

# **2006 Prevention Outcomes Annual Report**

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



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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 2005-2006. A majority of the content of this report focuses on the outcomes generated through pre- and post-testing of multi-session youth prevention curricula because those evaluation methods were the most standardized across sites.

The key outcome findings from these **prevention curricula** are:

- There were 4,886 participants with matched pre- and post-tests. Participants were relatively evenly spread from ages 10 to 14. The race demographics were roughly 55% Black or African American, 35% White, and 7% “Other” race.
- The results showed statistically significant positive changes on all five risk factor measures: perceived risk, favorable attitudes, decision-making, perceived peer norms, and perceived parental attitudes ( $p < .05$ ). These results are generally similar to FY '05.
- For substance use, there were statistically significant reductions in the number of users of alcohol (31.1%) and marijuana (31.6%) and cigarettes (23.5%). These reductions were statistically significantly better than FY '05 for alcohol and cigarettes ( $p < .001$ ).
- Between 93% and 97% of participants that were non-users at pre-test remained non-users at post-test for each substance. Around 80% of marijuana users at pre-test, around 75% of alcohol users, and about 70% of cigarette users were using less by post-test.
- Of the programs with multiple implementations, Project Towards No Tobacco Use (TNT), All Stars, Keep a Clear Mind, Life Skills Training, Project Alert, and Project Northland had some of the most consistently positive results.
- On most measures, evidence-based programs had greater positive change results for participants than programs that were not evidence-based, though the non-evidence-based programs generally had more desirable pre-test scores that may have lessened their likelihood of larger positive changes.

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

- County authority prevention staff returned forms on 613 alcohol compliance checks and 83 tobacco checks. Twenty-two percent of alcohol purchase attempts were successful compared to 16.9% of tobacco attempts. Having posted signage about checking IDs or having age verification equipment were both statistically significantly associated with being less likely to sell ( $p < .001$ ). Males sold

significantly more often than females ( $p < .05$ ). “Other” race clerks and White clerks sold more often than Black or African American clerks. The average clerk fine for an alcohol sale was \$372.67.

- The FFY 2007 Youth Access to Tobacco Study (Synar) showed the highest retailer violation rates for providing tobacco products to youth under 18 since 2001 (12.3%). The FFY 2006 rate was 10.9%, down from 63.2% in 1994.
- Prevention staff generally exceeded their expectations for the percentages of **merchant education** participants agreeing with targeted beliefs.
- Many **other prevention activities** are not well suited to generating valid outcomes and some interventions were implemented too infrequently to generate conclusions, though there were limited examples of both successes and shortcomings. A lack of outcomes is not necessarily an indication that an approach is unimportant or ineffective.

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# **SECTION I: 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. A majority of their funds are distributed to the county alcohol and drug authority system, 33 agencies serving the state's 46 counties. 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). In addition, DAODAS also receives Safe and Drug-Free Schools and Communities (SDFSC) funds through the U.S. Department of Education that are distributed to community providers in a competitive process. A handful of these SDFSC grant recipients are not part of the county authority system, but their outcomes are included in this report where appropriate.

Beginning in FY '05, county alcohol and drug abuse authorities were required to use the DAODAS Standard Survey for recurring programs delivered to youth between the ages of 10 and 20 years old. PIRE developed the DAODAS Standard Survey after DAODAS prevention staff selected the SAMHSA core measures they wanted included. Local prevention staff administered the survey and entered student responses into the KIT Prevention online reporting system. PIRE staff were sent a cumulative outcome database quarterly. The deadline for pre- or post-tests to be included in the final database was June 15, 2006. This report, written by the Columbia, SC office of the Pacific Institute for Research and Evaluation, focuses on the findings based on the year-end cumulative database for FY '06, though we also present results, where appropriate, from FY '05 or from the two years' data combined.

## **Contents of This Report**

This report will not focus exclusively on outcomes generated through pre- and post-testing of middle and high school youth, but those results will receive the most analysis and discussion because it is the most standardized, valid method implemented across county authority sites. Other sections of the report will deal with those outcomes that can be assessed across sites for environmental strategies, the Youth Access to Tobacco Study (YATS), and other interventions.

Section II will focus on the overall results generated by the DAODAS Standard Survey. Section II will also present and discuss the pre- and post-test findings by demographic groups: age, gender, race, and ethnicity.

Section III will present and discuss analyses for the pre- and post-test results by program. In addition, we will present a comparison of the results for evidence-based programs versus non-evidence-based programs.

Section IV will be a discussion of some of the methods and issues key to analyzing and interpreting the pre- and post-test results in Section II and Section III.

Section V will discuss findings from county alcohol and tobacco compliance checks.

Section VI will address merchant education evaluation results.

Section VII will cover results from the FFY2007 Youth Access To Tobacco Study (Synar).

Section VIII will address the findings for parenting interventions.

Section IX will address the findings for other prevention interventions not included in the previous sections.

Many of the most 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.

## SECTION II: OVERALL PRE- AND POST-TEST FINDINGS

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

### The Pre-Post Test Outcome Evaluation Instrument

The DAODAS Standard Survey is comprised of SAMHSA core measures. The measures used were **perceived risk/harm of ATOD use, favorable attitudes toward ATOD use, decision-making, perceived peer norms regarding ATOD use, perceived parental attitudes regarding ATOD use, and 30-day use of alcohol, marijuana, and cigarettes.** County authorities were allowed to add additional core measures if there were additional foci of their programs they wished to assess, but none chose to do so. The DAODAS Standard Survey is included in Appendix B.

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 were expected to enter the student responses into the KIT Prevention online reporting system. Providers were instructed on participant protection procedures that would ensure likely confidentiality.

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, positive results 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> Negative results are expected to raise questions about the fidelity of program implementation and/or the fit of the program to the community but should never be taken as a conclusive indication of program ineffectiveness. 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.

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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.

## **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 entered 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 4,886 matched participants, a large increase over the 2,869 matched participants in FY '05. An unmatched database provided by KIT Prevention staff showed a total of 5,025 post-tests, meaning a favorable match rate of 97.2%. It is very likely that the actual match rate is lower than this figure because some local staff may not have entered pre-tests until after they had already collected the post-tests. If they checked for matches before entering all of the pre-tests, they might not have entered unmatched pre-tests or post-tests because they knew those tests would not be included in the final analyses.

## **Demographic Breakdown**

The demographic figures presented in this section are based on the participants' responses to the demographic items on their pre-test. The same items appeared on their post-tests but were not used.

*Age.* Participants' ages were spread rather evenly from 10 to 14 years old, with an average age of 12.4 (FY '05 average was 12.6). This means that middle school students make up a sizable portion of the total population. Table 1 shows the complete breakdown. Compared to FY '05, there were fewer 10 year olds and fewer participants over age 14, and the percentage of 12 and 13 year olds were increased. The programs dealing with primarily high-school aged participants were ATOD Presentations and Project TND.



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

Age	% of Participants	
	FY '06	FY '05
10	<b>13.7</b>	18.3
11	<b>17.0</b>	17.2
12	<b>24.9</b>	17.5
13	<b>20.8</b>	15.8
14	<b>12.5</b>	11.9
15	<b>6.0</b>	9.2
16	<b>3.4</b>	6.2
17	<b>1.3</b>	2.4
18	<b>0.3</b>	1.4
19	<b>0.1</b>	0.1

*Gender.* Males made up a slim majority of the matched participant population (50.2%). In FY '05, females were 55.6% of the participants. The only program with an atypical gender breakdown was Girls Grapevine, for obvious reasons.

*Race/Ethnicity.* Just over 55% of the matched participants were Black or African American, 35.0% were White, 7.2% were of “Other” race, and 1.6% were American Indian or Alaskan Native. There were small numbers of participants (less than 0.5%) that were Asian, Native Hawaiian, or Other Pacific Islander. Only 6.4% of matched participants were of Hispanic, Latino, or Spanish origin or descent. All of these percentages are similar to FY '05. Some programs had atypical demographic breakdowns, such as ATOD Presentations (86.6% Black or African American), Information Dissemination (31.4% Hispanic), Life Skills Training (60.1% White), Responding in Peaceful and Positive Ways (86.0% Black or African American), RISE (88.1% Black or African American), and Second Step (70.5% White).

### **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 statistically significant ( $p < .05$ ) positive change from pre- to post-test for all five measures. The measure with the smallest percent change, perceived parental attitudes, also had the highest pre-test score and may have been limited by a “ceiling effect” because the high pre-test score left relatively little room for improvement. These results are generally similar to FY '05.

*Demographic Differences in Risk-Factor Measures.* Tables A1 through A4 in Appendix A display risk-factor measure and substance use rates results separated by age group (middle school ages and high school ages), gender, race, and ethnicity.

