NEW MEXICO DEPARTMENT OF HEALTH, OFFICE OF SUBSTANCE ABUSE PREVENTION

EVALUATION OF SUBSTANCE ABUSE PREVENTION PROGRAMMING IN NEW MEXICO: BLOCK GRANT FUNDED DIRECT SERVICES

SUBMITTED TO:
KAREN CHEMAN,
OFFICE OF SUBSTANCE ABUSE PREVENTION
BEHAVIORAL HEALTH SERVICES DIVISION/
HUMAN SERVICES DEPARTMENT
37 PLAZA LA PRENSA
SANTA FE, NM 87502

SUBMITTED BY:
LEI ZHANG, PH.D.
MARTHA W. WALLER, PH.D.
ELIZABETH LILLIOTT, PH.D.

FISCAL YEAR 2014

PIRE

TABLE OF CONTENTS

List of Tables

List of Figures

List of Abbreviations

ATOD	Alcohol, Tobacco, and Other Drugs
CBP	Community Based Processes
DWI	Driving While Intoxicated
FY	Fiscal Year
IRB	Institutional Review Board
LEA	Law Enforcement Agency
LST	Botvin Life Skills Training
OSAP	Office of Substance Abuse Prevention
PIRE	Pacific Institute for Research and Evaluation
PVMS	Project Venture Middle School
SAPT	Substance Abuse Prevention and Treatment Block Grant
SEOW	State Epidemiological Outcomes Workgroup
SFS	Strategies for Success
SPF	Strategic Prevention Framework
TGFD	Too Good for Drugs
UAD	Underage Drinking
YRRS	New Mexico Youth Risk and Resiliency Survey
YRBSS	Youth Risk Behavior Surveillance Survey

Introduction

In recent years, progress has been made in reducing some alcohol, tobacco, and other drug (ATOD) use and abuse among adolescents in New Mexico (NM), yet for some substances, average use among New Mexico youth is still far higher than the U.S. average. For example, the 2013 NM Youth Risk and Resiliency Survey (YRRS) revealed that among high school students in 2013, 22.3% of high school students reported having first drunk alcohol (other than just a few sips) prior to age 13, as compared to 18.6% among U.S. high school students as a whole.[1] Marijuana use among NM adolescents is also well above the U.S. average. In 2013, 17.3% of adolescents reported trying marijuana before the age of 13, while 8.6% across the U.S. had tried it, and 27.8% of high school students in NM reported using marijuana at least once in the past 30 days compared to only 23.4% across the U.S. On the other hand, NM has made significant progress in reducing current drinking and binge drinking prevalence among high school students. Past 30-day prevalence for both measures in NM has decreased below U.S. averages in 2013. In NM, 28.9% reported drinking alcohol at least once in the past 30 days and 17.1% reported current binge drinking, compared with 34.9% and 20.8% respectively in the U.S.. In addition, only 14.4% of 9th-12th graders in NM were current smokers, down from 24% in 2009, and lower than the U.S. rate (15.7%). Boys and girls did not differ significantly on many of the YRRS ATOD use measures in 2013 meaning that girls reported as much use as boys. Minorities in NM are frequently at greater risk for ATOD use than their non-Hispanic white peers.

Many factors influence whether one engages in high risk behavior such as ATOD use. Research indicates that an ecological model is a comprehensive way to understanding the many levels of influence on an individual. Evidence-based prevention interventions typically target one or more levels of influence in order to reduce the likelihood of ATOD initiation and use. Prevention strategies may focus on parents or youth, and some focus on the family as a whole. Others focus on changing the school and community environments in which youth live and interact with peers. Figure 1 shows the multiple levels of influence on an individual's behavior. Individual characteristics such as self-esteem, attitudes, perception of risk, and even genetic predisposition are also influential in whether an individual is at increased risk for ATOD use and abuse. Added to those individual characteristics are the influences of the family including those of parents or caregivers who may or may not use substances themselves, and may or may not monitor their child's behavior or set clear boundaries and expectations. Even older siblings may introduce younger siblings, sometimes inadvertently, to ATOD use. An objective of OSAP for some prevention programs during Fiscal Year 2013-2014 (FY14) was to target prevention programming efforts on these first two levels of influence, where much of the research on the effectiveness of prevention programming has focused by implementing evidence-based curricula. Another OSAP objective for ATOD prevention providers is to implement environmental-level prevention strategies to reduce underage alcohol use. OSAP requires direct service providers to also implement environmental prevention strategies, such as changing and/or enforcing school and/or local substance use policies, discouraging retail access to youth by working with retailers

