-medical prescription drug use as well as a marginally significant decrease over-the-counter drug use. Whites reported statistically significant decreases

in other tobacco, non-medical prescription and over-the-counter drug use as well as a marginally significant decrease in marijuana use.

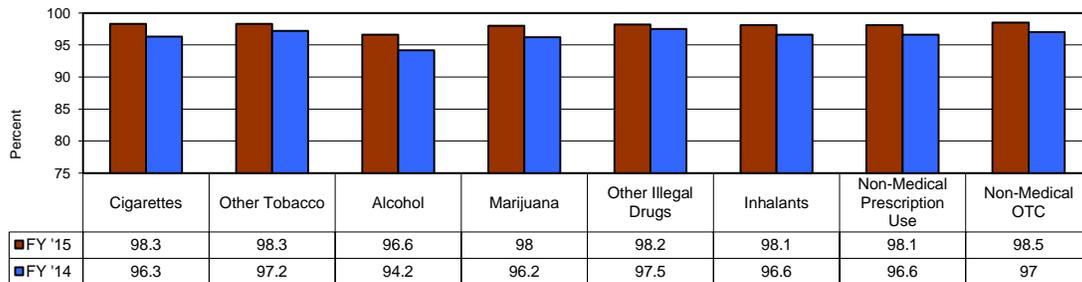
Non-Hispanic individuals showed statistically significant decreases in cigarettes, other tobacco, alcohol, marijuana, inhalants, non-medical prescription and over-the-counter drug use. There was a statistically significant change in alcohol use reported for Hispanic individuals.

### Substance Use Maintenance and Reduction

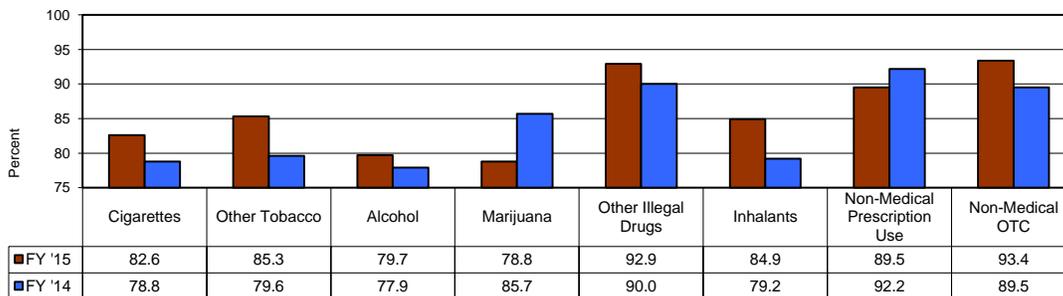
We analyzed responses regarding past-30-day use to determine (1) the percentage of participants who were not using a substance at pre-test that were still not using at post-test and (2) the percentage of participants who were using a substance at pre-test that were using less (or not at all) by post-test. The former may be the most accurate assessment of the “preventive” effect of the programs.

Figure 4 shows that the vast majority of participants who began programs as non-users remained non-users, ranging from 96.6% (alcohol) to 98.5% (non-medical OTC use). That is, continued non-use of substances was nearly universal. The results are similar to, though slightly higher than, FY '14. Figure 5 shows that the percent of users at pretest who reduced their use at post-test ranged from 78.8% (marijuana) to 93.4% (non-medical OTC use). Notably, rates of reduction were considerably lower for marijuana but higher for inhalants and other tobacco use compared to FY '14.

**Figure 4. Percent of Pre-Test Non-Users Who Remained Non-Users, FY '15 and '14**

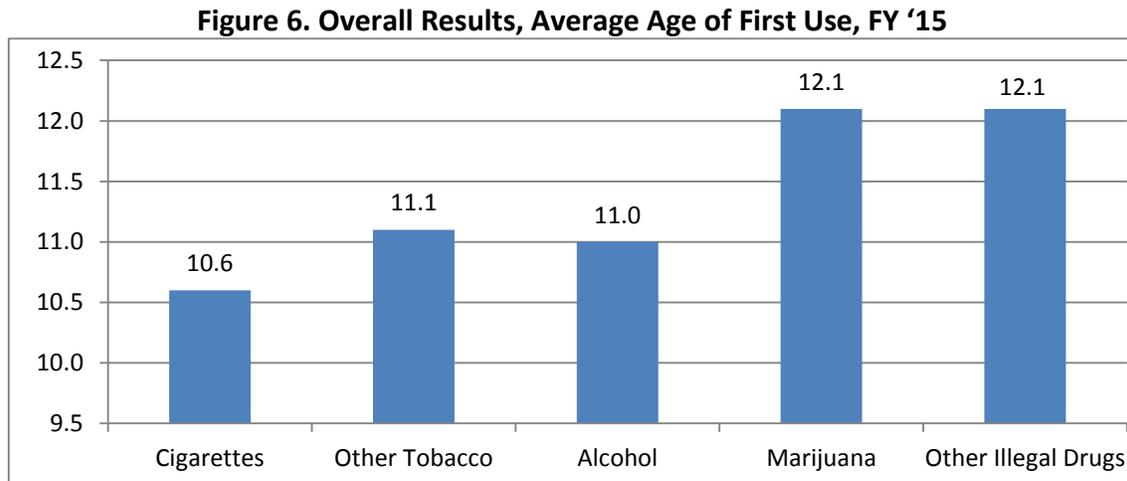


**Figure 5. Percent of Pre-Test Users Who Reduced Their Use, FY '15 and '14**



## Age of First Use

As shown in Figure 6, ages of first use at pretest ranged from 10.6 (cigarettes) to 12.1 (marijuana). Compared to FY '14, the age of first use appears to be slightly lower in FY '15; FY '14 ages ranged from 11.0 (cigarettes) to 13.8 (other illegal drugs).



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

Two additional items were first added to the survey in FY '08, but only on the pre-test. First, nearly identical to last year, just under two out of every three students (61.0%) report they had talked to their parents about the dangers of drugs in the past year. Additionally, similar to last year, 78.8% reported having watched, read, or heard a prevention advertisement in the past year.

## Prevention Programs

Across the provider network, nine different programs were implemented in FY '15, down from 11 in FY '14 and 15 in FY '13. In this section, we compare the outcomes for the nine programs with 20 or more matched participants. The full tables with results by program are found in Appendix A in Table A5.

**All Stars** is a comprehensive evidence-based ATOD prevention curriculum. This program was used by three sites with a total of 303 matched participants. There were four desired changes among the risk factors and two changes among the substance use behaviors.

**Girls Circle (formerly G.I.R.L. Power Series)** is a single-county prevention program. G.I.R.L. (Gifted, Intelligent, Responsible Ladies) Circle is a seven-session program assisting young girls with development of positive social skills, emphasizing respect for self and others, handling peer pressure, manners, and being comfortable in your own

skin. This program had 28 matched participants. The results showed no changes in any of the risk factors or substance use behaviors.

**Keepin' It Real**, an evidence-based, video-enhanced intervention for youth 10 to 17 that uses a culturally-grounded resiliency model that incorporates traditional ethnic values and practices that protect against drug use, was used by one site with a total of 119 matched participants. The results show desired changes in perceived risk and parental attitudes, but no changes among the substance use behaviors.

**Life Skills Training**, a skill-based, evidence-based ATOD prevention curriculum, was the most commonly implemented program with ten sites and 1337 matched participants. There were desired changes on four of the five risk factors (perceived risk, decision making, disapproval of use, and perceived peer norms). There were significant decreases in other tobacco, alcohol, marijuana, and inhalant use.

**Project Alert**, a comprehensive evidence-based ATOD prevention curriculum for middle school students, was delivered at three sites to 261 matched participants. The results showed a desired change for perceived risk and decision-making, and an undesired change in perceived parental attitudes. There were significant decreases in other tobacco and alcohol users.

**Project TND**, a prevention curriculum intended for high school students, was used by one site with 98 total matched participants. The results showed desirable changes for all risk factor measures. There was also a significant decrease in the use of other tobacco.

**Project Toward No Tobacco Use (TNT)**, a comprehensive, evidence-based tobacco prevention program for middle school youth was used by one site, with 32 matched participants. The results showed desirable changes for three risk factors and no changes in any of the substance use behaviors.

**Tobacco Education Program**, is offered as an alternative to penalties for students who face suspension for violation of a school tobacco-use policy. This program was used by one site, with 119 matched participants. The results showed desirable changes in four of the risk factors and a decrease in non-medical prescription drug use.

**Why Try** is a comprehensive evidence-based ATOD prevention curriculum, which was implemented at one site with 60 participants. There were desirable changes for four of the risk factors and a decrease in marijuana and other illegal drug use.

### **Evidence-Based vs. Non-Evidence-Based Programs**

County authorities are not required to use evidence-based interventions exclusively, though most do. In FY '15, 89.6% (all but 245 of matched pre-posttests) of participants were served in evidence-based programs. Due to the large difference in numbers of

participants served in evidence-based versus non-evidence based programs, we do not compare the pre-post results by these groups. In past years, we have generally seen superior outcomes from the evidence-based programs.

### **Summary of Section I**

Table 4 summarizes the pre- and post-test differences in risk scores and substance use rates that were found among participants in the county authorities' multi-session prevention programs for youth. Green cells signify changes that were at least marginally statistically significant in the desired direction; desired changes that were statistically significant include an asterisk (\*). Red cells signify changes that were at least marginally statistically significant in the undesired direction; undesired changes that were statistically significant include an asterisk (\*).