**Table 2. Overall Results, Risk-Factor Measures:  
County Authorities, FY '06 and '05**

Risk-Factor Measure	N	Possible Range of Scores	Pre-Test Average	Post-Test Average	FY '06 % Change	FY '05% Change
Perceived Risk	4,852	0-3	2.12	2.36	<b>11.2**</b>	12.7**
Favorable Attitudes	4,874	0-3	2.56	2.65	<b>3.5**</b>	4.6**
Decision-Making	4,879	0-3	1.83	1.89	<b>3.2**</b>	3.1**
Perceived Peer Norms	4,883	0-10	8.07	8.43	<b>4.5**</b>	3.8**
Perceived Parental Attitudes	4,871	0-3	2.78	2.80	<b>0.6**</b>	1.6**

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

*Age.* Table A1 shows county authorities' data 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 risk-factor scores. Both groups had statistically significant changes on all risk-factor measures with the exception of perceived parental attitudes for younger participants, though they had a very high pre-test score. The older participants had greater positive change on all risk factor measures.

*Gender.* Table A2 shows data results separated by gender. Results for all five risk-factor measures show statistically significant positive change for males, while there was significant positive change for females on the perceived risk, favorable attitudes, and perceived peer norms measures. It is worth noting that females had consistently better pre-test risk-factor scores than males, which may be a primary reason that males had more desirable change scores on all five measures.

*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. White participants had positive, statistically significant change on each of the five risk-factor measures, as opposed to four for Black or African American participants, and two each for American Indian and Alaska Native participants (favorable attitudes and perceived peer norms) and "Other" race participants (perceived risk and perceived peer norms). Results indicate no consistent trends distinguishing the race groups.

Participants of Hispanic, Latino, or Spanish descent or origin had statistically significant positive change for perceived risk and perceived peer norms. Results indicate no consistent trends distinguishing by participant ethnicity.

### **Substance Use**

The DAODAS Standard Survey asked participants to indicate the extent of their alcohol, marijuana, and cigarette 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.

The overall results are shown in Table 3, along with the corresponding changes in substance use for FY '05.

**Table 3. Overall Results, Substance Use Rates: County Authorities, FY '06 and '05**

Risk-Factor Measure	N	Pre-Test Average	Post-Test Average	FY '06 % Change	FY '05% Change
30-Day Alcohol Use^	4,862	18.3%	12.6%	<b>-31.1**</b>	-19.8**
30-Day Marijuana Use^	4,856	9.9%	6.8%	<b>-31.6**</b>	-29.7**
30-Day Cigarette Use^	4,861	12.0%	9.2%	<b>-23.5**</b>	-7.1*

\* Pre- and post-test averages are approaching being statistically significantly different (significant at the p<.10 level, but not p<.05 level);

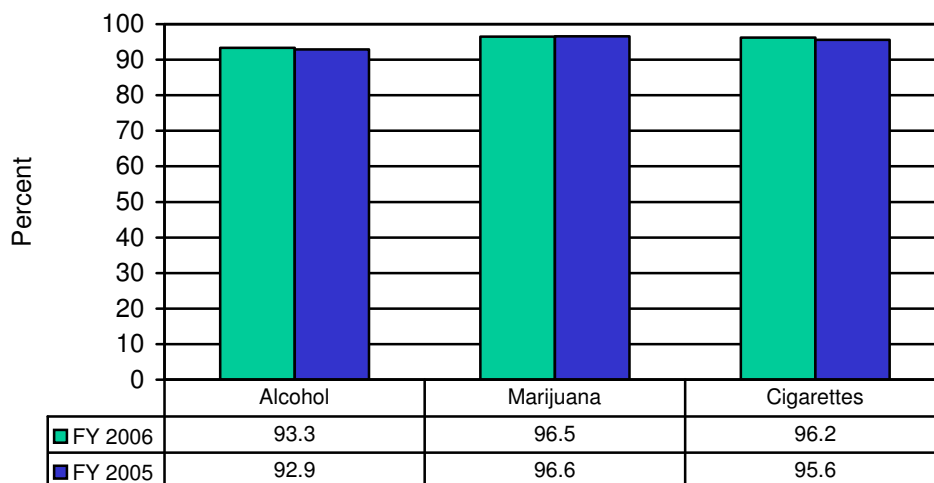
\*\* Pre- and post-test averages are statistically significantly different (significant at p<.05 level)

^ Negative changes are desired for these items

There were desired statistically significant declines in the number of users for alcohol, marijuana, and cigarettes from pre- to post-test. All declines were greater than FY '05, though the pre-test percentages of users were only slightly higher in FY '06. This difference between the two years was statistically significant for alcohol and cigarettes (p<.001). Alcohol was the most widely used substance at pre- and post-test, while marijuana was the least used.

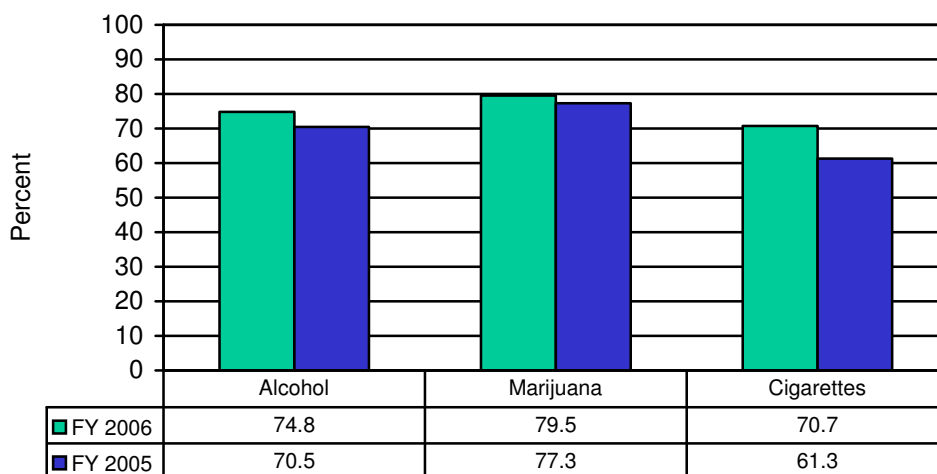
*Maintenance/Reductions.* Responses regarding 30-day use were analyzed to determine (1) the percentage of participants who were not using a substance at pre-test that were still not using at post-test and (2) the percentage of participants who were using a substance at pre-test that were using less (or not at all) by post-test. The latter, in particular, may be the most accurate assessment of the “preventive” effect of the programs.

**Chart 1. Percent of Pre-Test Non-Users Who Remained Non-Users: FY 2006 and 2005**



Charts 1 and 2 indicate similar effects for both years on all three substances. More than 93% of pre-test alcohol non-users, 96% of pre-test marijuana non-users, and 96% of cigarette pre-test non-users remained non-users by post-test in FY '06. These numbers are similar or slightly better than the FY '05 results, and no differences between years were statistically significant. About 80% of marijuana users at pre-test, about 75% of alcohol users, and about 70% of cigarette users were using less by post-test for FY '06. These results were all more desirable than the FY '05 numbers, and the difference was significant for cigarettes ( $p < .01$ ) and approaching significance for alcohol ( $p < .10$ ).

**Chart 2. Percent of Pre-Test Users Who Reduced Their Level of Use: FY 2006 and FY 2005**



*Demographic Differences in Substance Use.* Tables A1 through A4 in Appendix A also display risk-factor measure and substance use rates results separated by age groups, (middle school ages and high school ages), gender, 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. Reductions in the number of users of each substance occurred in each age range and were statistically significant for all three substances in both groups. Older participants had higher percentages of users for each substance at pre-test.

*Gender.* Table A2 shows data results separated by gender. Declines in the number of users were statistically significant for both genders for all three substances. Males were more likely to be users at pre-test for all three substances.

*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. Declines in the percentages of users across all three substances were almost entirely in the desired

direction for all race groups. The declines were all statistically significant for Black or African American participants and White participants. “Other” race participants had significant declines in the number of cigarette users.

Both ethnicity groups had statistically significant reductions in the number of marijuana and cigarette users, but only participants not of Hispanic, Latino, or Spanish ethnicity had a significant reduction in the number alcohol users. Participants of Hispanic, Latino, or Spanish descent or origin had higher pre-test use rates for all three substances as compared to those not of that ethnicity.

## **Summary of Section II**

For the county authorities’ multi-session prevention programs for youth 10 to 20 years old, a pre-post design was used with a survey containing five risk factor items and three 30-day use questions for alcohol, marijuana, and cigarettes. There were 4,886 matched participants. Participants were relatively evenly spread from ages 10 to 14. Gender percentages were essentially equal, and the race breakdowns were roughly 56% Black or African American, about 35% White, and about 7% “Other” race. Only 6.4% of participants were of Hispanic, Latino, or Spanish descent or origin.

The results showed statistically significant positive changes on all five risk factor measures: perceived risk, favorable attitudes, decision-making, perceived peer norms, and perceived parental attitudes ( $p < .05$ ). These results are generally similar to the FY ‘05 results. For substance use, there were statistically significant reductions in the number of users of alcohol (31.1%), marijuana (31.6%), and cigarette (23.5%) users. These reductions were statistically significantly better than FY ‘05 for alcohol and cigarettes ( $p < .001$ ).

Between 93% and 97% of participants that were non-users at pre-test remained non-users at post-test for each substance. Around 80% of marijuana users at pre-test, around 75% of alcohol users, and about 70% of cigarette users were using less by post-test.