---

[1] NM results were cited from YRRS Connections, retrieved at http://nmhealth.org/publication/view/newsletter/912/ & http://nmhealth.org/publication/view/newsletter/913/ on December 4th 2014, and US results were retrieved from http://nccd.cdc.gov/youthonline/App/Default.aspx on December 4th 2014.

to increase checking of IDs or product placement, helping law enforcement to enforce underage drinking law more strenuously, and decreasing social access by addressing social hosting concerns.

Figure 1: The Ecological Model of Substance Use
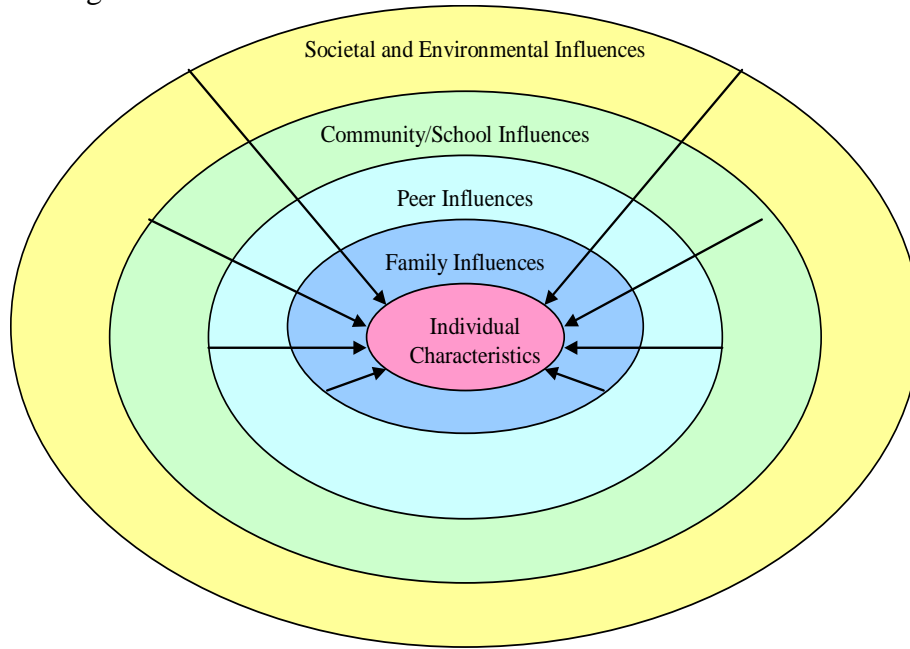
OSAP has designed a comprehensive prevention program to address risk factors and increase protective factors influencing substance use at multiple levels of the model. In the FY14 this included providing direct service prevention programming targeting 12 to 17 year olds in multiple communities across NM.

OSAP requires local and statewide evaluation be conducted for the purpose of learning about and improving the effectiveness of prevention programming across the state and reducing ATOD initiation and use. All local prevention programs must have independent evaluators to assist with the design, collection, analysis, and interpretation of data.

Direct Service prevention programming involves implementing evidence-based curricula with target populations. These programs typically focus on increasing knowledge and awareness of the dangers involved in ATOD use, changing social norms around ATOD use, and increasing the ability of participants to resist pressure to engage in harmful behaviors by encouraging pro-social relationships and self-efficacy.

Prevention strategies that directly affect access to alcohol and tobacco are often implemented at an environmental level rather than the individual. These types of strategies might include changes in local policies, training retailers on how to check for age identification before selling alcohol or tobacco products, or increasing law enforcement efforts to patrol for parties that may involve underage drinking. These environmental-level strategies were assessed through the 2014

New Mexico Community Survey (2014 NMCS) and reported on in the End of Year Community Survey final report.