As can be seen, there were widespread desired changes in risk factor scores in FY '15. Overall middle school, overall high school, male students, female students, African-American students, and White students reported significant (or in one case, near significant) changes on four risk factors: perceived risk, decision-making, disapproval of use, and perceived peer norms. Change on risk factors were least likely to be reported by Native American/American Indian students, though that is not surprising given the low number of students who identified as such. Changes in perceived parental attitudes were the least common, though still occurred among four demographic groups (high school students, males, African-Americans, and Multi-Ethnic students). These desired changes in risk factor scores were experienced by participants across a broad array of prevention programs, with the only exception being Girls Circle, which may have had too few participants to register reliable changes over time.

There were also widespread reductions in substance use in FY '15, particularly among high school students, males, African-American students, and non-Hispanic students. In fact, among non-Hispanic students, which aggregates across middle and high schools and which accounted for 89% of the matched cases, there were statistically significant reductions in all substances except other illegal drugs. At the program level, Life Skills participants demonstrated the most consistent reductions in substance use, which is not surprising given that it accounted for more than half of all program participants. Significant or near significant reductions in substance use were also seen among participants of All Stars, Project Alert, Project TND, Tobacco Education (though not on the tobacco variables), and Why Try.

**Table 4. Summary of Statistically Significant Results, By Demographics and Program**

<b>Category (number)</b>	Perceived Risk	Decision Making	Disapproval of Use	Perceived Peer Norms	Perceived Parental Attitudes	Cigarettes	Other Tobacco	Alcohol	Marijuana	Other Illegal Drugs	Inhalants	Non-medical Use of Prescriptions	Non-medical Use of OTCs	
<b>DEMOGRAPHICS</b>														
Overall Middle School (1865)	*	*	*	*				*			*		*	
Overall High School (477)	*	*	*	*	*		*	*	*			*	*	
Females (1131)	*	*	*	*				*	*					
Males (1208)	*	*	*	*	*	*	*	*	*		*	*	*	
Black/African American (1173)	*	*	*	*	*	*	*	*	*		*	*		
White (837)	*	*	*				*					*	*	
Multi-ethnic (102)	*				*									
American Indian/Nat. American (44)														
Other (142)	*	*		*										
Hispanic (167)	*							*						
Not Hispanic (2091)	*	*	*	*		*	*	*	*		*	*	*	
<b>PROGRAMS</b>														
All Stars (3 sites; n = 303)	*	*	*	*				*					*	
Girls Circle (1 site; n = 28)														
Keepin' It Real (1; n = 119)	*				*									
Life Skills (10 sites; n = 1337)	*	*	*	*			*	*	*		*			
Project Alert (3 sites; n = 261)	*	*			*		*	*						
Project TND (1 site; n = 98)	*	*	*	*	*		*							
Project TNT (1 site; n = 32)	*	*	*											
Tobacco Education Program (1 site; n = 119)	*	*	*	*								*		
Why Try (2 sites; n = 60)	*	*	*	*				*	*					
OVERALL (18 sites; n = 2357)	*	*	*	*			*	*	*		*	*	*	
<b>LEGEND</b>														
Desired Marginally Significant		Desired Significant					*							
Undesired Marginally Significant		Undesired Significant					*							

## **SECTION II: ALCOHOL AND TOBACCO ENVIRONMENTAL PREVENTION STRATEGIES**

County authorities have been implementing or assisting with the implementation of environmental strategies for many years. These efforts were boosted in FY '07 with the creation of the Synar Tobacco Enforcement Partnerships (STEP) and Alcohol Strategy Incentive Program (ASIP). In FY'08, the ASIP program ended due to the creation of the state Alcohol Enforcement Teams (AET) program, which now reports on most of the same strategies that had been tracked through ASIP. STEP continued into FY'15 and is most identified with its year-end monetary incentives to local providers based on the amount of tobacco-related environmental strategies implemented. Under STEP, counties could receive points for educating merchants through PREP (Palmetto Retailer Education Program), implementing tobacco compliance checks, getting a multi-jurisdictional law enforcement agreement around tobacco enforcement signed, and sending in names of new tobacco outlets. In this section, we document the amount of overall environmental strategy activity generated with a primary emphasis on the outcomes generated from the most common strategy, compliance checks.

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

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

### **Alcohol and Tobacco Compliance Checks**

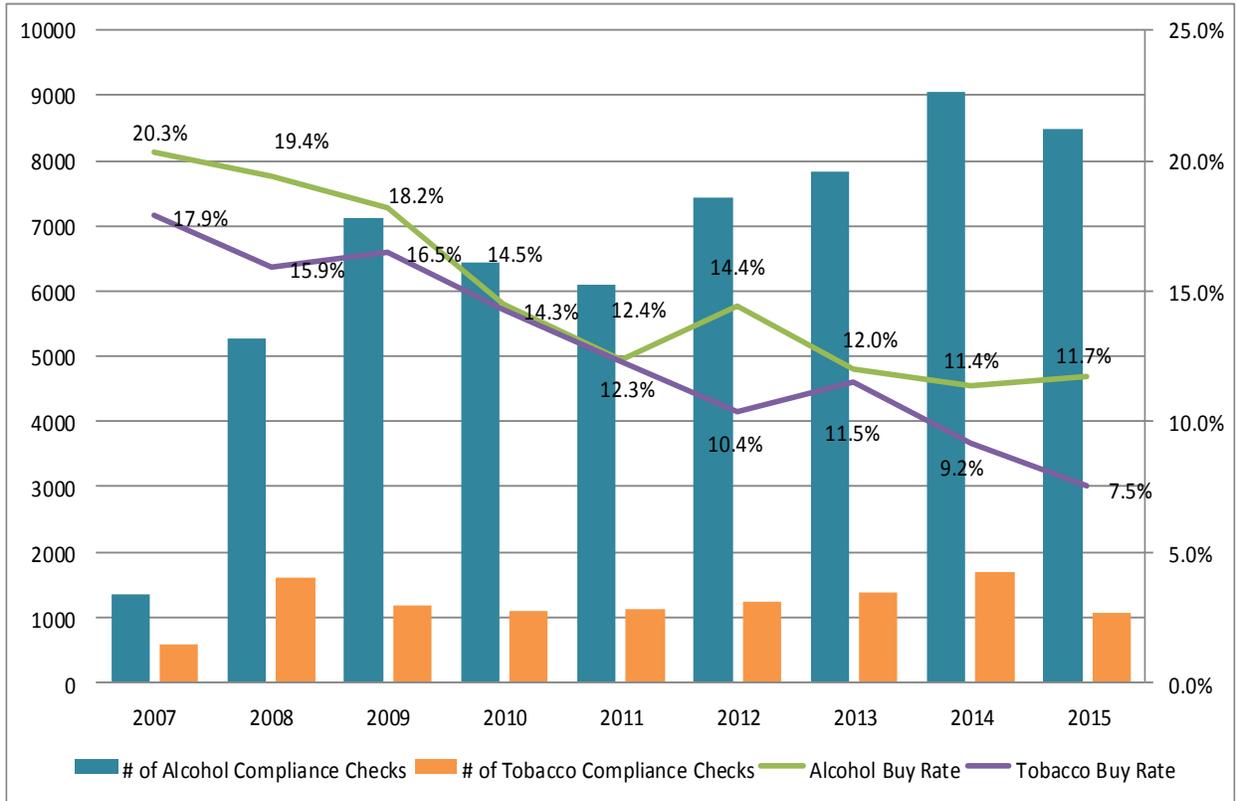
Compliance checks are an environmental strategy to reduce youth access to alcohol or tobacco. Ideally, compliance checks include the following actions:

- Publicity to alcohol and tobacco sales staff that enforcement operations will be increasing,
- Awareness-raising with the community to increase its acceptance of increased compliance operations,
- Law enforcement operations involving the use of underage buyers attempting to purchase alcohol or tobacco with charges being brought against the clerk and establishment license holder if a sale is made, and
- Regularly offered merchant education to help merchants improve their underage sales policies and practices.

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

In FY'15, there were 8,499 alcohol and 1,063 tobacco compliance check forms returned. In FY '15, 39 counties returned alcohol compliance check forms, while 25 counties returned tobacco forms. There may have been additional compliance checks for which a form did not get returned to DAODAS, so the data received may not reflect every compliance check during the year. It should, however, contain the vast majority. As shown in Figure 7, the data suggested that the tobacco buy rate was at an historic low of 7.5% and the alcohol buy rate remained low at 11.5%. Table 5 shows the buy rates for each county.