Demographic analyses reveal that age was an important factor in results. Older participants had lower pre-test risk-factor scores and more pre-test substance users. However, these older participants had better outcomes than the younger participants on all risk-factor items, which may be related to their lower pre-test scores (more room for improvement than younger participants had).

Females had higher pre-test risk-factor scores and a smaller percentage of pre-test substance users. Males had greater positive change on risk factor measures, which may be related to their lower pre-test scores (more room for improvement than females had).

Results were generally positive across race groups with minimal differences in results by race for risk factor measures. Black or African American participants had larger reductions in the number of alcohol and cigarette users. Participants of Hispanic, Latino, or Spanish origin or descent had results that were better than those not of that ethnicity on

some items and less on others. They did have an almost 50% reduction in the number of cigarette users from pre- to post-test.

## SECTION III: PROGRAM OUTCOMES

Across the county authority sites, 28 different programs were implemented. In this section, we compare the outcomes for the programs with 40 or more matched participants. The full tables with results by program are found in Appendix A in Table A5. A summary of the statistically significant effects by program are found below in Table 4 and described below.

**Table 4. Summary of Statistically Significant Program Effects**

<b>Program</b>	<b># of Sites</b>	<b>Measures with Significant Change</b>
<b>All Interventions</b>	<b>72</b>	<b>Perceived Risk Favorable Attitudes Decision-Making Perceived Peer Norms Perceived Parental Attitudes 30-Day Alcohol Use 30-Day Marijuana Use 30-Day Cigarette Use</b>
<b>All Stars</b>	<b>15</b>	<b>Perceived Risk Favorable Attitudes Perceived Peer Norms 30-Day Alcohol Use 30-Day Marijuana Use 30-Day Cigarette Use</b>
<b>ATOD Presentations</b>	<b>1</b>	<b>Perceived Risk Favorable Attitudes Decision-Making Perceived Peer Norms Perceived Parental Attitudes 30-Day Alcohol Use 30-Day Marijuana Use 30-Day Cigarette Use</b>
<b>Girls Grapevine</b>	<b>1</b>	<b>Perceived Risk Favorable Attitudes</b>
<b>Girl Power/Wise Guys</b>	<b>1</b>	<b>30-Day Alcohol Use</b>
<b>Information Dissemination</b>	<b>1</b>	<b><i>Favorable Attitudes Decision-Making 30-Day Alcohol Use</i></b>
<b>Keep a Clear Mind</b>	<b>3</b>	<b>Perceived Risk Favorable Attitudes Decision-Making Perceived Peer Norms Perceived Parental Attitudes</b>
<b>Keepin' It Real</b>	<b>2</b>	<b>Perceived Risk <i>Decision-Making</i></b>

<b>Life Skills Training</b>	<b>4</b>	<b>Perceived Risk</b> <b>Favorable Attitudes</b> <b>Decision-Making</b> <b>Perceived Peer Norms</b> <b>Perceived Parental Attitudes</b>
<b>Project Alert</b>	<b>11</b>	<b>Perceived Risk</b> <b>Favorable Attitudes</b> <b>Decision-Making</b> <b>Perceived Peer Norms</b> <b>Perceived Parental Attitudes</b> <b>30-Day Alcohol Use</b> <i>30-Day Marijuana Use</i>
<b>Project Northland</b>	<b>2</b>	<b>Perceived Risk</b> <b>Favorable Attitudes</b> <b>Decision-Making</b> <b>Perceived Peer Norms</b> <b>30-Day Alcohol Use</b> <b>30-Day Marijuana Use</b> <b>30-Day Cigarette Use</b>
<b>Project Toward No Drug Abuse (TND)</b>	<b>5</b>	<b>Perceived Risk</b> <b>Favorable Attitudes</b> <b>Perceived Peer Norms</b> <i>30-Day Alcohol Use</i>
<b>Project Toward No Tobacco Use (TNT)</b>	<b>6</b>	<b>Perceived Risk</b> <b>Favorable Attitudes</b> <b>Decision-Making</b> <b>Perceived Peer Norms</b> <b>Perceived Parental Attitudes</b> <b>30-Day Alcohol Use</b> <b>30-Day Marijuana Use</b> <b>30-Day Cigarette Use</b>
<b>Responding in Peaceful and Positive Ways</b>	<b>1</b>	<i>Perceived Peer Norms</i> <i>30-Day Marijuana Use</i> <i>Favorable Attitudes</i> <i>30-Day Alcohol Use</i>
<b>RISE</b>	<b>1</b>	<b>Perceived Risk</b> <b>Perceived Peer Norms</b> <b>30-Day Alcohol Use</b> <i>Decision-Making</i>
<b>Second Step</b>	<b>1</b>	<i>Favorable Attitudes</i>

*Italics indicate undesired change.*

**Bold items indicate statistically significant change (p<.05);** Non-bold items indicate near significance (p<.10).

**All Stars**, a comprehensive evidence-based ATOD prevention curriculum, had multiple positive risk-factor changes (perceived risk, favorable attitudes, and perceived peer norms) and significant declines in the percentages of users for all three substances. It was the most commonly implemented program with 15 sites and 1,253 matched participants.

**ATOD Presentations** is a single-county general prevention education program that generated very large, statistically significant positive change on all eight measures.



**Girls Grapevine** is a single-county program developed to help sixth grade girls address their transition into middle school. It showed statistically significant improvement on perceived risk and near-significant change on favorable attitudes. This was despite very high pre-test scores.

**Girl Power/Wise Guys** is a single-county prevention program. Girl (Gifted, Intelligent, Responsible Ladies) Power 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, and Wise Guys is a six-session program exploring the need for rules and consequences, leadership, sportsmanship, and team effort. It showed near significant improvement in reducing the number of alcohol users.

**Information Dissemination** is a single-county prevention program that combines activities such as Drunk & Dangerous Glasses, Drug Feud, Family DRAMA, and Use Your Noodle. All significant changes were in the undesired direction: favorable attitudes, decision-making, and 30-day alcohol users (approaching significance).

**Keep A Clear Mind** is an evidence-based program for late elementary school students that primarily involves a series of homework booklets for students. There were significant improvements for all five risk factors for the three implementation sites.

**Keepin' It Real**, an evidence-based, video-enhanced intervention for youth 10 to 17 that uses a culturally-grounded resiliency model which incorporates traditional ethnic values and practices that protect against drug use, was used by two sites. The results show a statistically significant improvement in perceived risk, but a near-significant decline in decision-making.

**Life Skills Training**, a skill-based, evidence-based ATOD prevention curriculum, was used by four sites. It demonstrated significant positive change for all five risk factor measures.

**Project Alert**, a comprehensive evidence-based ATOD prevention curriculum, had six positive significant effects (all five risk factor measures plus reduction in number of alcohol users) and a near-significant reduction in the number of marijuana users across the 11 county authority intervention sites totaling 616 matched participants.

**Project Northland**, an evidence-based ATOD prevention curriculum with a strong focus on alcohol and influencing the environment, was used by two sites but with a large total of 682 matched participants. The overall results show significant effects on perceived risk, favorable attitudes, decision-making, perceived peer norms and significant reductions in the number of alcohol, marijuana, and cigarette users.

**Project Toward No Drug Abuse**, an evidence-based general ATOD prevention curriculum for high school youth, was used by five county authority sites and had overall

significant improvements for perceived risk, favorable attitudes, and perceived peer norms. There was a near significant reduction in the number of alcohol users.

**Project Toward No Tobacco Use**, a comprehensive, evidence-based tobacco prevention program for middle school youth, had consistently large, positive significant changes for all five risk-factor measures and all three substances. Six sites used Project TNT (336 matched participants).

**Responding in Peaceful and Positive Ways**, a school-based violence prevention program designed to provide students in middle and junior high schools with conflict resolution strategies and skills, was used by one site and had significant negative changes for perceived peer norms and the number of marijuana users. There were also near-significant negative changes for favorable attitudes and number of alcohol users.

**RISE**, Responsibility Increases Student Excellence, targets the areas of substance abuse, anti-violence, character education, and life skills. It is used in one county only and had statistically significant positive changes for perceived risk, perceived peer norms, and number of alcohol users. There was a near-significant improvement for decision-making.

**Second Step**, a universal evidence-based social skills program for middle school youth, was used by one site and had only a negative significant change, for favorable attitudes.

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

County authorities are not required to use evidence-based interventions exclusively, which allows for a comparison of outcomes between evidence-based programs and non-evidence-based interventions. These results are displayed in Table A6 in Appendix A.

Every measure had statistically significant change for evidence-based programs. For every risk factor measure except perceived parental attitudes, evidence-based interventions had better change scores than non-evidence-based interventions. However, non-evidence-based programs had larger decreases in the percentages of substance users for marijuana and cigarettes. The most divergent results were for decision-making as evidence-based interventions had a statistically significant increase but non-evidence-based interventions had a slight decrease. It should be noted that non-evidence-based interventions had generally higher pre-test risk-factor scores and lower pre-test substance use rates.