State Evaluation Team

The Pacific Institute for Research and Evaluation (PIRE) served as the state level evaluation contractor for FY14. The evaluation team includes Martha W. Waller, Ph.D., Elizabeth Lilliott, Ph.D., and Lei Zhang, Ph.D. The evaluators have been involved with OSAP during the planning process, the design of the evaluation plan and data collection instruments, the State Epidemiological Outcomes Workgroup (SEOW), monitoring and oversight of data collection, and providing training and feedback to OSAP staff, local consultants, and local evaluators and program providers.

State-Level Evaluation Plan

Prevention programs are implemented in school settings, out-of school or after-school settings, and community settings. For direct services prevention programming, programs collect data early on in the program and then again at the end of the program. This is analogous to pre- and post-testing of participants. The evaluation then examines differences between the two data points. However, in a true experimental design, pre- and post-test data for a comparison group that did not receive prevention programming would also exist. The collection of comparison data is extremely challenging and prohibitively expensive for NM. Furthermore, at this point most youth in the state receive some form of prevention programming in school. Therefore, data from the NM middle school and high school Youth Risk and Resiliency Survey (YRRS) (also known as the Youth Risk Behavior Surveillance Survey or YRBSS) are used to compare to middle school and high school youth data from the Strategies for Success (SFS) instrument. This is done through graphing pre- and post-test data against comparable YRRS data. YRRS data are weighted to reflect the NM student population and therefore, are representative of the "typical" or average student in NM. More detail on how this was done is discussed in the methods section of this report.

PIRE continues to explore with OSAP alternatives to improving the current evaluation design. PIRE strives to work in collaboration with state and local prevention specialists and evaluators to create data collection instruments that are valid and reliable, while meeting the evaluation needs of all parties involved. In FY14, no new assessment instruments were created.

During FY14, PIRE focused on several goals related to the evaluation of direct services prevention programming. First was the revision of analysis syntax for the revised Strategies for Success (SFS) to simplify and streamline the evaluation process for communities. Second was to assist programs in planning and executing the best approach to collecting pre & post intervention data. This is extremely important. Changes from pre to post-test may reflect changes in the comfort levels of the participants. At pre-test some respondents may feel less willing to answer truthfully even with the guarantee of confidentiality. In this case, respondents may report less ATOD use at pre-test than has actually taken place. If respondents report more honestly at the end of the intervention because respondents have developed a relationship with the program providers and trust has been established, this in turn could lead to more accurate reporting of

ATOD use. In turn, this would create the perception of increases the in the prevalence of use at post-test. Alternatively, at post-test respondents may have learned the socially desirable response and therefore, may provide the responses that reflect what they think the prevention providers want. Creating a test-taking situation in which respondents feel comfortable answering honestly at both pre and post-test is imperative, yet can be difficult to accomplish. PIRE has discussed with program providers and evaluators ways in which they might improve the test taking environments among their programs.

Strategies for Success (SFS) 12-17

Background

In FY 14, there were 8 prevention programs addressing substance use among 12-17 year olds in New Mexico. Prevention programs typically seek to build drug resistance skills that enable young people to recognize and challenge common misperceptions about tobacco, alcohol and other drug use. In addition, they try to improve personal self-management skills by teaching students how to examine their self-image and its effects on behavior, set goals and keep track of personal progress, identify everyday decisions and how they may be influenced by others, analyze problem situations, consider the consequences, reduce stress and anxiety, and look at personal challenges in a positive light. General social skills might also be emphasized, and students are taught the necessary skills to overcome shyness, communicate effectively and avoid misunderstandings, initiate and carry out conversations, handle social requests, utilize both verbal and nonverbal assertiveness skills to make or refuse requests, and recognize that they have choices other than aggression or passivity when faced with tough situations. Curriculums target a variety of risk factors for substance initiation and use (inadequate life skills, poor self- management skills, poor social skills including refusal skills, mental health, early age of initiation of ATOD use, perceptions of use by peers, and perception of harm), as well as protective factors (life skills, especially stress and anger management, media literacy and bonding to school and other adults). The following programs were implemented during FY14.