**Figure 7. Annual Number of Compliance Checks and Annual Buy Rates**



**Table 5. FY '15 Alcohol and Tobacco Compliance Check Buy Rates by County**

County Name	Alcohol			Tobacco		
	Total Eligible Purchase Attempts	Buy	Buy Rate	Total Eligible Purchase Attempts	Buy	Buy Rate
Abbeville	50	5	10.0%	1	1	100%
Aiken	135	29	21.5%	44	8	18.2%
Allendale	0	0	N/A	0	0	N/A
Anderson	88	14	15.9%	0	0	N/A
Bamberg	41	1	2.4%	23	2	8.7%
Barnwell	51	5	9.8%	12	0	0.0%
Beaufort	21	3	14.3%	0	0	N/A
Berkeley	581	42	7.2%	60	3	5.0%
Calhoun	14	2	14.3%	7	0	0.0%
Charleston	689	134	19.5%	0	0	N/A
Cherokee	31	11	35.5%	0	0	N/A
Chester	14	2	14.3%	14	1	7.1%
Chesterfield	136	26	19.1%	1	1	100%
Clarendon	20	2	10.0%	17	7	41.2%
Colleton	20	6	30.0%	4	2	50.0%
Darlington	216	41	19.0%	0	0	N/A
Dillon	78	14	18.0%	0	0	N/A
Dorchester	58	2	3.5%	30	1	3.3%
Edgefield	0	0	N/A	0	0	N/A
Fairfield	10	1	10.0%	0	0	N/A
Florence	288	15	5.2%	81	3	3.7%
Georgetown	152	19	12.5%	0	0	N/A
Greenville	1666	142	8.5%	159	7	4.4%
Greenwood	94	6	6.4%	2	0	0.0%
Hampton	0	0	N/A	4	1	25.0%
Horry	637	91	14.3%	53	5	9.4%
Jasper	30	4	13.3%	0	0	N/A
Kershaw	78	10	12.8%	15	1	6.7%
Lancaster	260	30	11.5%	168	6	3.6%
Laurens	17	11	64.7%	0	0	N/A
Lee	52	10	19.2%	0	0	N/A
Lexington	497	30	6.0%	96	10	10.4%
Marion	0	0	N/A	0	0	N/A
Marlboro	66	13	19.7%	0	0	N/A

**Table 5. FY '15 Alcohol and Tobacco Compliance Check Buy Rates by County**

County Name	Alcohol			Tobacco		
	Total Eligible Purchase Attempts	Buy	Buy Rate	Total Eligible Purchase Attempts	Buy	Buy Rate
McCormick	0	0	N/A	0	0	N/A
Newberry	117	7	6.0%	1	1	100%
Oconee	115	10	8.7%	1	0	0.0%
Orangeburg	52	8	15.4%	32	2	6.3%
Pickens	409	24	5.9%	0	0	N/A
Richland	256	44	17.2%	96	5	5.2%
Saluda	0	0	N/A	0	0	N/A
Spartanburg	255	34	13.3%	80	8	10.0%
Sumter	112	16	14.3%	0	0	N/A
Union	9	1	11.1%	0	0	N/A
Williamsburg	0	0	N/A	0	0	N/A
York	992	114	11.5%	52	4	7.7%

Most FY '15 alcohol compliance checks were conducted at convenience stores (60.6%). The next most common type of location was liquor stores (9.7%), then large grocery stores (9.0%), drug stores (5.7%), restaurants (5.4%), bars (3.9%), small grocery stores (3.4%), and "other" (2.1%). In most cases, the youth attempted to buy beer (68.3%) although a substantial number attempted to buy alcopops or alcohol energy drinks (19.1%) or liquor (10.0%). Wine or wine coolers were attempted only 2.7% of the time. Most youth volunteers were between the ages of 17 and 19 (81.1%). More purchase attempts were made by males (53.7%) than females. The large majority of alcohol checks were conducted by White youth (77.7%), followed by Black or African American youth (19.8%). Compared to FY '14, a slightly lower percentage of buyers were African-American, and a slightly higher percentage was White.

For tobacco compliance checks, 74.6% were conducted at convenience stores, followed by large grocery stores (9.6%), drug stores (5.2%), and small grocery stores (4.6%). In most cases, youth attempted to buy cigarettes (83.0%). The remaining 17.0% of attempts were made for smokeless tobacco, cigars, or blunts. To place this in context, in FY '08, only 5% of attempts were for these other tobacco products. The most common age for the youth volunteers was 16 (36.6%) and 17 (35.1%). More purchase attempts were made by females (56.3%) than males. About three-fourths (75.6%) of tobacco compliance checks were conducted by White youth, with the majority of the remainder being done by Black or African American youth (19.9%).

For alcohol, the highest sale rate was for liquor (14.4% of attempts), followed by alcopops/alcohol energy drinks (12.5%), beer (10.6%), and wine/wine coolers (9.0%).

In Table 6 below, some of the higher and lower sale proportions are shown for some types of alcohol products. Yuengling (26.5%) and Cranberita (22.7%) had the highest sale proportions; Wine coolers (0.0%) and Barefoot (5.8%) had the lowest.

**Table 6. Notable High and Low Percentages of Completed Sales by Alcohol Product (minimum 20 attempts)**

Notable Low Sales		Notable High Sales	
Product	Sale %	Product	Sale %
Wine coolers	0.0%	Yuengling	26.5%
Barefoot	5.8%	Cranberita	22.7%
Smirnoff	6.9%	Applerita	20.0%
Redd's Apple Ale	7.6%	Twisted Tea	20.0%
Straw-Ber-Ita	9.1%	Miller Light	19.5%
Icehouse	9.3%	Mikes Hard Lemonade	19.2%
Bud Light	9.4%	Budweiser	16.9%
Seagrams	10.5%	Razberita	16.4%
Bud Light Lime	10.7%	Vodka	15.0%
Heineken	11.1%	Mangorita	14.9%
Jack Daniels	11.8%	Coors Light	14.6%
Natural Light	11.8%	Fireball	13.6%
Limearita	12.4%	Four Loko	13.54%
		Corona	13.0%

Table 7 details the frequency of certain merchant conditions and practices at the time of the compliance check. In more than three-fourths of the cases, merchants asked to see ID for alcohol and tobacco (91.6% and 88.8%, respectively). Merchants studied the IDs somewhat less frequently (70.1% for alcohol and 69.0% for tobacco). More than 80% of outlets had posted signage stating that they check IDs, but the percentage of stores that had age-verification equipment was only about half.

**Table 7. Compliance Check Merchant Practices**

<b>Compliance Check Feature</b>	<b>Alcohol (%)</b>	<b>Tobacco (%)</b>
Sales Completed	11.7	7.5
Merchant Asked Buyers Age	21.4	24.2
Merchant Asked to See ID	91.6	88.8
Merchant Studied ID	70.1	69.0
Visible ID-Checking Signage in Store	82.3	84.3
Age-Verification Equipment Used	51.8	61.5

Table 8 shows that small grocery stores and drug stores had the lowest sales rates for alcohol, while bars and restaurants had the highest. Small groceries and “other” businesses had the lowest sales rates for tobacco while convenience stores and liquor stores had the highest. The type of business was a statistically significant factor on the alcohol sale rate ( $p < .001$ ). Type of business was not statistically significant for tobacco sales.

**Table 8. Percentage of Completed Sales by Type of Business**

<b>Type of Business</b>	<b>Number Alcohol Purchase Attempts</b>	<b>Percent Alcohol Sales Completed</b>	<b>Number Tobacco Purchase Attempts</b>	<b>Percent Tobacco Sales Completed</b>
Bar/Tavern	329	14.9%	1	0%
Convenience Store Only	459	14.8%	71	11.3%
Convenience Store/Gas Station	4609	10.8%	703	7.8%
Drug Store	474	5.7%	54	5.6%
Hotel	29	6.9%	-	-
Large Grocery	752	10.2%	100	7.0%
Liquor/ABC/Package Store	814	13.4%	21	14.3%
Other	170	12.4%	41	0%
Restaurant	447	20.8%	-	-
Small Grocery	280	9.6%	48	4.2%

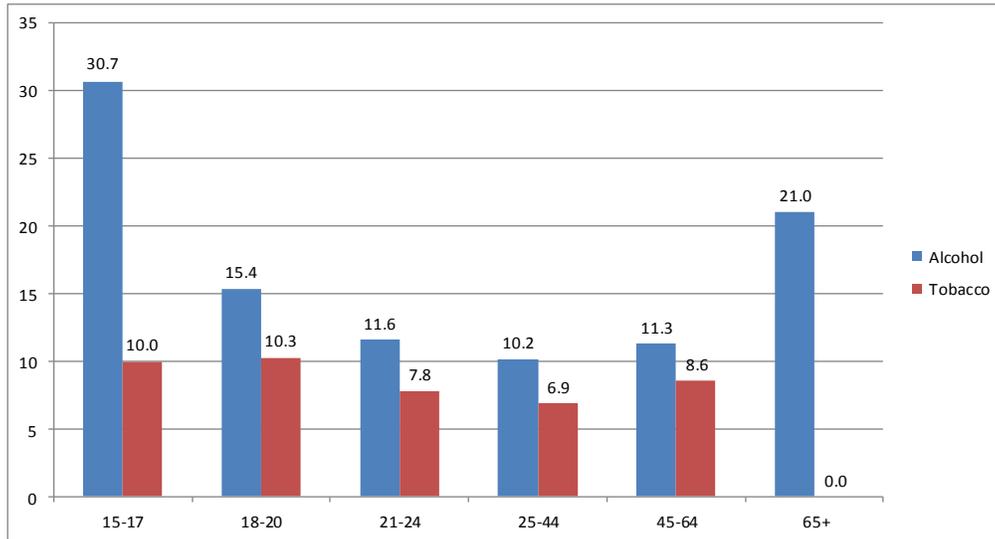
Table 9 displays the percentages of sales completed based on multiple demographic characteristics of the clerks and buyers. Clerk sex and race were statistically significant predictors of alcohol sales ( $p=.02$  and  $p=.02$ , respectively), as were buyer sex and buyer race ( $p=.05$  and  $p<.0001$ ), respectively. Buyer race was the only statistically significant predictor of tobacco sales ( $p=.001$ ).