### **Summary of Section III**

There were 72 county authority program implementations in FY '06. Of the programs with multiple implementations, Project Towards No Tobacco Use (TNT), All Stars, Keep a Clear Mind, Life Skills Training, Project Alert, and Project Northland had some of the most consistently positive results.

On most measures, evidence-based programs had greater positive change results for participants than programs that were not evidence-based, though the non-evidence-based programs generally had more desirable pre-test scores that may have lessened their likelihood of larger positive changes.

## SECTION IV: 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 for both projects, 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. But when 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 benefit.

Floor and Ceiling Effects. Floor and ceiling effects refer to circumstances that make it difficult to measure change over time because participants 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 subrecipients 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 favorable attitudes 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, but it is the case that each evidence-based program tends to have a base of research support for the long-term impact of the program.

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-test 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 subrecipient 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 a “good fit” for their target population and setting, and this may have been an important factor in the different levels of success across subrecipient 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.

The only fidelity measure used for the county authorities was the recording of participant attendance. However, a large number of sites had attendance results that indicate considerable amounts of missing data, as many participants were listed with zero sessions attended, which would not be possible if they had a matched pre- and post-test. Until the attendance data is better entered, there cannot be analyses of attendance’s impact on outcomes. However it may be safe to assume that a lack of fidelity probably had an adverse impact on the findings for at least some of the interventions at some of the sites, and, in many cases, this may be avoided in the future through close monitoring of these issues.

## **Data Analysis Methods**

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

difference was too large to occur 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 at least once during the last 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 detected changes in response to a treatment (e.g. a program intervention) in *before and after* designs.

### **Summary of Section IV**

The methods used to generate outcomes for the youth curricula are common and generally accepted. There are aspects of the design, however, that should be taken into account when considering the results. There were numerous instances of ceiling effects where pre-test responses were so close to the ideal that it was difficult to improve on the post-test and limited potential positive changes. Also, there were no comparison groups, so we cannot say with confidence whether the outcomes would have been more or less favorable as compared to a group having no intervention. Negative results for any site or program may not necessarily indicate an ineffective program. Poor fidelity or poor matching of a program with the target population may be more likely to lead to poor outcomes.

## **SECTION V: ALCOHOL AND TOBACCO COMPLIANCE CHECKS**

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

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

Across the county authority system, prevention staff were required to use the DAODAS Compliance Check Form when cooperating with local law enforcement to implement compliance checks. This form was to be used for both alcohol and tobacco compliance checks. The form records 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 or age.

In FY '06, there were 613 alcohol and 83 tobacco compliance check forms returned. The merchants sold cigarettes 14 times or 16.9%. Alcohol was sold 135 times or 22.0% in the 14 counties that returned alcohol compliance check forms.

Because there were far more alcohol compliance checks than tobacco checks, the analyses of other aspects of these checks were conducted on the alcohol information only. Not all counties used the compliance check form at the time of the operation. They entered what information they did have after the fact, so some of the data presented below reflect all the known data for a given component but may not accurately document all the compliance checks.

Most of the alcohol compliance checks were done at convenience stores (79.9%). The next most common type of location was grocery stores (8.0%), then general merchandise stores (4.7%). In almost all cases, the youth attempted to buy beer (93.8%).

The most common age for the youth volunteers was 19 (40.8%). There were almost equal percentages of 16-, 17-, and 18-year-old buyers (14.9-17.5%). There were only 33 buyers who were outside the 16-19 range. Most buyers were males (70.2%) and White (69.8%). All other buyers were Black or African American.



**Table 5. Alcohol Compliance Check Merchant Practices**

<b>Compliance Check Feature</b>	<b>%</b>
Alcohol Sales Completed	22.0
Merchant Asked Buyers Age	30.7
Merchant Asked to See ID	78.2
Merchant Studied ID	63.3
Completed Sales When Merchant Studied ID	10.8
Visible ID-Checking Signage in Store	62.7
Age-Verification Equipment Used	25.5

Table 5 above details the frequency of certain merchant conditions and practices at the time of the compliance check. Merchants were much more likely to ask to see an ID than merely ask the buyers' age. However, they only studied the ID 63.3% of the time. Even when the ID was studied, the sale was completed 10.8% of the time. More than three out of five stores had posted signage stating that they check IDs, but only one quarter had age-verification equipment.

**Table 6. Percentage of Completed Sales by Type of Business**

<b>Type of Business</b>	<b>% Sales Completed</b>
Convenience Store/Gas Station	22.2
Other	21.1

Table 6 above shows that convenience stores did not have any notable difference in alcohol sales rates compared to other types of businesses.

Table 7 below displays the percentages of sales completed based on multiple demographic characteristics of the clerks and buyers. Male clerks sold statistically significantly more often than female clerks ( $p < .05$ ). There was a near-significant effect ( $p = .07$ ) for clerk race as White clerks sold more often than Black or African American clerks. However, "Other" race clerks sold at the highest rate, more than one-third of the time. Neither buyer gender nor buyer race was a significant factor. There were no significant differences based on whether the clerk and buyer were the same gender or race.

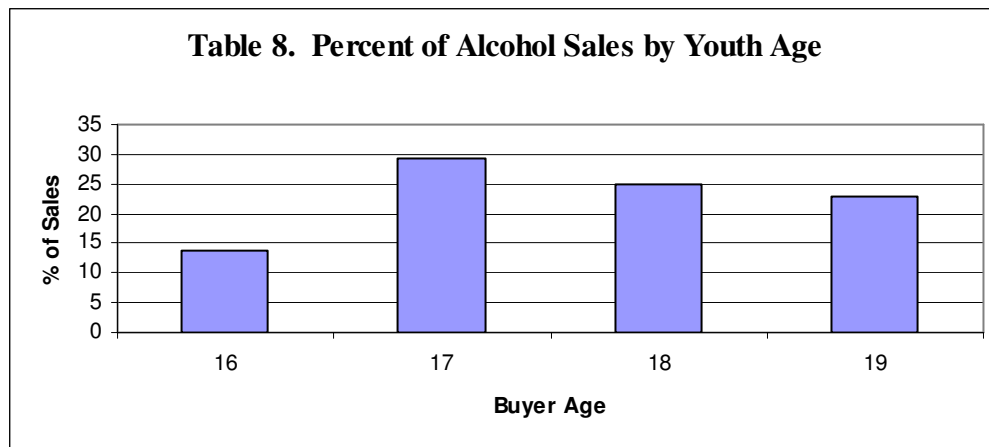
For the second straight year, there was an expected pattern in the youth buyers' ages (Table 8). Seventeen year olds actually had higher sales rates than 18 and 19 year olds.

The presence of signage promoting ID-checking had a statistically significant impact for completed sales ( $p < .001$ ). Only 18.2% of stores with signage sold compared to 38.6% of stores without signage. Having age verification equipment was also statistically significant ( $p < .001$ ) as only 10% of stores with equipment sold compared to 31.7% of stores without equipment. Sales were only slightly more frequent (27.1%) before 6 pm

compared to after 6 pm (25.1%). Though only eight purchase attempts were for wine coolers, half were successful.

**Table 7. Percentage of Retailer Sales by Demographic Characteristics**

<b>Compliance Check Characteristic</b>	<b>% Sales Completed</b>
Clerk: Male	35.9
Clerk: Female	24.0
Clerk: Black or African American	21.4
Clerk: White	31.1
Clerk: Hispanic	0 (0 of 6)
Clerk: Other	35.7
Buyer: Male	25.8
Buyer: Female	27.8
Buyer: Black or African American	26.7
Buyer: White	26.6
Clerk and Buyer: Same Gender	25.6
Clerk and Buyer: Different Gender	27.3
Clerk and Buyer: Same Race	26.2
Clerk and Buyer: Different Race	27.7



The average clerk fine for an alcohol sale was \$372.67.

In a review of year-end objective reports, just more than one-third of county agencies had management plans to implement alcohol compliance checks, though several more had plans related to building up the relationships with law enforcement that could lead to enforcement in the future. Many of the counties with alcohol compliance checks plans fell short in achieving the number of checks they were hoping for. There were mixed results in terms of whether the buy rate they generated was above or below expectations.

The issues regarding tobacco compliance checks were largely the same as the issues for alcohol compliance checks. The counties with less enforcement as expected, or none at

all, were typically the same counties that did not get the level of alcohol enforcement they expected. Few counties were able to link tobacco enforcement to a change in buy rates. There were, however, a majority of counties that had plans regarding building relationships with law enforcement. There were many positive responses on these plans indicating that law enforcement had made verbal or written commitments to begin tobacco or alcohol compliance checks in FY '07. Some, however, shared finding significant barriers such as restricted resources, changes in contact personnel, and lack of interest in enforcing sales laws.

## **Summary of Section V**

County authority prevention staff returned forms on 613 alcohol compliance checks and 83 tobacco checks. Twenty-two percent of alcohol purchase attempts were successful compared to 16.9% of tobacco attempts. These alcohol compliance checks most frequently were: done at convenience stores, for the purchase of beer, and done by White male buyers between 16 and 19 years of age.