Botvin Life Skills Training

The Botvin Life Skills Training universal classroom program is a proven, highly effective substance abuse prevention/competency enhancement program designed to focus primarily on the major social and psychological factors promoting substance use/abuse. It is based on 20 years of research concerning the causes of substance abuse and how best to prevent it. The program includes five major components, each of which consists of two to six lessons that are taught in sequence. The LST program increases student' knowledge of the immediate consequences of substance use while providing them with the necessary skills to resist social (peer) pressures to smoke, drink and use drugs. In addition, it helps student develop greater self-esteem, self-mastery, and self-confidence, enabling them to effectively cope with social anxiety. The key components of the Elementary version of the Life Skills Training Program are Personal Self-Management Skills (provide students with skills for enhancing self-esteem, learning creative problem solving, reducing stress and anxiety, and managing anger), General Social Skills (empower students with skills to meet personal challenges such as overcoming shyness, communicating clearly, building relationships, and avoiding violence), and Drug Resistance Skills (enable students to build defenses against pressures to use tobacco, alcohol, and other drugs). In addition, the key factors addressed by this approach are Cultural Bonding, School Bonding, Perception of Harm, and Social Competence.

Too Good for Drugs

Too Good for Drugs (TGFD) is a school-based prevention program designed to reduce the intention to use alcohol, tobacco, and illegal drugs in middle and high school students. Developed by the Mendez Foundation for use with students in kindergarten through 12th grade (5 to 18 years old), TGFD has a separate, developmentally appropriate curriculum for each grade level, and is designed to address:

- Personal and interpersonal skills relating to alcohol, tobacco, and illegal drug use
- Appropriate attitudes toward alcohol, tobacco, and illegal drug use
- Knowledge of the negative consequences of alcohol, tobacco, and illegal drug use and benefits of a drug-free lifestyle
- Positive peer norms

The program's highly interactive teaching methods encourage students to bond with pro-social peers, and engages students through role-play, cooperative learning, games, small group activities and class discussions. Students have many opportunities to participate and receive recognition for involvement. TGFD also impacts students through a family component used in each grade level: "Home Workouts" is available for use with families in kindergarten through 8th grade, with "Home Pages" for families with high-school aged students.

Project Venture Middle School (PVMS)

Project Venture Middle School (PVMS) is based on the original Project Venture developed by NIYLP and now a CSAP Model Program. PV employs alternative methods (outdoor/experiential education, leadership/service learning, reconnecting with traditional values and the natural world) to help youth develop in healthy and positive ways, to do better in school, to get along better with family and friends, and to avoid ATOD use, in addition to promoting cooperation, communication, trust, and problem-solving skills. PVMS includes activities during the school day in classrooms facilitated by Project Venture staff with the help of teachers. After-school activities occur weekly and are led by Project Venture staff and teacher-facilitators. Participants have the opportunity to attend special activities during the summer, such as NIYLP's Sacred Mountain Learning Center camp, field trips, and extended wilderness excursions. Central to the Project Venture program is the philosophy of service-learning, meant to help young people to develop ideas and attitudes that allow them to lead by giving back to the community. Young people develop service projects that include community resources and involvement. In addition to community/cultural learning, the projects frequently involve academic and social skills such as math, language arts, research, interpersonal and public communication, and leadership challenges.

Power to Change

The Power to Change is a science-based prevention program. Power to Change is a National Indian Youth Leadership prevention program designed to prevent, reduce or increase the age of first use of ATODs and reduce the prevalence of past year use among targeted youth. Its focus is to increase pro-social skills, bonding to positive peers and caring adults, increase school attendance, and

increase academic achievement among student participants. The program includes challenging course events, anti-bulling strategies, substance abuse prevention, experiential activities, communication skills, conflict resolution, and leadership development. The program is based on three principals; school integration, community reintegration, and cultural connection.

Methods

A standardized instrument, the Strategies for Success (SFS) survey, which was developed for use with youth in New Mexico, was used to collect self-reported measures of substance use and related behaviors among the 12 to 17 year olds participating in these programs. This questionnaire was revised and piloted in FY 08 and used for the first time across all 12 to 17 prevention programs in FY 09. Slight revisions were made to the 2010 survey instrument based on feedback from local evaluators. The instrument consists of a core survey that asks about ATOD use and was required of all programs receiving funding. Four additional modules were made available with permission to measure outcomes around violence perpetration, violence victimization, internal resiliency, and external resiliency from the California Healthy Kids Survey. Programs that focused particularly on building the resiliency of youth to resist ATOD used the resiliency measures as these were considered more accurate indicators of program objectives. Additional programs also addressed social skills and life skills that would affect dealings with others. These programs used the violence modules as part of their evaluation.