**Table 9. Percentage of Retailer Sales by Demographic Characteristics**

<b>Compliance Check Characteristic</b>	<b>% Sales Completed—Alcohol</b>	<b>% Sales Completed—Tobacco</b>
Clerk Female	10.5	6.7
Clerk Male	12.1	9.3
Clerk Black	13.1	8.7
Clerk Hispanic	12.5	6.5
Clerk Other	10.8	6.4
Clerk White	10.5	7.7
Buyer Female	10.4	7.2
Buyer Male	11.8	8.0
Buyer Black	12.7	13.9
Buyer Hispanic	24.3	4.4
Buyer Other	18.2	4.0
Buyer White	11.0	6.0
Sex Different	11.6	9.8
Sex Same	10.6	6.0
Race Different	11.5	8.9
Race Same	11.0	6.1

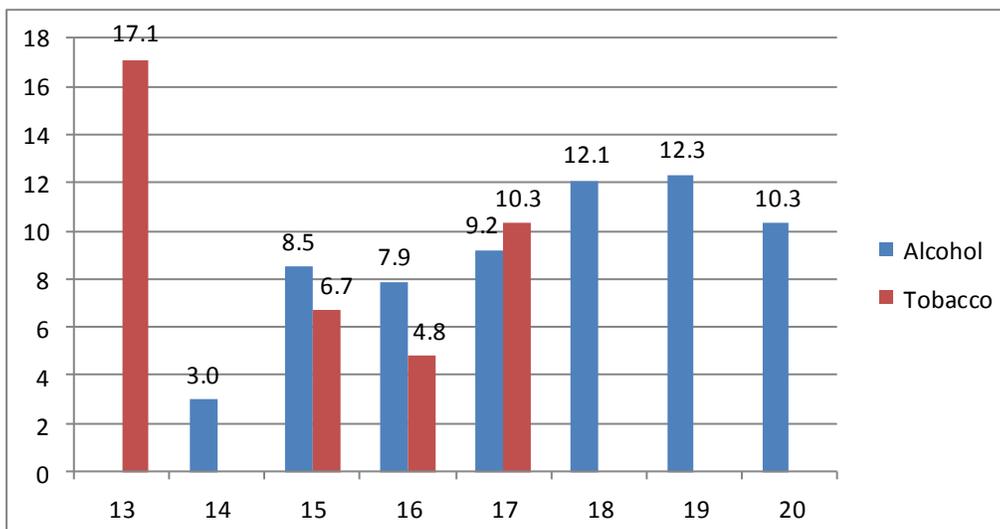
Youth buyers were asked to estimate the age of the clerk who handled their attempted purchase. Estimated clerk age had a statistically significant effect on the sales rate for alcohol ( $p < .0001$ ) but not tobacco, with clerks estimated to be 15-17 having much higher sales rates for alcohol (Figure 8).

**Figure 8. Percentage of Stores Selling by Estimated Clerk Age**



The age of the purchaser had a statistically significant effect on sale rates for both alcohol ( $p = .001$ ) and tobacco ( $p = .023$ ). Figure 9 shows that alcohol sales were more common for older than younger buyers, while tobacco rates were, surprisingly, highest for 13 year old buyers.

**Figure 9. Percentage of Stores Selling by Buyer Age**



We conducted analyses to see if the time of the inspection was a significant factor in whether a sale is made. This was limited to weekday checks. First, an analysis was done based on whether the inspection was done before or after 3 pm, approximating whether youth would normally be in or out of school. In addition, 6 pm was used as a day/night proxy. Neither analyses indicated that time of day is a significant factor for tobacco sales. For alcohol, however, sales were more likely to be completed before 3pm than after that time ( $p=.005$ ). No relationship was found for alcohol sales before and after 6pm.

The average clerk fine for an alcohol sale, at the time of ticketing, was \$610.89, and the most common amount was \$677.50. The average fine for a tobacco sale ticket was \$440.30, with \$470.00 being the most common amount.

The compliance check form includes a section where officers ask offenders if they have ever taken a merchant education class. Of the 450 cases in which a sale was made, there were 54 instances (12.0%) in which the offender indicated they had taken a class.

### **Bar Checks**

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

There were a total of 785 bar checks reported in FY '15. Nineteen counties reported bar checks with the 9<sup>th</sup> (62.6%) and 15<sup>th</sup> (8.5%) AET Circuits doing the most. Most bar checks included “casual contacts” (252), followed by fake ID sweeps (331), and inspecting the retailers for violations (171).

A total of 184 tickets were written for fake IDs. Another 2574 alcohol-related violations were written against customers during these bar checks. Officers issued 65 verbal or written warnings.

### **Shoulder Taps**

Shoulder tap operations involve an underage volunteer standing outside of an off-premise establishment and asking adults going in to purchase alcohol for them. Those who do are ticketed. In FY'15, seven counties representing seven circuits conducted shoulder taps a total of 72 different times, up from 17 in FY '14 and 25 in FY '13.

Altogether, 254 individuals were approached in FY '15. Fifteen purchased alcohol for the youth, resulting in a 20.8% violation rate. In FY '14 the rate was 3.0%, and it was 3.8% in FY'13. Three other charges were written during these operations.

### **Public Safety Checkpoints/Saturation Patrols**

A total of 1,125 public safety checkpoints, often called sobriety checkpoints, were implemented in FY'15 a decrease from the 1,382 in FY '14. There were 32 different counties with checkpoints in FY'15, a decrease from 36 different counties with checkpoints in FY '14. Checkpoints done by the 6<sup>th</sup> and 8<sup>th</sup> judicial circuits comprised 48.4% of the total checkpoints across the state.

A total of 85,566 cars went through those checkpoints across the state. AET reports for these checkpoints show that there were 321 DUIs among adults and 33 among those underage, 155 felony arrests, 176 fugitives apprehended, 25 Fake IDs, 18 stolen vehicles recovered, 691 drug possession charges, ten underage tobacco possession charges, and 611 open container violations. These ticket totals for underage drinking, DUI, drug possessions, and open container are somewhat lower than FY '14, but they are generally comparable.

In FY '15, 637 saturation patrols were reported. These patrols resulted in 6722 total tickets, mostly for "other" offenses (2948) and speeding (2248). There were 115 underage drinking tickets (compared to 185 in FY '14), 93 DUIs (5 underage), 90 open container violations, three fake ID violations, and 229 drug offenses.

Colleton County represented nearly half of the reported saturation patrols (367). Twenty-five counties reported at least one patrol.

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

Controlled party dispersals are a way of addressing underage drinking parties that involve better containment, adequate person-power, more faithful enforcement of underage drinking laws, and safe returns home for underage drinkers. This is in contrast to a manner of breaking up a party that may involve youth scattering and getting into cars intoxicated. Some law enforcement agencies or AETs devote resources to locating parties through patrols or acting on previously gathered information. This enforcement best practice is being utilized much more often due to the presence of AETs. Sixteen counties turned in AET party dispersal reporting forms in FY '15, slightly down from 17 in FY '14. The number of parties dispersed was 130.

The 130 parties had an estimated total 3267 attendees (down from the 17584 attendees at the 146 parties dispersed in FY '14). A total of 484 tickets were written during these operations, including 312 for underage drinking violations, seven for transfer of alcohol

to an underage person, two for unlicensed keg possession, 24 for fake IDs, and 53 for drug possession. The most common alcoholic beverage confiscated was beer.

In addition to the safe dispersal of parties, many AETs were involved in preventing parties, often by receiving information and contacting the youth planning to host the party or that young person's parents. AETs reported 260 parties prevented in FY'15 compared to 142 in FY'14, and 149 in FY'13.

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

Counties were able to earn STEP points for providing a copy of a multi-jurisdictional tobacco law enforcement agreement, a document signed by multiple law enforcement agencies that promised a cooperative effort to address underage alcohol and/or tobacco enforcement. These agreements are believed to be important to sustaining consistent enforcement. In FY '15, 23 counties turned in tobacco agreements, the same as in FY '15. There are many multi-jurisdictional alcohol enforcement agreements in place (often as part of the same document that serves as the tobacco agreement), but DAODAS does not formally collect or count them.

### **Merchant Education**

Efforts to enforce laws regarding underage purchases of alcohol or tobacco are strengthened by efforts to help educate and train those who sell alcohol or tobacco products with appropriate information and proper techniques. There are a number of these merchant education curricula used nationally and in South Carolina, though the county authorities are now exclusively using the PREP curriculum. County authorities were each required to implement merchant education programming in FY '15 and collectively served 2180 retail staff, which is up from 1678 in FY '14. Thirty-seven of the 35 counties served at least one retailer in PREP, and Greenville (292) served the most.

There is a standardized PREP post-test used across the system that allows standardization of outcomes. Primarily, the test is graded for a pass or fail. Among those who passed in FY '14, the average score was 95.4%.

### **Diversions or Court-mandated Youth Programs**

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

There were 551 youth served in AEP in FY '15, compared to 564 in calendar year 2014, and 763 in FY '13.<sup>2</sup> The bulk of the youth served in 2014 came from Pickens (257) and Charleston (108).

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 '15, 1,691 youth participated in TEP, up considerably from FY '14. Fourteen counties delivered TEP in FY '15, with Fairfield (632), Chester (592), Charleston (287) serving the most youth.

### **Alcohol Enforcement Team Awareness Activities**

AET awareness activities included holding town hall meetings, doing educational sessions for youth or adults, conducting local media campaigns, and "casual contacts," which are typically law enforcement officers making community contacts with youth or merchants to keep a high visibility presence and warn them of upcoming enforcement efforts. AETs reported 314 media placements (articles, TV stories, etc.) during FY '15. There were 124 presentations and media events occurring during "*Out of Their Hands*" conducted the entire month of April 2015. This includes all forms of media including television, radio, and social media as well as presentations conducted at schools, colleges, and universities. The number of media placements in FY '15 is down from 142 in FY '14.