Most merchants asked to see the buyers' IDs, though almost 11% of those who studied the ID still sold. Having posted signage about checking IDs or having age verification equipment were both statistically significantly associated with being less likely to sell ( $p < .001$ ). Males sold significantly more often than females ( $p < .05$ ). "Other" race clerks and White clerks sold more often than Black or African American clerks. The average clerk fine for an alcohol sale was \$372.67.

Year-end reports for both alcohol and tobacco indicated mixed results in that some counties had the level of enforcement and effectiveness hoped for but many found one or both to fall well short of expectations. There were many counties who shared positive momentum for increased enforcement in the near future, but some were facing significant barriers.

## **SECTION VI: 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 most county authorities are moving over to the PREP curriculum exclusively. County authorities were each required to implement merchant education programming in FY '06.

There is no mandated evaluation instrument used statewide to evaluate merchant education, though the PREP post-test will soon essentially become that. Currently, it appears counties were split between using a post-only and a pre-post approach. In a general review of county authorities' year-end reports on their merchant education outcome objectives, it was found that most counties wrote outcome objectives regarding a percentage of merchant education participants they hoped would agree or strongly agree (or an increase in the number who would agree) with a variety of statements, such as:

- It is my responsibility to make sure minors do not have access to tobacco or alcohol products at my store.
- It is good for business to have responsible sales practices for alcohol and tobacco products.
- It is important not to sell alcohol or tobacco products to minors.

Typically, the expected agreement rates varied from 60% to 85%. Generally, prevention staff met or exceeded these outcomes with agreement rates typically from 60% to 100%. This would indicate that merchant education programs are generally producing merchants who report the desired attitudes. Counties varied in whether reached the number of merchants they had targeted.

### **Summary of Section VI**

There is no mandated evaluation instrument used statewide to evaluate merchant education. Counties typically used the program's pre-post test or post-only test. Counties generally exceeded the amount of agreement participants had at post-test on items related to their attitudes about proper prevention of sales to underage buyers. Counties varied in whether reached the number of merchants they had targeted.

## **SECTION VII: 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. In the 2006 study (FFY 2007), the Synar study revealed a retailer violation rate of 12.3%, which marks only the second time since FFY 1994 that our rate has increased. The 2005 rate was 10.9%. Our current 12.3% rate is much lower than the federal requirement of 20% and far less than the rate of 63.2% in 1994 when the study began. Vending machine purchases were successful 22.2% of the time compared to 12.2% of over-the-counter purchases. The charts on the following pages outline other findings from the study.

This year, 4,799 outlets were inspected by a total of 1,097 volunteers.

Counties ranged in retailer violation rates from 0% to 30.2%. More counties were above the state average, suggesting that the larger counties had lower rates. DAODAS Region 2 had the lowest sales rate at 10.3%, while Region 3 had the highest (14.3%).

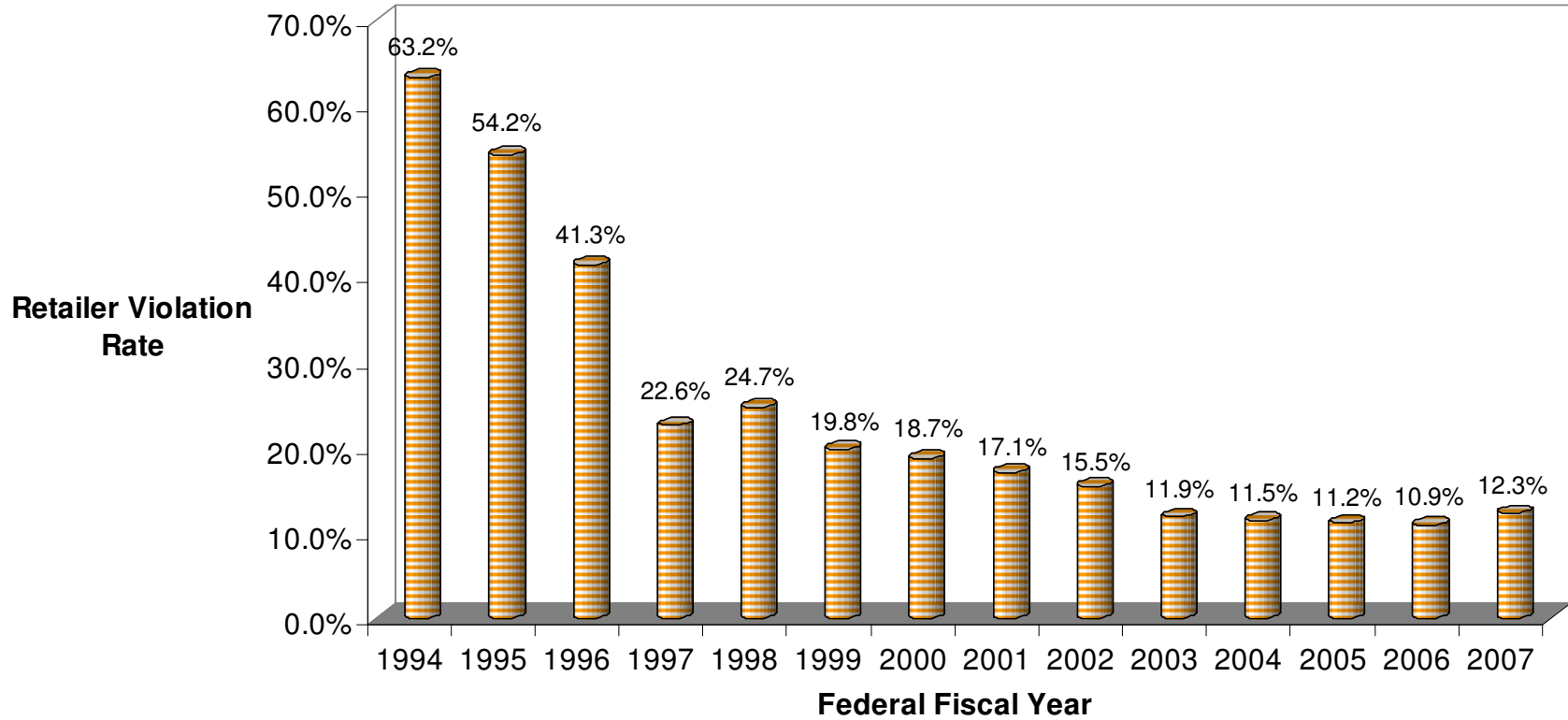
The age of the youth volunteer was a significant factor as the sales rate increased statistically significantly with each year of age. One in five 17 year olds successfully purchased cigarettes.

Sales did not vary by youth gender. White youth purchased more often than buyers of other race groups (12.8% vs. 11.7%).

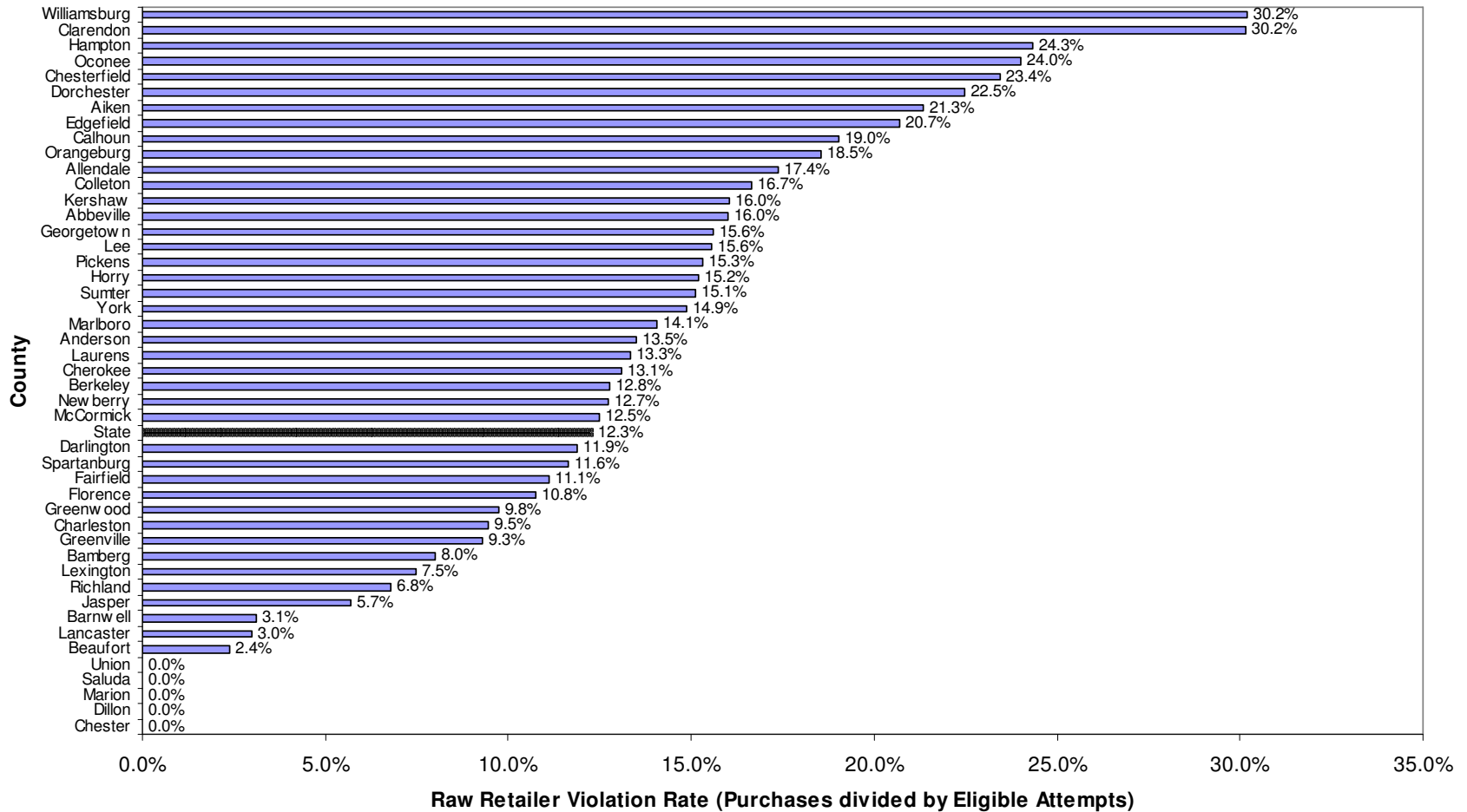
Clerks estimated to be teenagers or over 60 were most likely to sell. Teenage clerks were statistically significantly more likely to sell than clerks estimated to be in their 20s, 30s, or 40s.