In the FY 14 middle school SFS module, the number of prescription drug use questions was reduced from 5 to 2 in both pre- and post-tests, and 7 new questions (substance use on school property) were added to the post-test. This version of the ATOD Core survey was administered for middle school students (6th through 8th graders) at all sites and for 9th graders at two sites[2]. The survey measures perceptions of harm around substance use, parent approval of alcohol use, peer approval of alcohol use, and experience with cigarettes, smokeless tobacco, alcohol, binge drinking, marijuana and prescription drug use. It also probes students about their future intentions to smoke cigarettes. The substance use questions are identical to ATOD questions used in the NM Youth Risk and Resiliency Survey (YRRS) survey in middle school. This was done deliberately so that we could compare the SFS data to YRRS data, which reflects the typical New Mexico student and so serves as our comparison group.

Local evaluators for the 12-17 programs assessed participants at program entry and at program exit. Concerted effort on the part of local program providers and evaluators produced a large sample size of matching pre-test and post-test data. The total sample size for middle school and high school students from 5th grade to 9th grade was 1123[3]. There were no separate analyses for middle and high school students in that the data were collected using the same instruments. The sample consists of adequate subsamples to conduct sub-group analyses by biological sex, Hispanic ethnicity and Native American ethnicity for program participants. Prior to analysis, aggregate datasets were cleaned so that only participants who completed both a pre-test and a post-test would be included in the final analyses.

---

[2] The local prevention evaluators decided to use the middle school instruments to accommodate 9th graders' reading level.

[3] The sample size of 1,023 reflects the number of pre-test participants only. Some participants have missing post-test data.

Analyses were conducted in SAS and SPSS on youth who have both complete pre-test and post-test data except demographic information. Data were cleaned by running frequencies and cross-tabulations to check for missing data and outlier values. Flags were created to identify inconsistent data between pre- and post-test for substance use measures and filters were applied during each step of the analyses to exclude flagged data. The ethnicity data were recoded to ensure consistency across all sites and to correspond to categories used by New Mexico's Department of Health. Other variables were recoded, including reverse-coded when appropriate, so that sum scales and mean scales could be created to measure violence and resiliency constructs. Scale reliability analyses were conducted to examine internal validity before running sample demographics and descriptive statistics. A series of McNemar's tests were conducted on pre and post-test measures to assess significant changes over the course of the program. McNemar's test assesses the significance of the difference between two correlated proportions, such as might be found in the case where the two proportions are based on the same sample of subjects or on matched-pair samples. It is applied to 2×2 contingency tables with a dichotomous outcomes (e.g., yes/no, ever/never) with matched pairs of subjects. The alpha criterion set was .05 ($\alpha = <.05$). T-tests were used in lieu of McNemar's tests during cross-tabulations of frequency variables because they were categorical as opposed to measures of proportions. Finally, to confirm the results of the McNemar's tests using a more conservative approach, we used the GLM procedure in SPSS. The pre-test and post-test means and frequencies were compared through Repeated Measures MANOVA with one within factor of time (pre and post). Separate analyses were conducted to examine the sample by biological sex, Hispanic ethnicity, and Native American ethnicity. The GLM tests were first run without controlling for covariates and then repeated on the sample by biological sex controlling for grade, ethnicity and English as the primary language spoken in the home. Similarly, covariates for biological sex, grade, and English as the primary language spoken in the home were included for the Hispanic and Native American subgroup analyses. To examine the effect size of the program between pre & post-test a partial Eta squared was calculated (η_p^2). The partial Eta squared is the proportion of the effect + error variance that is attributable to the time.