### **Alcohol Enforcement Team Training**

Since the beginning of the expansion of AET statewide in FY '08 (July 2007), there has been a commitment to following the AET Model established by a small number of counties. This model is based on national "best practices." A key component of the AET model utilized in South Carolina involves developing local law enforcement support for underage drinking prevention and enforcement efforts. In order to develop local law enforcement support, an initial training date was held in October 2007. This training was conducted by the national Underage Drinking Enforcement Training Center (UDETC) funded by the U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention (OJJDP). UDETC is managed by Pacific Institute for Research and Evaluation (PIRE) and is located in Calverton, Maryland.

It was decided after that initial OJJDP/UDETC training to establish additional training on various underage drinking enforcement topics. With the assistance of UDETC, a training cadre was formed from South Carolina (DAODAS and PIRE) staff members as well as local personnel. These instructors have conducted training on Alcohol Enforcement Team training topics such as Fake IDs, Public Safety Checkpoints, Source Investigation, Special Alcohol Events Management, Current Alcohol Trends and Fads, Alcohol Screener

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<sup>2</sup> For the 2014 report, we used calendar year data because of a mid-year clinical records transition.

Devices, and other topics to increase capacity of law enforcement officers, prevention specialists, and other community partners to enforce underage drinking laws and educate citizens in the value of enforcing those laws.

In FY '15, there were 22 training sessions conducted in 12 counties in South Carolina. These sessions were attended by 294 individuals, including 242 law enforcement officers. Among those participants attending were 39 youth who participated as role-players in mock party dispersal training. This training module was combined with primary training topics such as the Two-Day AET Training, AET Activities Training, and Fake ID Training.

## **Summary of Section II**

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

County authority prevention staff and AET Coordinators returned forms on 8,499 alcohol compliance checks and 1,063 tobacco compliance checks. These are decreases over FY '14 totals. Sales were completed for 11.7% of alcohol attempts and 7.5% of tobacco attempts.

Most merchants asked to see the buyers' IDs (91.6% and 88.8% for alcohol and tobacco, respectively) and most merchants studied the IDs (70.1% and 69.0% for alcohol and tobacco, respectively). Buyer sex and race, as well as clerk sex and race, were significant predictors of alcohol sales, while buyer race was the only significant predictor of tobacco sales. Not surprisingly, clerks estimated to be young (ages 15-17) were more likely to sell alcohol.

The counties served 2,180 merchants in the Palmetto Retailers Education Program (PREP) in FY '15, up from 1,678 in FY '14.

AETs reported a total of 1,125 public safety checkpoints. Among the violations, there were 321 DUIs. In addition, there were 637 saturation patrols reported. This operation generated another 6,722 tickets, among them 93 DUIs.

AETs dispersed 130 parties attended by 3,267 persons. Together, 484 tickets (312 for underage drinking) were written during those dispersals. Another 260 parties were reported as having been prevented due to proactive use of advanced information. A total of 254 individuals were approached by the cooperating youth to purchase alcohol as part of Shoulder Tap operations, with fifteen purchasing (20.8% sales).

In FY '15, there were 785 bar checks conducted, resulting in 184 fake ID violations and 2,574 other alcohol-related charges to patrons.

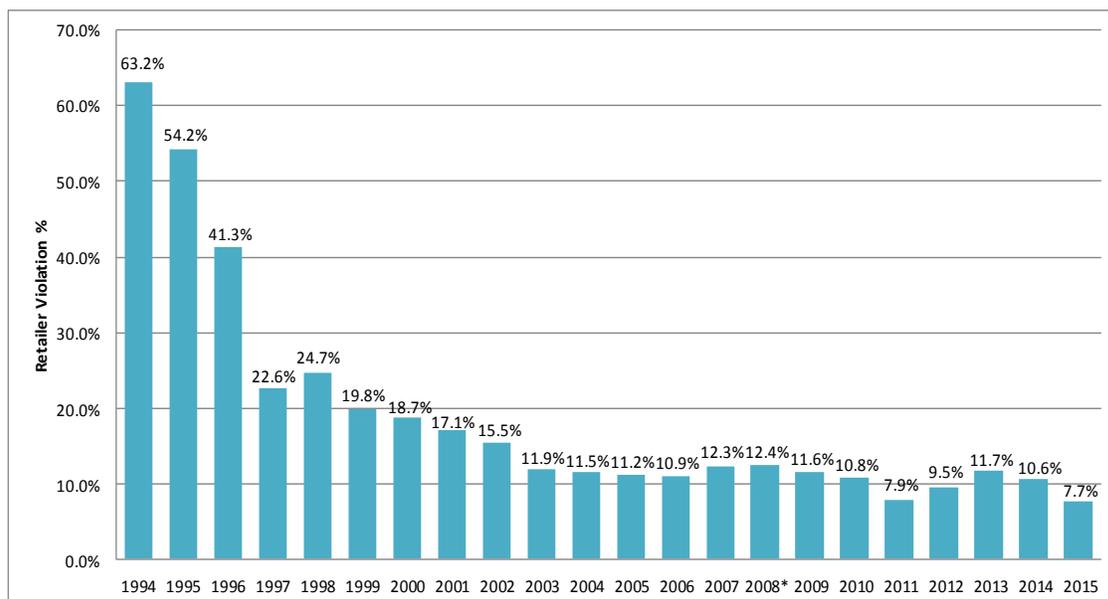
More than two thousand youth were in diversion program for youth alcohol offenses (559 served in the Alcohol Education Program) and tobacco offenses (1,691 served in the Tobacco Education Program).

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

Each year, as part of a federal requirement, South Carolina conducts a study to determine the extent to which youth younger than 18 can successfully buy cigarettes from retail outlets. Between Jan. 1 and Feb. 28, 2015, 150 youth volunteers ages 15-17, under trained adult supervision, conducted unannounced cigarette purchase attempts in 229 randomly-selected retail outlets in all 46 counties. These outlets were randomly sampled from the estimated 9,000 outlets in the state.

Figure 10 shows the overall Synar results for FY '15.<sup>3</sup> For FY '15, the estimated overall sales rate (also known as a Retailer Violation Rate or RVR) was 7.7%. This rate is far better than the federal standard of 20.0% and substantially lower than the RVR of 63.2% in FY 1994, which was the first year of the study. The 95% confidence interval for this year's violation rate is from 4.5% to 10.8%, meaning that statistical projections tell us that if we had taken multiple samples from every store in the state, it would be 95% likely the calculated violation rate would fall in that range. The FY '14 rate was 10.6%. Buy rates for each county are shown in Table 10.

**Figure 10. YATS (Synar) Cigarette Purchase Rates (FY 1994-2015)**



\*Starting with the FFY 2008 study, the state did not allow 14-year-old inspectors, who consistently had lower purchase rates than 15- to 17-year-olds.

<sup>3</sup> As noted, these data were collected in January and February of 2015 and, therefore, are included in this FY '15. These data, however, were reported to SAMHSA in December of 2015 and, therefore, are considered Federal Fiscal Year 2016 data.

**Table 10. YATS (Synar) Raw Buy Rates FY '15**

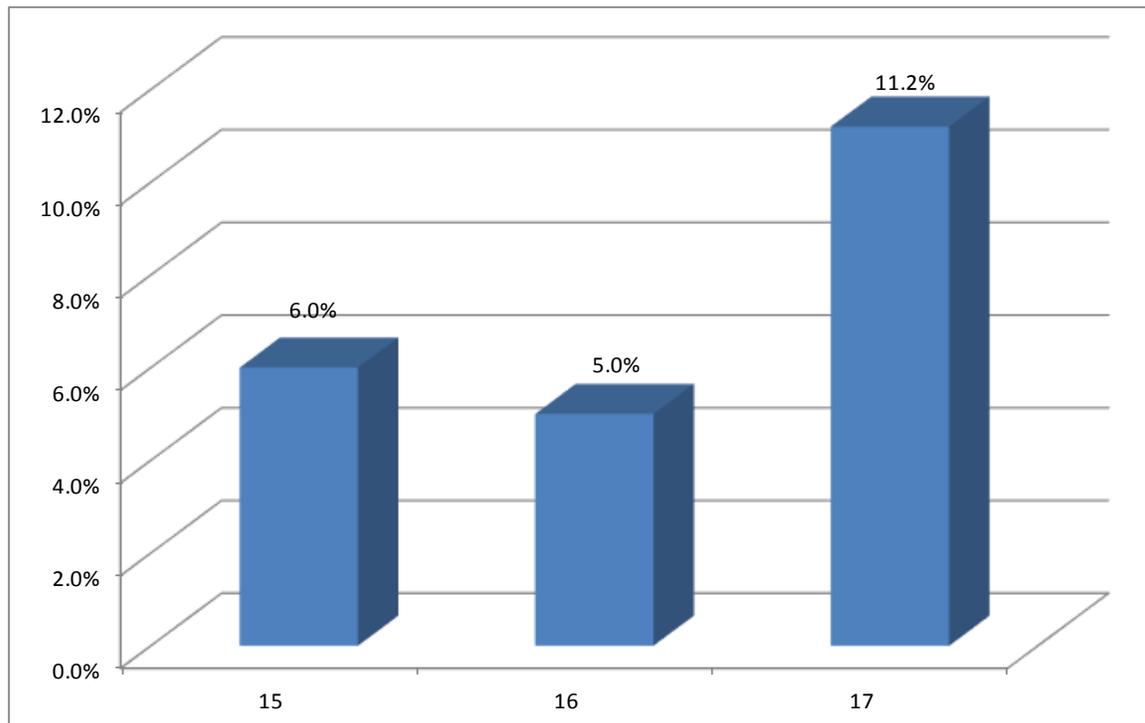
<b>County Name</b>	<b>Total Eligible Attempts</b>	<b>No Buy</b>	<b>Buy</b>	<b>Buy Rate</b>
Abbeville	1	1	0	0.0%
Aiken	8	6	2	25.0%
Allendale	1	1	0	0.0%
Anderson	7	6	1	14.3%
Bamberg	2	2	0	0.0%
Barnwell	2	2	0	0.0%
Beaufort	7	7	0	0.0%
Berkeley	12	9	3	25.0%
Calhoun	1	1	0	0.0%
Charleston	24	23	1	4.2%
Cherokee	4	3	1	25.0%
Chester	2	2	0	0.0%
Chesterfield	3	3	0	0.0%
Clarendon	4	4	0	0.0%
Colleton	2	2	0	0.0%
Darlington	7	7	0	0.0%
Dillon	2	1	1	50.0%
Dorchester	5	4	1	20.0%
Edgefield	2	2	0	0.0%
Fairfield	1	1	0	0.0%
Florence	7	6	1	14.3%
Georgetown	3	3	0	0.0%
Greenville	14	12	2	14.3%
Greenwood	3	3	0	0.0%
Hampton	2	2	0	0.0%
Horry	34	32	2	5.9%
Jasper	4	4	0	0.0%
Kershaw	5	5	0	0.0%
Lancaster	5	5	0	0.0%
Laurens	3	0	3	100.0%
Lee	2	2	0	0.0%
Lexington	12	12	0	0.0%
Marion	1	1	0	0.0%
Marlboro	4	3	1	25.0%
McCormick	1	1	0	0.0%
Newberry	3	3	0	0.0%
Oconee	4	4	0	0.0%
Orangeburg	8	8	0	0.0%