As might be expected considering an increase in the state buy rate, a review of year-end objective reports showed that a sizeable majority of counties had buy rates that were higher than their outcome objectives had expected.

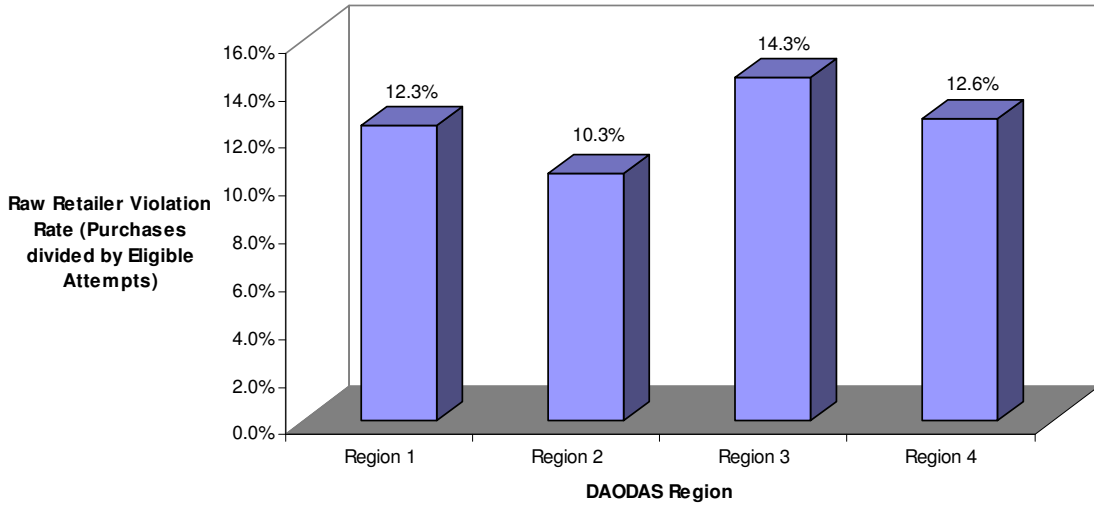
**Chart 3. YATS Cigarette Purchase Rates, FFY 1994-2007**



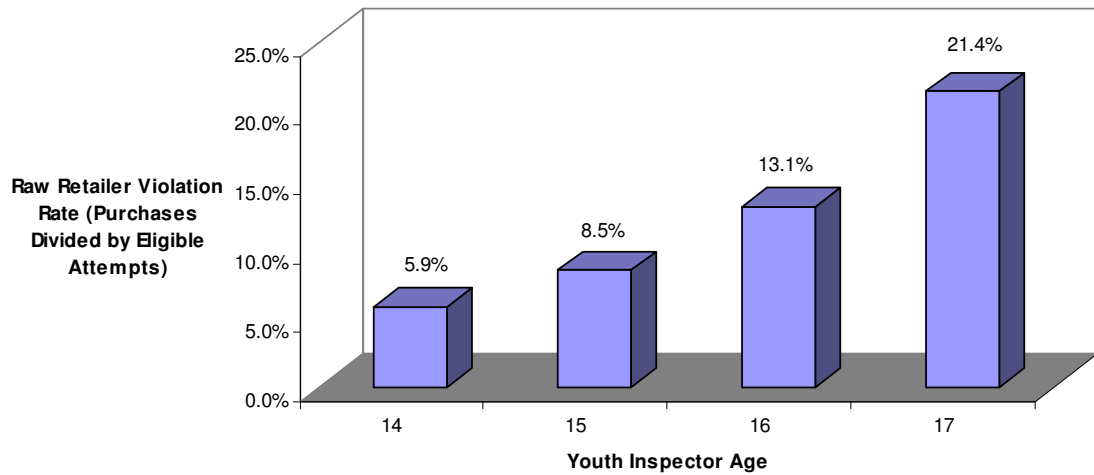
**Chart 4. Percent of Outlets Selling Cigarettes to Youth by County, FFY2007**



**Chart 5. Percentage of Outlets Selling Cigarettes by DAODAS Region, FFY 2007**

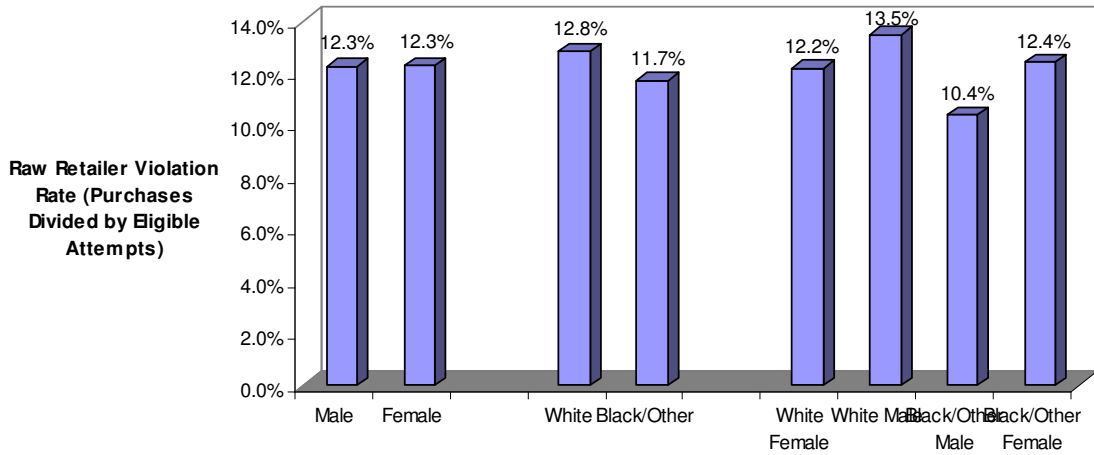


**Chart 6. Percent of Outlets Selling Cigarettes to Youth By Youth Age, FFY 2007**

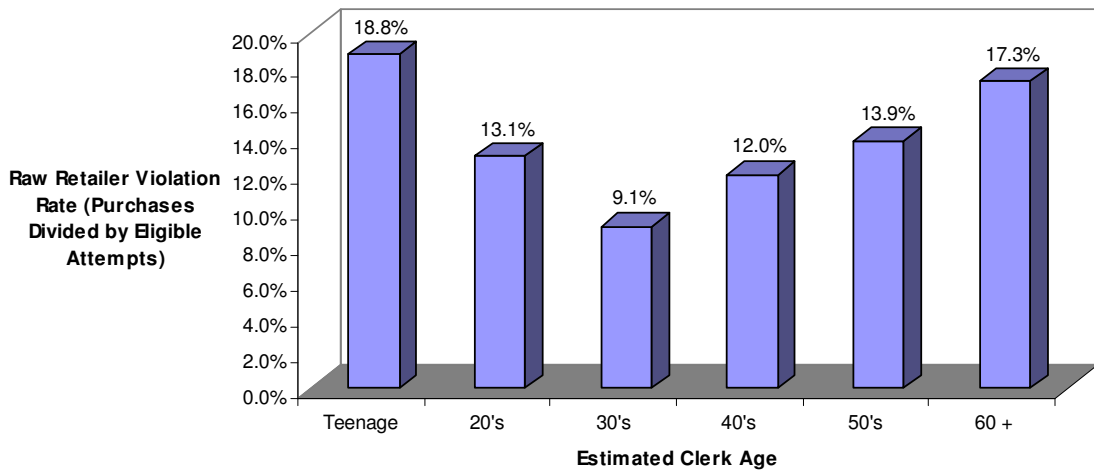




**Chart 7. Percent of Outlets Selling Cigarettes to Youth By Youth Gender & Race, FFY 2007**



**Chart 8. Percentage of Outlets Selling Cigarettes by Estimated Clerk Age, FFY 2007**



## **SECTION VIII: PARENTING PROGRAMS**

Only seven county authorities had a year-end report for a prevention parenting program. Parenting programs typically focus on enhancing adults' skills in areas such as communication, rule-setting, appropriate discipline, and positive interaction. Some agencies had different types of adult programs such as working with incarcerated adults, divorcing parents, or young mothers.