Comparing SFS findings with YRRS Comparison Data

Finally, we graphed the pre- and post-test frequencies against the equivalent measures in the YRRS to visually examine how the average SFS respondent in each grade compared with the average YRRS respondent. The YRRS survey is conducted during the fall of odd years. Data from 2011[4] were analyzed using SAS controlling for survey design effects. The total N for middle school respondents was 3,851. When weighted to reflect the population, middle school data reflect almost 74,989 middle school respondents. The YRRS data are considered a representative sample of New Mexico students, and weighted results are reported, meaning they are representative of NM students within the grade and racial/ethnic group designated. In other words, results reported for each question on the YRRS can be considered to reflect the average New Mexico student's answer for the question, which provides us the opportunity to compare the average SFS participant with the average New Mexico student for each grade level. Although we did not test for significant differences between the two data sets, the YRRS does provide an excellent comparison group for assessing general differences between an average SFS student and the average New Mexico student not involved in SFS activities.

---

[4] 2013 NM YRRS data were not made available at the time analyses were done.

In graphs where YRRS and SFS data are compared, the YRRS comparison sample reflects the same demographics as in the SFS sample. For example, when examining SFS Hispanic boys, the YRRS comparison group includes only Hispanic boys. It is important to note that YRRS data are collected only once per grade level (in this case, Fall 2011) whereas SFS data are collected at the beginning and end of each program, on average a span of 9 months which captures the academic year. Therefore, to create an equivalent time frame estimate, YRRS data from the grade level collected was identified as "pre-test" comparison data, and a 9 month post-test comparison estimate was created based on the difference between the current year and the following year prevalence estimates, divided by 12 (for 12 month increments) and multiplied by 9 to represent 9 months. For example, 7th grade *pre-test* SFS data are compared to 7th grade YRRS data and 7th grade *post-test* SFS data are compared to 8th grade YRRS data less approximately 3 months of increase). Please note that 8th grade *post-test* and 9th *post-test* SFS data are compared to 9th grade and 10th grade YRRS data respectively on questions available in both SFS and YRRS high school survey. In the body of this report we have chosen to only compare *current use* of major substances and include related graphs that are of particular interest.

Results of SFS Analyses

Data from the 12-17 programs were collected at 8 sites utilizing the Strategies for Success survey instrument. The distribution of SFS participants by site is captured in Table 1 below. Programs varied as to the number of participants based on the type of program and how students were identified to participate. Some programs were school-based programs whereas others were after school programs. This section includes all of the findings presented in tabular format and selected findings of the SFS and YRRS comparisons.

Table 1: Distribution of SFS middle school program participants by site

Site	Curriculum Provided	Number of Participants[a]	Percent of Total Participants[b]
Boot-heel Youth Association	Project Venture	55	4.9
Counseling Associates	Botvin Life Skills Training	330	29.4
Five Sandoval Pueblos	Project Venture	61	5.4
North Central Community Based Services	Too Good for Drugs	89	7.9
Sandoval County SAP	Dare to Be You	381	33.4
Santa Fe Mountain Center	Power to Change	60	5.3
San Juan County Partnership	Botvin Life Skills Training	125	11.1
Southern New Mexico Human Development	Strengthening Families Program	22	2.0
Total		1123	100.0

[a]This is based on the number of participants at pre-test only. Some post-test participants have missed the pre-test.
[b]Due to rounding, the percentage total is not exactly 100%

The total matched pairs included in analyses were N=857. The mean age for boys was 12.7 and 12.6 for girls. The sample was almost evenly distributed between boys (50.6%) and girls (49.4%). SFS program participants were predominantly Hispanic for both boys (52.3%) and girls (60.1%),

followed by Native American and white. Approximately half of boys (54.1%) and girls (55.2%) indicated that at home, they most often spoke a language other than English (see Table 2). Table 3 shows the distribution of parental education level. Note that over one third of the participants did not know their parents' education level.

Table 2: Demographics for SFS program participants by gender[a] (n=857)

Demographic	% SFS Program Participants Boys (n=434)	% SFS Program Participants Girls (n=411)
Grade		
5th grade	3.2	2.4
6th grade	29.5	33.3
7th grade	32.0	28.8
8th grade	20.8	20.1
9th grade	14.4	15.3
Race/Ethnicity		
White	12.2	11.4
Hispanic	52.3	60.1
Native American	30.9	25.6
Other	4.6	2.9
Language Other than English Spoken Most Often[b,c]		
Yes	54.1	55.2

[a]Demographic information is based on the number of pre-test participants only. Missing data for gender n=12, for grade n=64.
[b]Dichotomous variable (yes or no) capturing the percentage of youth living in homes where English is not the primary language.
[c]Missing data for language other than English by gender: male =7 and female=3.