**Table 10. YATS (Synar) Raw Buy Rates FY '15**

County Name	Total Eligible Attempts	No Buy	Buy	Buy Rate
Pickens	7	7	0	0.0%
Richland	16	16	0	0.0%
Saluda	2	2	0	0.0%
Spartanburg	12	12	0	0.0%
Sumter	8	8	0	0.0%
Union	2	1	1	50.0%
Williamsburg	3	3	0	0.0%
York	9	8	1	11.1%

Figure 11 shows the percent of outlets selling to youth, by age of youth. Youth who were 17 years old appear more likely to have successfully purchased cigarettes than those who were 15 or 16.

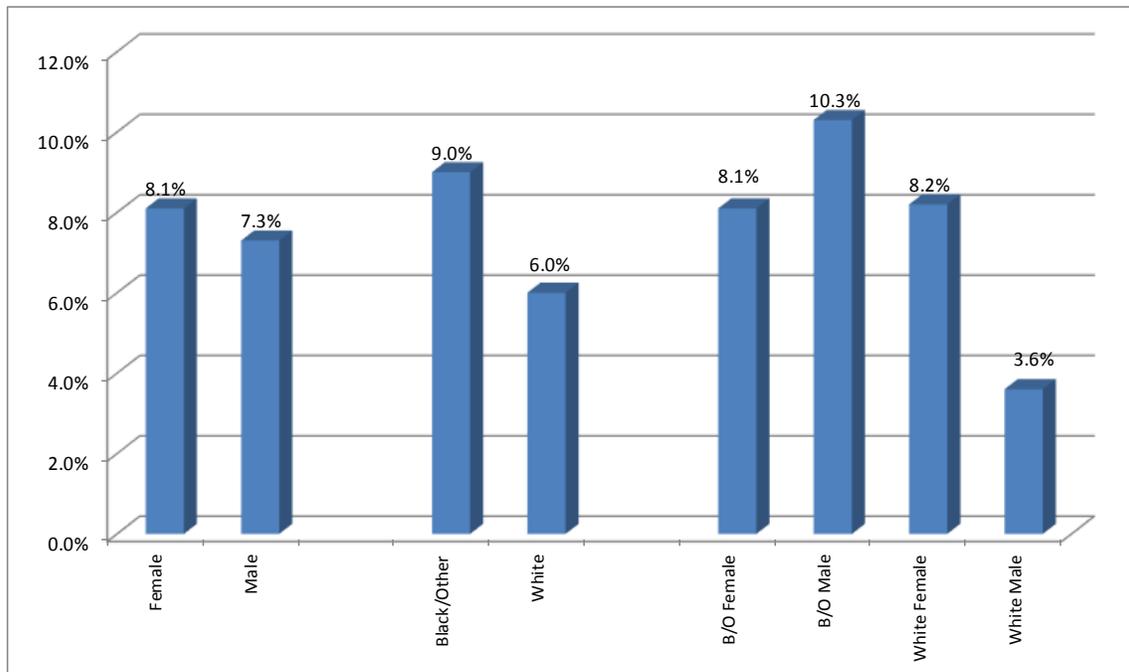
**Figure 11. Percent of Outlets Selling Cigarettes to Youth by Age, FY '15**



Note: The differences by age are not statistically significant.

Figure 12 presents the Synar buy rate by sex and race. There is no statistically significant difference by sex or race of purchaser. White youth were sold to less frequently than other youth (6.0% vs. 9.0%), with Black/Other males having the highest purchase rates (10.3%). Perceived race and sex of the clerk were unrelated to whether a sale occurred, similar to last year, but age was related to successful purchase such that those clerks perceived to be in their 20's were more likely to sell to youth than were clerks of older ages.

**Figure 12. Percent of Outlets Selling Cigarettes to Youth by Youth Sex & Race, FY '15**



Past analyses have shown an important link between regular local tobacco compliance checks and our success with Synar rates. For example, with the FY'10 Synar data, we compared county Synar data to the levels of tobacco compliance check enforcement in that same county for the previous year. We found that counties with enforcement had better buy rates than those that did not (10% vs. 15%), though the difference was not significant. However, the difference was significant ( $p < .001$ ) when comparing those counties with more than 40 compliance checks to those with less than 40 (5% vs. 15% violation rates).

For the present report, we analyzed FY '15 Synar data and FY '14 tobacco compliance check data. In this case, the difference in rates between counties with any enforcement (7.9% sales) and those with no enforcement (7.0%) was not significant ( $p = .781$ ). The difference between those counties with more than 40 compliance checks and those with fewer (7.4% and 7.9%) also was not statistically significant ( $p = .888$ ). Number of tobacco outlets in a county had no relationship to the buy rate.

In reviewing the FY '15 Synar data in relation to FY '14 compliance check numbers, we also analyzed totals of tobacco and alcohol compliance checks (80 or more total versus less than 80 total) under the premise that total enforcement, regardless of the substance targeted, may impact retailer's attentiveness to preventing under sales of either substance. This also showed no impact of higher levels of enforcement.

To note, survey data suggest that reducing youth retail access to tobacco requires continued attention. According to the 2013 Youth Risk Behavior Survey, 25.4% of high school students who smoked during the past 30 days reported getting their cigarettes from a store or vending machine.

## SECTION IV: OTHER PREVENTION INTERVENTIONS

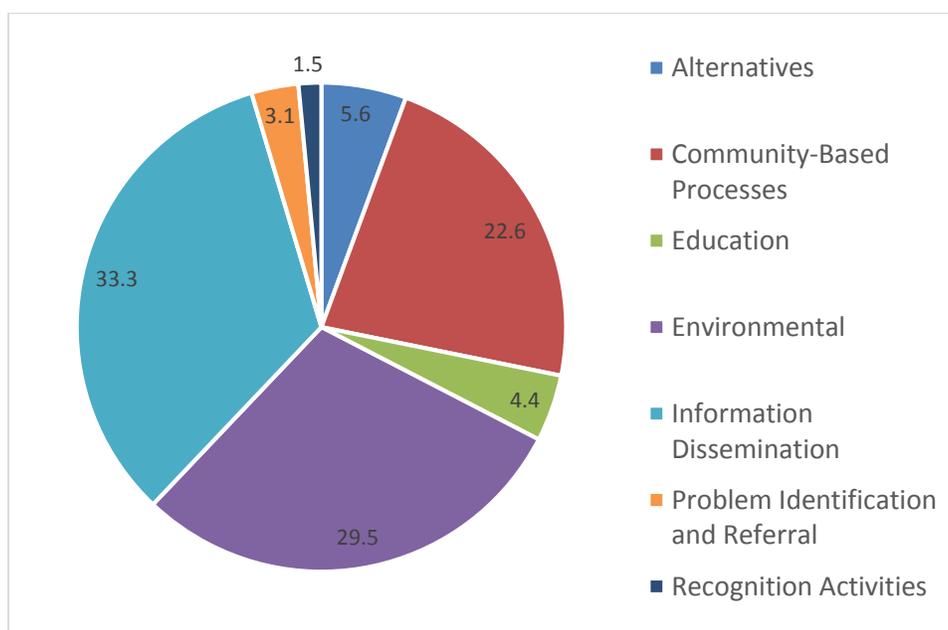
In the previous chapters, we have described the cumulative outcomes, to the extent possible, of youth curricula, environmental approaches, and the Youth Access to Tobacco Study. Prevention professionals deliver an even wider range of services than this list, however. Below are some of the other common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

- Parenting Programs
- Working with Coalitions
- Information Dissemination
- Alternative Activities
- HIV/AIDS Programming

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

The KIT Prevention online reporting system had prevention staff code each service activity in one of seven CSAP prevention categories. Figure 13 shows the distribution of the 997 service events by category. By far, the largest categories of prevention services were information dissemination (33.3%), environmental strategies (29.5%), and community-based processes (22.6%). The number of service events may not be a perfect measure of overall effort devoted to a particular category, but should provide a general sense of how local efforts are focused.