There is no standard evaluation tool in the state for parenting programs. Reviewing counties' outcome objectives and results revealed great variation in targeted outcomes, ranging from decreased arguing to increased belief in the value of talking to your children. When outcome results were presented, they were almost always successful in terms of exceeding the outcome objectives. However, the process objective information showed that a majority of program reached fewer parents than intended, which highlights the difficulty of recruitment for parenting programs, even when mandated referrals are the source.

### **Summary of Section VIII**

There are no solid results for parenting programs because there are few sites doing them, great variation in targeted outcomes, and no standard evaluation methods or tools. For the data reported, counties generally exceeded their outcome objectives but did not reach the number of parents they had targeted.

## SECTION IX: OTHER PREVENTION INTERVENTIONS

In the previous chapters, we have described the cumulative outcomes, to the extent possible, of youth curricula, parenting programs, merchant education, compliance checks, and the Youth Access to Tobacco Study. Prevention professionals frequently deliver even a wider range of services than this list, however. In this section, we address some of the other types of prevention interventions that are sometimes delivered by the county agencies.

*Working with Coalitions.* A large number of prevention professionals in the county system work with one or more coalitions to strengthen collaborative efforts and best utilize scarce resources, though many did not dedicate a management plan to those efforts. Of those who did, relatively few had measurable outcome objectives, which is understandable for this type of work. Those who wrote outcome objectives wanted to see either a certain number of community groups become active or see a certain number of activities implemented by their coalition(s). There were both positive and negative reports of success regarding growing coalition attendance and implementing awareness or prevention activities. There were too few reports to summarize the impact of working with coalitions; this is the type of activity that is generally agreed to be very important but does not produce easily assessable outcomes.

*Youth Leadership Groups.* In FY '06, there were only or two clearly identified youth leadership programs found among the county year-end reports, which is several fewer than the previous year.

*Information Dissemination.* Information dissemination is a considerable portion of the activities of a prevention specialist. Information dissemination includes all informational presentations, health fairs, and one-time activities focused on providing information and raising awareness. By nature, one-time activities are difficult to prove as causing change because pre- and post-tests typically are not feasible when contact is brief. In terms of numbers reached, most counties reported exceeding their targets, some by very large numbers. It is unclear whether they set targets far lower than what was reasonable or if they were able to reach for more than expected. As encouraged by DAODAS, most agencies said that outcomes could not accurately be assessed for their information dissemination plans. For the few that did provide outcomes, a small number of sites did so by brief pre- and post-testing before and after a presentation. In these instances, agencies generally reported meeting their outcome objectives. Like coalition work, information dissemination is considered an important part of prevention but not one that can easily produce documented outcomes.

*Alternative Activities.* Alternatives are typically activities for youth that encourage positive youth development and/or occupy young peoples' time so that they are involved in constructive activities. Counties implemented a range of programming under this heading, including large drug-free community events, ropes course team-building activities, and drug-free outings for specific youth groups. Only two counties attempted

to evaluate their alternatives activities in terms of impact on behavior or attitudes. Most considered the attendance counts as their primary measure of success, which is appropriate. It was notable that many counties far exceeded their expected attendance numbers in FY06.

### **Summary of Section IX**

Many of the prevention activities described in this section (coalition work, youth leadership development programs, information dissemination, and alternative activities) are not well suited to generating valid outcomes. Therefore, there is little information from which to formulate conclusions, though there are instances of both successes and shortcomings in the reports county prevention professionals provided.

## APPENDIX A: ADDITIONAL DATA TABLES

**Table A1. Overall Results by Age**

Measure	Middle School (n=3,651)			High School (n=1,130)		
	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change
Perceived Risk	2.15	2.37	10.1**	2.04	2.33	14.3**
Favorable Attitudes	2.66	2.72	2.3**	2.23	2.41	8.4**
Decision-Making	1.87	1.91	2.0**	1.68	1.81	7.4**
Perceived Peer Norms	8.40	8.72	3.8**	6.94	7.48	7.7**
Perceived Parental Attitudes	2.84	2.85	0.2	2.59	2.64	2.0**
30-Day Alcohol Use <sup>^</sup>	14.3	10.0	-30.2**	32.3	21.3	-34.1**
30-Day Marijuana Use <sup>^</sup>	6.4	4.3	-32.3**	21.3	14.6	-31.4**
30-Day Cigarette Use <sup>^</sup>	7.7	5.7	-25.2**	26.1	20.2	-22.4**

<sup>^</sup> Negative change scores are desired for these items

\* Pre- and post-test averages are approaching being statistically significantly different (significant at the p<.10 level, but not p<.05 level)

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

**Table A2. Overall Results by Gender**

Measure	Males (n=2,438)			Females (n=2,418)		
	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change
Perceived Risk	2.05	2.32	12.9**	2.19	2.40	9.6**
Favorable Attitudes	2.48	2.59	4.4**	2.65	2.72	2.6**
Decision-Making	1.75	1.85	5.5**	1.91	1.93	1.1
Perceived Peer Norms	7.77	8.20	5.5**	8.37	8.67	3.6**
Perceived Parental Attitudes	2.73	2.76	1.4**	2.84	2.84	-0.1
30-Day Alcohol Use <sup>^</sup>	21.0	14.5	-30.8**	15.6	10.8	-31.0**
30-Day Marijuana Use <sup>^</sup>	13.3	8.8	-33.7**	6.3	4.7	-25.7**
30-Day Cigarette Use <sup>^</sup>	15.8	12.0	-23.6**	8.1	6.3	-22.6**

<sup>^</sup> Negative change scores are desired for these items

\* Pre- and post-test averages are approaching being statistically significantly different (significant at the p<.10 level, but not p<.05 level)

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

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

Measure	White Participants (n=1,701)			Black or African American Participants (n=2,699)		
	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change
Perceived Risk	2.22	2.42	8.7**	2.04	2.32	13.9**
Favorable Attitudes	2.58	2.66	3.0**	2.55	2.65	4.1**
Decision-Making	1.80	1.88	4.4**	1.84	1.89	2.9**
Perceived Peer Norms	8.27	8.57	3.6**	7.93	8.34	5.2**
Perceived Parental Attitudes	2.78	2.81	0.9**	2.78	2.80	0.5
30-Day Alcohol Use <sup>^</sup>	16.5	12.9	-21.9**	19.5	12.2	-37.6**
30-Day Marijuana Use <sup>^</sup>	8.0	5.6	-30.1**	11.2	7.9	-29.7**
30-Day Cigarette Use <sup>^</sup>	13.2	11.7	-11.4**	11.2	8.2	-27.4**

<sup>^</sup> Negative change scores are desired for these items.

\* Pre- and post-test averages are approaching being statistically significantly different (significant at the p<.10 level, but not p<.05 level)

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

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

Measure	American Indian or Alaska Native (n=77)			"Other" Race Participants (n=348)		
	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change
Perceived Risk	2.18	2.35	7.6	2.20	2.35	6.7**
Favorable Attitudes	2.50	2.70	8.0**	2.58	2.61	1.0
Decision-Making	1.80	1.87	3.7	1.89	1.88	-0.5
Perceived Peer Norms	7.88	8.41	6.7**	8.15	8.49	4.2**
Perceived Parental Attitudes	2.78	2.81	1.1	2.77	2.77	0.0
30-Day Alcohol Use <sup>^</sup>	18.4	13.0	-29.5	18.4	15.0	-18.4
30-Day Marijuana Use <sup>^</sup>	7.8	2.6	-66.6	8.5	5.5	-35.0*
30-Day Cigarette Use <sup>^</sup>	14.3	9.1	-36.4	11.0	5.2	-52.8**

<sup>^</sup> Negative change scores are desired for these items.