Table 3. Parent education level of SFS program participants.

	%	
Parent education level	Mother	Father
Not sure	37.9	44.6
Some high school or less	13.0	12.0
High school or Some college	30.6	29.6
College and above	18.5	13.8

Prevalence of Substance Use among Program Respondents

Among male and female students, we find that there are no statistically significant changes in any reported substance use from pre to post-test. There were minor increases and decreases for boys and girls but none large enough to be attributable to anything other than chance (see Table 4). Cigarette use among boys and girls increased slightly. Alcohol use and binge drinking among boys

decreased or remained unchanged from pre- to post-test and both measures decreased among girls. The prevalence rates of marijuana use for boys and girls at pre-test were similar and higher than any other types of substances including alcohol use. At post-test respondents reported decreased marijuana use while girl reported an increase in use. Lifetime inhalant use also increased among both boys and girls. Again, no increases or decreases were found to be statistically significant.

Table 4: Past 30-day ATOD use[a] prevalence, differences from pre-test to post-test for SFS program participants

Substance	Pre-test		Post-test		McNemar Test	Pre-test		Post-test		McNemar Test	Desired Outcome
Total sample N=857	n	%	n	%		n	%	n	%		
	Boys					Girls					
Cigarettes	17	4.0	19	4.4	0.2	19	4.7	23	5.7	1.6	↻
Chewing Tobacco	11	2.6	19	4.4	2.9	8	2.0	7	1.7	0.2	↻
Alcohol	44	10.3	42	9.8	0.1	39	9.6	35	8.6	0.4	↻
Binge Drinking	22	5.2	22	5.2	0.0	16	4.0	15	3.7	0.05	↻
Marijuana	45	10.5	54	2.5	2.5	41	10.2	51	12.7	2.6	↻
Inhalant ever use	12	2.8	19	4.5	2.1	26	6.4	30	7.4	0.5	↻

[a] Dichotomous substance use variable (yes or no).

Reported prescription drug misuse was generally low among both boys and girls and no significant changes were seen between pre- and post-test measures. Boys remained unchanged at pre- and post-test for use of non-prescribed prescription drug use while fewer girls reported misuse at post-test. Taking prescription pain-killers to get high was a new question added in FY14. Both boys and girls reported slight increases in using prescription pain-killers to get high at post-test (see Table 5).

Table 5: Past 30-day prescription drug use[a] prevalence, differences from pre-test to post-test for SFS program participants

Substance	Pre-test		Post-test		McNemar Test	Pre-test		Post-test		McNemar Test	Desired Outcome
Total sample N=857	n	%	n	%		n	%	n	%		
	Boys					Girls					
Any R_x medication not prescribed	20	4.7	20	4.7	0.0	19	4.7	15	3.7	0.8	↻
Taken Any R_x pain pills to get high	10	2.3	16	3.8	2.0	9	2.2	12	3.0	1.8	↻

[a] Dichotomous substance use variable (yes or no).

As is frequently the case in reporting substance use among adolescents, floor and ceiling effects are observed. For example, among these young adolescents, most do not report past 30-day substance use at pre-test. As a result of maturation over the course of the school year, many adolescents, who at pre-test reported no use, may have tried substances by post-test. Because at pre-test so few report use, it is frequently possible at post-test for more students to report ATOD use. This is referred to as a floor effect, meaning that if most students do not report use at pre-test the post-test estimate is more likely to increase because there is little room, if any, to decrease. Similarly, students may

report very strong and positive relationships with their parents, a known protective factor against ATOD use. Since the parent-child relationship is typically very strong at pre-test, over the course of the prevention program, there may be a decrease in this level of closeness. This is called a ceiling affect, essentially implying that on average strong parent-child relationships existed at pre-test and therefore, the only room for movement is to decrease. When there is little variation in responses and most cluster at one end or the other of a spectrum, it is difficult to judge whether these effects (positive or negative) are an artifact of the program or the result of maturation. The use of a control group is typically the best way to see if these changes occurred because of the intervention or whether these changes would have occurred regardless of the intervention. When participants report very low substance use at pre-test, it is difficult to demonstrate reductions in substance use at post-test. Likewise, when respondents report high protective factors at pre-test, it is difficult to demonstrate increases in these protective factors at post-test.