**Figure 13. Distribution of Service Events by CSAP Category, FY '15**



## APPENDIX A: ADDITIONAL DATA TABLES

**Table A1. Overall Results by Age**

Risk Factor Scores, Range (Positive score is favorable)	Middle School (n=1865)			High School (n=477)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.91	2.18	14.04**	1.60	1.95	21.44**
Decision-Making Skills, 0-3	1.83	1.97	7.37**	1.62	1.78	9.81**
Disapproval of Use, 0-2	1.62	1.67	3.03**	1.07	1.22	14.00**
Perceived Peer Norms, 0-10	8.65	8.79	1.59**	6.99	7.35	5.18**
Perceived Parental Attitudes, 0-3	2.86	2.86	-0.04	2.57	2.64	3.03**

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	4.43	3.66	-17.38	12.71	10.28	-19.12*
Other Tobacco	3.46	2.74	-20.81	11.32	4.93	-56.45**
Alcohol	7.50	5.65	-24.67**	20.81	14.35	-31.04**
Marijuana	4.21	3.35	-20.43*	19.11	13.49	-29.41**
Other Illegal Drugs	1.99	1.78	-10.55	7.46	4.93	-33.91*
Inhalants	4.28	2.81	-34.35**	5.11	2.36	-53.82*
Non-Medical Prescription Drug Use	2.92	2.26	-22.60	9.38	3.65	-61.09**
Non-Medical Over-The-Counter Drug Use	2.94	1.85	-37.07**	5.38	2.37	-55.95**

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

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

**Table A2. Overall Results by Sex**

Risk Factor Scores, Range (Positive score is favorable)	Females (n=1131)			Males (n=1208)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.93	2.18	12.63**	1.77	2.09	18.08**
Decision-Making Skills, 0-3	1.84	1.96	6.47**	1.74	1.90	9.25**
Disapproval of Use, 0-2	1.61	1.67	3.86**	1.41	1.49	5.30**
Perceived Peer Norms, 0-10	8.47	8.63	1.90**	8.16	8.37	2.54**
Perceived Parental Attitudes, 0-3	2.85	2.84	-0.14	2.76	2.79	1.22**

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	3.83	3.38	-11.75	8.19	6.52	-20.39**
Other Tobacco	1.79	1.69	-5.59	8.10	4.59	-43.33**
Alcohol	8.00	6.31	-21.13*	12.21	8.44	-30.88**
Marijuana	5.08	3.65	-28.15**	9.27	6.95	-25.03**
Other Illegal Drugs	1.95	1.78	-8.72	4.17	3.10	-25.66
Inhalants	4.29	3.03	-29.37	4.61	2.51	-45.55**
Non-Medical Prescription Drug Use	3.84	2.76	-28.13	4.69	2.34	-50.11**
Non-Medical Over-The-Counter Drug Use	2.23	1.97	-11.66	4.65	1.94	-58.28**

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

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

**Table A3. Overall Results by Race Group**

Risk Factor Scores, Range (Positive score is favorable)	Black/African American participants (n=1173)			White participants (n=837)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.75	2.12	21.55**	1.94	2.15	10.82**
Decision-Making Skills, 0-3	1.76	1.94	10.14**	1.81	1.92	5.93**
Disapproval of Use, 0-2	1.42	1.52	6.92**	1.59	1.63	2.47**
Perceived Peer Norms, 0-10	8.07	8.37	3.72**	8.57	8.64	0.79*
Perceived Parental Attitudes, 0-3	2.79	2.82	1.26**	2.81	2.81	-0.17

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	6.01	4.38	-27.12**	6.74	6.15	-8.75
Other Tobacco	5.08	2.84	-44.09**	5.68	3.98	-29.93**
Alcohol	11.00	7.04	-36.00**	9.50	8.55	-10.00
Marijuana	8.76	5.75	-34.36**	6.14	4.85	-21.01*
Other Illegal Drugs	3.95	2.92	-26.08	2.40	1.82	-24.17
Inhalants	4.90	2.92	-40.41**	3.76	2.67	-28.99
Non-Medical Prescription Drug Use	4.13	2.15	-47.94**	4.70	2.66	-43.40**
Non-Medical Over-The-Counter Drug Use	3.82	2.34	-38.74*	2.91	1.22	-58.08**

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

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

**Table A3. Overall Results by Race Group (continued)**

Risk Factor Scores, Range (Positive score is favorable)	Multi-ethnic participants (n=102)			American Indian/Native American participants (n=44)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	2.05	2.21	7.53**	2.15	2.29	6.33
Decision-Making Skills, 0-3	1.80	1.86	3.28	2.00	2.02	1.23
Disapproval of Use, 0-2	1.49	1.57	4.99	1.74	1.77	1.89
Perceived Peer Norms, 0-10	8.65	8.50	-1.69	8.81	8.89	0.91
Perceived Parental Attitudes, 0-3	2.79	2.86	2.58**	2.86	2.92	2.12

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	6.93	5.88	-15.15	2.27	2.33	2.64
Other Tobacco	3.92	2.94	-25.00	2.27	0.00	-100.00
Alcohol	12.75	4.90	-61.57*	4.55	9.09	99.78
Marijuana	8.82	10.78	22.22	2.27	2.27	0.00
Other Illegal Drugs	4.90	3.96	-19.18	0.00	2.27	-
Inhalants	3.92	3.00	-23.47	4.55	4.55	0.00
Non-Medical Prescription Drug Use	4.90	4.04	-17.55	0.00	6.82	-
Non-Medical Over-The-Counter Drug Use	4.00	4.00	0.00	0.00	0.00	-

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

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

**Table A3. Overall Results by Race Group (continued)**

Risk Factor Scores, Range (Positive score is favorable)	"Other" race participants (n=142)		
	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.87	2.02	8.17**
Decision-Making Skills, 0-3	1.80	1.92	6.92**
Disapproval of Use, 0-2	1.56	1.59	1.92
Perceived Peer Norms, 0-10	8.25	8.49	2.93**
Perceived Parental Attitudes, 0-3	2.80	2.75	-1.80

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change
Cigarettes	4.93	4.23	-14.20
Other Tobacco	4.23	2.11	-50.12
Alcohol	9.22	7.04	-23.64
Marijuana	3.55	4.23	19.15
Other Illegal Drugs	1.41	2.11	49.65
Inhalants	5.63	2.11	-62.52
Non-Medical Prescription Drug Use	4.26	2.82	-33.80
Non-Medical Over-The-Counter Drug Use	5.67	2.82	-50.26

\* 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 Ethnicity**

Risk Factor Scores, Range (Positive score is favorable)	Participants of Hispanic, Latino, or Spanish Descent or Origin (n=167)			Participants Not of Hispanic, Latino, or Spanish Descent or Origin (n=2091)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.87	2.10	11.91**	1.85	2.13	15.11**
Decision-Making Skills, 0-3	1.86	1.93	3.86*	1.79	1.93	7.97**
Disapproval of Use, 0-2	1.59	1.59	-0.01	1.50	1.57	4.85**
Perceived Peer Norms, 0-10	8.41	8.46	0.60	8.29	8.48	2.33**
Perceived Parental Attitudes, 0-3	2.82	2.81	-0.35	2.80	2.81	0.65

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	3.61	2.99	-17.17	6.50	5.16	-20.62**
Other Tobacco	3.01	4.19	39.20	5.31	3.04	-42.75**
Alcohol	11.52	5.42	-52.95**	10.30	7.51	-27.09**
Marijuana	6.06	6.63	9.41	7.42	5.31	-28.44**
Other Illegal Drugs	1.80	3.01	67.22	3.17	2.41	-23.97
Inhalants	6.06	2.41	-60.23	4.25	2.85	-32.94**
Non-Medical Prescription Drug Use	4.27	3.61	-15.46	4.29	2.60	-39.39**
Non-Medical Over-The-Counter Drug Use	5.52	2.41	-56.34	3.25	1.99	-38.77**

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

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

**Table A5. Overall Results by Program**

Risk Factor Scores, Range (Positive score is favorable)	All Programs (n=2357)			All Stars (n=303)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.85	2.13	15.23**	2.00	2.12	6.03**
Decision-Making Skills, 0-3	1.79	1.93	7.70**	1.87	1.94	3.54**
Disapproval of Use, 0-2	1.51	1.58	4.56**	1.63	1.70	4.73**
Perceived Peer Norms, 0-10	8.31	8.50	2.22**	8.66	8.82	1.87**
Perceived Parental Attitudes, 0-3	2.80	2.82	0.59	2.83	2.83	0.04

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	6.09	4.96	-18.56	2.97	1.32	-55.56
Other Tobacco	5.07	3.16	-37.67**	1.99	1.00	-49.75
Alcohol	10.21	7.35	-28.01**	6.98	3.64	-47.85**
Marijuana	7.25	5.35	-26.21**	3.32	2.64	-20.48
Other Illegal Drugs	3.12	2.44	-21.79	2.31	1.65	-28.57
Inhalants	4.44	2.74	-38.29**	4.29	2.98	-30.54
Non-Medical Prescription Drug Use	4.26	2.57	-39.67**	2.66	1.99	-25.19
Non-Medical Over-The-Counter Drug Use	3.46	1.94	-43.93**	4.68	1.70	-63.68**