\* Pre- and post-test averages are approaching being statistically significantly different (significant at the p<.10 level, but not p<.05 level)

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



**Table A4. Overall Results by Ethnicity**

Measure	Participants of Hispanic, Latino, or Spanish Descent or Origin (n=304)			Participants Not of Hispanic, Latino, or Spanish Descent or Origin (n=4,464)		
	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change
Perceived Risk	2.19	2.28	4.0**	2.12	2.37	11.9**
Favorable Attitudes	2.58	2.59	0.7	2.56	2.66	3.8**
Decision-Making	1.88	1.83	-2.6	1.83	1.89	3.5**
Perceived Peer Norms	8.04	8.43	4.9**	8.07	8.44	4.6**
Perceived Parental Attitudes	2.73	2.75	0.6	2.79	2.81	0.6**
30-Day Alcohol Use <sup>^</sup>	19.4	15.9	-18.1	18.2	12.5	-31.6**
30-Day Marijuana Use <sup>^</sup>	11.7	7.6	-35.2**	9.7	6.7	-31.0**
30-Day Cigarette Use <sup>^</sup>	12.5	6.6	-47.2**	11.8	9.4	-20.4**

<sup>^</sup> Negative change scores are desired for these items

\* Pre- and post-test averages are approaching being statistically significantly different (significant at the p<.10 level, but not p<.05 level)

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

**Table A5. Overall Results by Program**

Measure	All Programs (n=4,886)			All Stars (n=1,253)			ATOD Presentations (n=67)		
	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change
Perceived Risk	2.12	2.36	11.2**	2.05	2.24	9.6**	1.40	2.98	112.9**
Favorable Attitudes	2.56	2.65	3.5**	2.53	2.60	2.8**	1.86	2.65	42.5**
Decision-Making	1.83	1.89	3.2**	1.77	1.79	1.0	1.38	1.71	23.9**
Perceived Peer Norms	8.07	8.43	4.5**	7.92	8.34	5.3**	6.34	7.77	22.6**
Perceived Parental Attitudes	2.78	2.80	0.6**	2.78	2.77	-0.3	2.40	2.90	20.8**
30-Day Alcohol Use <sup>^</sup>	18.3	12.6	-31.1**	19.2	10.1	-47.5**	41.8	9.0	-78.5**
30-Day Marijuana Use <sup>^</sup>	9.9	6.8	-31.6**	11.8	6.0	-49.3**	43.3	10.8	-75.1**
30-Day Cigarette Use <sup>^</sup>	12.0	9.2	-23.5**	13.1	8.8	-32.8**	41.8	21.2	-49.3**

<sup>^</sup> Negative change scores are desired for these items

\* Pre- and post-test averages are approaching being statistically significantly different (significant at the p<.10 level, but not p<.05 level)

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

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

Measure	Girls Grapevine (n=173)			Girl Power / Wise Guys (n=82)			Information Dissemination (n=256)		
	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change
Perceived Risk	2.64	2.73	3.4**	2.27	2.13	-6.2	2.22	2.20	-0.7
Favorable Attitudes	2.78	2.85	2.4*	2.73	2.69	-1.4	2.62	2.53	-3.4**
Decision-Making	2.13	2.09	-1.7	1.86	1.81	-2.7	1.85	1.74	-6.1**
Perceived Peer Norms	9.03	9.14	1.2	8.63	8.81	2.1	8.55	8.48	-0.8
Perceived Parental Attitudes	2.92	2.94	0.7	2.87	2.81	-2.0	2.77	2.72	-1.7
30-Day Alcohol Use <sup>^</sup>	8.7	7.6	-12.8	17.1	6.2	-63.9*	13.2	18.3	38.8*
30-Day Marijuana Use <sup>^</sup>	2.3	1.2	-49.8	11.0	6.2	-43.8	5.1	4.7	-7.4
30-Day Cigarette Use <sup>^</sup>	5.8	6.4	10.2	9.9	6.1	-38.3	6.7	4.3	-35.3

<sup>^</sup> Negative change scores are desired for these items

\* Pre- and post-test averages are approaching being statistically significantly different (significant at the p<.10 level, but not p<.05 level)

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

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

Measure	Keep a Clear Mind (n=199)			Keepin' It Real (n=175)			Life Skills Training (n=291)		
	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change
Perceived Risk	2.50	2.71	8.5**	1.84	2.27	23.6**	2.21	2.63	19.2**
Favorable Attitudes	2.59	2.70	4.4**	2.76	2.78	0.7	2.83	2.89	2.3**
Decision-Making	1.96	2.20	12.0**	2.13	2.02	-5.1*	2.04	2.15	5.4**
Perceived Peer Norms	8.49	9.06	6.7**	8.63	8.78	1.7	8.97	9.19	2.5**
Perceived Parental Attitudes	2.72	2.79	2.6**	2.85	2.83	-0.9	2.91	2.95	1.5**
30-Day Alcohol Use <sup>^</sup>	9.1	7.5	-17.1	11.6	13.2	13.7	6.9	5.9	-14.4
30-Day Marijuana Use <sup>^</sup>	7.6	4.5	-40.4	9.3	10.3	11.8	3.1	4.2	34.3
30-Day Cigarette Use <sup>^</sup>	8.1	6.6	-18.7	8.1	8.1	0	3.4	3.1	-9.9

<sup>^</sup> Negative change scores are desired for these items

\* Pre- and post-test averages are approaching being statistically significantly different (significant at the p<.10 level, but not p<.05 level)

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

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

Measure	Project Alert (n=616)			Project Northland (n=682)			Project Towards No Drug Abuse (n=292)		
	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change
Perceived Risk	2.11	2.29	8.5**	2.15	2.51	16.8**	2.05	2.18	6.2**
Favorable Attitudes	2.54	2.68	5.7**	2.55	2.71	6.2**	2.34	2.44	4.0**
Decision-Making	1.81	1.94	6.9**	1.85	1.90	3.1**	1.80	1.83	1.8
Perceived Peer Norms	7.96	8.24	3.5**	7.87	8.57	8.9**	7.06	7.33	3.7**
Perceived Parental Attitudes	2.74	2.80	2.2**	2.83	2.85	0.7	2.68	2.66	-0.7
30-Day Alcohol Use <sup>^</sup>	20.9	13.8	-33.7**	23.0	13.3	-41.9**	28.1	22.4	-20.2*
30-Day Marijuana Use <sup>^</sup>	10.9	8.5	-22.6*	6.8	3.0	-56.6**	14.7	13.8	-6.0
30-Day Cigarette Use <sup>^</sup>	12.5	10.4	-17.0	10.5	6.5	-38.1**	25.0	24.5	-2.1

<sup>^</sup> Negative change scores are desired for these items

\* Pre- and post-test averages are approaching being statistically significantly different (significant at the p<.10 level, but not p<.05 level)

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

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

Measure	Project Towards No Tobacco Use (n=336)			Responding in Peaceful and Positive Ways (n=136)			RISE (n=59)		
	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change
Perceived Risk	2.13	2.45	15.1**	1.99	1.87	-6.1	1.94	2.63	35.9**
Favorable Attitudes	2.50	2.65	6.2**	2.63	2.53	-3.5*	2.86	2.90	1.5
Decision- Making	1.66	1.89	14.1**	1.82	1.78	-2.4	1.98	2.21	11.6*
Perceived Peer Norms	8.07	8.57	6.2**	8.61	8.20	-4.7**	8.47	9.52	12.3**
Perceived Parental Attitudes	2.78	2.83	2.0**	2.84	2.81	-1.0	2.90	2.93	0.8
30-Day Alcohol Use^	19.9	11.5	-42.6**	13.2	21.3	61.0*	15.3	0	-100**
30-Day Marijuana Use^	11.3	7.0	-38.5**	5.9	13.2	125**	6.8	0	-100
30-Day Cigarette Use^	13.1	9.3	-29.2**	6.6	8.2	24.0	5.1	0	-100

^ Negative change scores are desired for these items

\* Pre- and post-test averages are approaching being statistically significantly different (significant at the p<.10 level, but not p<.05 level)

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

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

Measure	Second Step (n=41)		
	Pre-Test Avg.	Post-Test Avg.	% Change
Perceived Risk	2.18	2.04	-6.2
Favorable Attitudes	2.49	2.29	-8.0**
Decision- Making	1.49	1.44	-3.8
Perceived Peer Norms	7.93	7.61	-4.0
Perceived Parental Attitudes	2.41	2.37	-1.7
30-Day Alcohol Use^	22.0	23.1	5.1
30-Day Marijuana Use^	22.0	20.5	-6.6
30-Day Cigarette Use^	22.0	20.0	-8.9

^ Negative change scores are desired for these items

\* Pre- and post-test averages are approaching being statistically significantly different (significant at the p<.10 level, but not p<.05 level)

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

**Table A6. Overall Results for Evidence-Based Vs. Non-Evidence-Based Programs**

Measure	Evidence-Based (n=4,114)			Non-Evidence-Based (n=770)		
	Pre-Test Avg.	Post-Test Avg.	% Change	Pre-Test Avg.	Post-Test Avg.	% Change
Perceived Risk	2.11	2.35	11.5**	2.20	2.41	9.7**
Favorable Attitudes	2.56	2.65	3.8**	2.59	2.65	2.1**
Decision-Making	1.82	1.89	3.9**	1.88	1.87	-0.6
Perceived Peer Norms	8.02	8.41	4.8**	8.32	8.55	2.7**
Perceived Parental Attitudes	2.78	2.80	0.6**	2.79	2.81	0.6
30-Day Alcohol Use <sup>^</sup>	18.8	12.6	-32.7**	16.0	12.6	-21.4**
30-Day Marijuana Use <sup>^</sup>	9.9	7.0	-29.3**	9.9	5.5	-44.3**
30-Day Cigarette Use <sup>^</sup>	12.1	9.5	-22.0**	11.1	7.6	-32.0**

<sup>^</sup> Negative change scores are desired for these items

\* Pre- and post-test averages are approaching being statistically significantly different (significant at the p<.10 level, but not p<.05 level)

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



## **APPENDIX B: EVALUATION INSTRUMENTS**