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

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

**Table A5. Overall Results by Program (continued)**

Risk Factor Scores, Range (Positive score is favorable)	Girls Circle (n=28)			Keepin' It Real (n=119)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	2.13	1.86	-12.97	1.70	2.28	34.24**
Decision-Making Skills, 0-3	1.85	1.85	0.16	1.97	2.07	4.83*
Disapproval of Use, 0-2	1.74	1.46	-15.98	1.77	1.76	-0.95
Perceived Peer Norms, 0-10	8.39	7.60	-9.40	9.07	9.24	1.86*
Perceived Parental Attitudes, 0-3	2.88	2.83	-1.66	2.90	2.99	3.08**

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	0.00	10.71	-	1.68	0.84	-50.00
Other Tobacco	0.00	7.14	-	0.00	0.84	-
Alcohol	3.57	14.29	300.28	3.36	1.68	-50.00
Marijuana	3.57	14.29	300.28	0	0	-
Other Illegal Drugs	3.57	7.14	100	0	0	-
Inhalants	3.57	3.57	0	1.68	0.84	-50.00
Non-Medical Prescription Drug Use	7.14	3.57	-50.00	1.69	0	-100
Non-Medical Over-The-Counter Drug Use	0	0	-	0	0	-

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

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

**Table A5. Overall Results by Program (continued)**

Risk Factor Scores, Range (Positive score is favorable)	Life Skills (n=1337)			Project ALERT (n=261)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.85	2.17	17.01**	1.84	1.96	6.63**
Decision-Making Skills, 0-3	1.79	1.89	5.51**	1.83	2.14	16.48**
Disapproval of Use, 0-2	1.54	1.61	4.67**	1.59	1.58	-0.83
Perceived Peer Norms, 0-10	8.37	8.57	2.35**	8.47	8.46	-0.15
Perceived Parental Attitudes, 0-3	2.80	2.83	0.91*	2.90	2.83	-2.66**

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	6.76	6.01	-11.09	3.86	3.07	-20.47
Other Tobacco	5.40	4.05	-25.00**	6.56	1.92	-70.73**
Alcohol	10.62	8.63	-18.74**	9.27	3.07	-66.88**
Marijuana	7.30	5.43	-25.62**	6.54	5.36	-18.04
Other Illegal Drugs	2.50	2.11	-15.60	1.54	2.68	74.03
Inhalants	4.59	2.79	-39.22**	3.46	2.68	-22.54
Non-Medical Prescription Drug Use	4.12	2.71	-34.22*	1.15	1.15	0.00
Non-Medical Over-The-Counter Drug Use	3.21	2.11	-34.27	1.94	1.93	-0.52

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

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

**Table A5. Overall Results by Program (continued)**

Risk Factor Scores, Range (Positive score is favorable)	Project TND (n=98)			Project TNT (n=32)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.65	1.93	16.51**	1.98	2.52	27.16**
Decision-Making Skills, 0-3	1.40	1.85	32.54**	1.79	2.04	13.97**
Disapproval of Use, 0-2	0.70	0.89	27.77**	1.73	1.78	2.88**
Perceived Peer Norms, 0-10	6.61	7.14	8.04**	8.86	8.95	0.98*
Perceived Parental Attitudes, 0-3	2.29	2.43	6.40**	2.92	2.89	-1.07

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	21.65	14.94	-30.99	0.00	0.00	-
Other Tobacco	13.54	4.60	-66.03**	0.00	3.13	-
Alcohol	24.74	20.69	-16.37	0.00	3.13	-
Marijuana	26.80	19.54	-27.09*	0.00	0.00	-
Other Illegal Drugs	15.79	11.63	-26.35	0.00	0.00	-
Inhalants	11.46	2.35	-79.49*	3.13	0.00	-100
Non-Medical Prescription Drug Use	15.46	6.98	-54.85*	0.00	3.13	-
Non-Medical Over-The-Counter Drug Use	12.50	3.49	-72.08*	0.00	3.13	-

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

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

**Table A5. Overall Results by Program (continued)**

Risk Factor Scores, Range (Positive score is favorable)	Tobacco Education Program (n=119)			Why Try (n=60)		
	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Perceived Risk, 0-3	1.80	2.10	16.82**	1.56	2.10	34.40**
Decision-Making Skills, 0-3	1.85	1.96	5.92**	1.37	1.63	19.43**
Disapproval of Use, 0-2	1.21	1.34	10.48**	1.06	1.40	32.16**
Perceived Peer Norms, 0-10	7.36	7.75	5.22**	7.37	7.84	6.29**
Perceived Parental Attitudes, 0-3	2.78	2.83	1.81	2.69	2.62	-2.72

Substance Use, % Users in Past 30 Days (Negative change is favorable)	Pre Average	Post Average	% Change	Pre Average	Post Average	% Change
Cigarettes	4.20	4.24	0.95	10.17	3.33	-67.26
Other Tobacco	5.04	2.52	-50.00	8.47	1.67	-80.28
Alcohol	11.76	7.56	-35.71	16.95	6.78	-60.00
Marijuana	9.24	7.56	-18.18	13.56	1.69	-87.54**
Other Illegal Drugs	4.20	3.36	-20.00	13.56	1.69	-87.54**
Inhalants	2.52	2.52	0	5.17	6.78	31.14
Non-Medical Prescription Drug Use	9.24	2.52	-72.73**	6.90	6.67	-3.33
Non-Medical Over-The-Counter Drug Use	4.27	1.69	-60.42	3.51	1.72	-51.00

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

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

## APPENDIX B: METHODOLOGY AND ANALYSIS ISSUES

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

### Evaluation Design Issues

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

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

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

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

Given that there is a consistent trend across the country for teens to develop less disapproval of use and behaviors regarding illegal substance use over time, it is likely that the absence of pre/post changes for participants is indication of favorable effects relative to youth who did not participate in similar prevention interventions.

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

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

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

### **Program Implementation Issues**

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

Ineffective Interventions. The first reaction one might have upon reviewing some of these programs' data is that some interventions are not effective in preventing or reducing substance use or affecting risk factors. This is less likely to actually be the case when evidence-based interventions were used because they have been shown through research to be effective. Thus, we should not conclude that these interventions are, in general, ineffective. Nevertheless, there may be aspects of the way they are implemented that render them less effective. There is a possibility that unfavorable results for a non-evidence-based intervention indicate a lack of program effectiveness, but there are other potential explanations, as well.

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

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

## **Data Analysis Methods**

Testing Pre- and Post-Survey Differences in Risk-Factor Scores: We used SAS statistical software for all analyses. We conducted paired-samples t-tests to compare the means of the pre-survey and post-survey scores for each risk-factor measure assessed on the surveys. This test computed the difference (change) between the pre- and post-survey means for each factor and then tested whether the mean difference was "significantly

different” from zero. A statistically significant difference means that the observed difference was too large to occur as a result of chance alone. The treatment (intervention) and/or other factors played a role in helping changes take place in the behaviors and attitudes of the participants. T-tests (as well as all tests of significance) were performed at a significance level of  $p < .05$  (two-tailed), though differences of between .05 and .10 were noted for participants and labeled as “approaching” or “near” significant. Appropriate nonparametric tests were used with small group sizes.

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

## **APPENDIX C: DAODAS STANDARD SURVEY**

# STUDENT PREVENTION PRE-SURVEY

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

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



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

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

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

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



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

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

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

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



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

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

9. During the past 30 days, on how many days did you smoke part or all of a cigarette?	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> days		
10. During the past 30 days, on how many days did you use other tobacco products (such as dip, snuff, chew, or cigars)?	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> days		
11. During the past 30 days, on how many days did you drink one or more drinks of an alcoholic beverage?	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> days		
12. During the past 30 days, on how many days did you use marijuana?	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> days		
13. During the past 30 days, on how many days did you use any other illegal drug?	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> days		
14. During the past 30 days, on how many days did you sniff glue, breathe the contents of an aerosol spray can, or inhale other gases or sprays in order to get high?	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> days		
15. During the past 30 days, on how many days did you take a prescription medication (such as Ritalin, Adderall, Xanax) <u>without</u> a doctor's prescription?	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> days		
16. During the past 30 days, on how many days did you use an over-the-counter medicine (one you can buy without a doctor's prescription) to get high rather than for the reason it was made?	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> days		



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

	Never Used	
17. How old were you the <u>first time</u> you smoked part or all of a cigarette?	<input type="radio"/>	Or Age <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
18. How old were you the <u>first time</u> you used any other tobacco product?	<input type="radio"/>	Or Age <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
19. How old were you the <u>first time</u> you had a drink of an alcohol beverage? Please <u>do not</u> include any time when you only had a sip or two from an alcoholic drink and <u>do not</u> include having alcohol as part of a religious service.	<input type="radio"/>	Or Age <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
20. How old were you the <u>first time</u> you used marijuana?	<input type="radio"/>	Or Age <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
21. How old were you the <u>first time</u> you used any other illegal drug?	<input type="radio"/>	Or Age <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>

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

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

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

24. Are you male or female?  Male  Female

25. Are you Hispanic or Latino?  Yes  No

26. Which of these groups describes you?

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