Table 6 captures the average number of times core drugs were used in the past 30 days at pre-test and post-test among only those SFS program participants who reported use in each individual drug category at pre-test. Both boys and girls reported statistically significant decreases in ever using inhalants. Caution should be exercised when interpreting the change of inhalant use because the question assesses lifetime inhalant use. Estimates of lifetime inhalant use at post-test should either remain the same as at pre-test (indicating no one new tried inhalants) or increase (meaning more people tried inhalants). Decreases in reported lifetime inhalant use at post-test indicate data reporting inconsistencies between pre-test and post-test or missing data at post-test. Boys who report use at pre-test report significant decreases in cigarette use, chewing tobacco use, and binge drinking. Though not statistically significant, the decrease in marijuana use in the past 30 days at post-test was similarly observed in FY14 and in FY13 as well among boys. Girls who reported marijuana use at pre-test reported significantly less use at post-test. Among this particular group, we have seen this declining trend in marijuana use since FY12.

Table 6: Frequency of ATOD use[a], differences from pre-test to post-test among SFS program participants reporting use in each individual category at baseline

Substance (Respondents reporting use at baseline, boy n & girl n)	Pre-test Mean	Post-test Mean	t-value	Pre-test Mean	Post-test Mean	t-value	Desired Outcome
	Boys			Girls			
Cigarettes (17/19)	2.2	1.1	-2.8**	2.6	2.5	-0.4	↻
Chewing tobacco (11/8)	2.3	0.8	-3.0**	1.3	1.1	-0.3	↻
Alcohol (31/27)	1.5	0.9	-2.7**	1.3	1.4	0.4	↻
Binge drinking (31/27)	0.7	0.5	-0.7	0.6	0.9	1.3	↻
Marijuana (37/33)	2.5	2.4	-0.7	2.0	1.5	-2.7**	↻
Inhalant ever use (12/26)	1.0	0.3	-4.7***	1.0	0.5	-5.0***	↻

[a]0=0 times, 1=1 or 2 times, 2=3 to 9 times, 3=10 to 19 times, 4=20 to 39 times, 5=40 or more times.
*$p \leq .05$, **$p \leq .01$, ***$p < .001$

We also examined the self-reported substance use at post-test among only those program participants reporting *any ATOD use at pre-test*. Among male program participants who reported any ATOD use at pre-test, we found decreases in almost every reported substance use at post-test (from 9.4% to 31.8%) with the exception of chewing tobacco (see Table **7**). Among girls reporting any ATOD use at pre-test, we also see declines at post-test among all substances other than cigarettes. These findings suggest that, at least among those respondents reporting ATOD use at pre-test, the prevention programming may be encouraging them to decrease their use over time. Figures 2 and 3 graph the changes from pre-test to post-test for boys and girls shown in Table 7.

Table 7: Past 30-day ATOD use[a] prevalence at post-test among those program participants reporting any ATOD use at pre-test

Substance Baseline users: boys n=86 girls n=86	% Pre-test	% Post-test	% Change	% Pre-test	% Post-test	% Change
	Boys			*Girls*		
Cigarettes	19.8	17.4	-11.8	22.1	22.4	1.2
Chewing Tobacco	12.8	14.0	9.1	9.3	7.0	-24.9
Alcohol	51.2	34.9	-31.8	45.4	32.6	-28.2
Binge Drinking	25.6	20.0	-21.8	18.8	16.3	-13.5
Marijuana	52.3	44.2	-15.6	47.7	43.0	-9.8
Inhalant use ever	14.1	12.8	-9.4	30.2	18.6	-38.5

[a] Dichotomous substance use variable (yes or no).

Figure 2: The percentage of boys reporting past 30-day substance use at post-test among program participants reporting substance use at pre-test
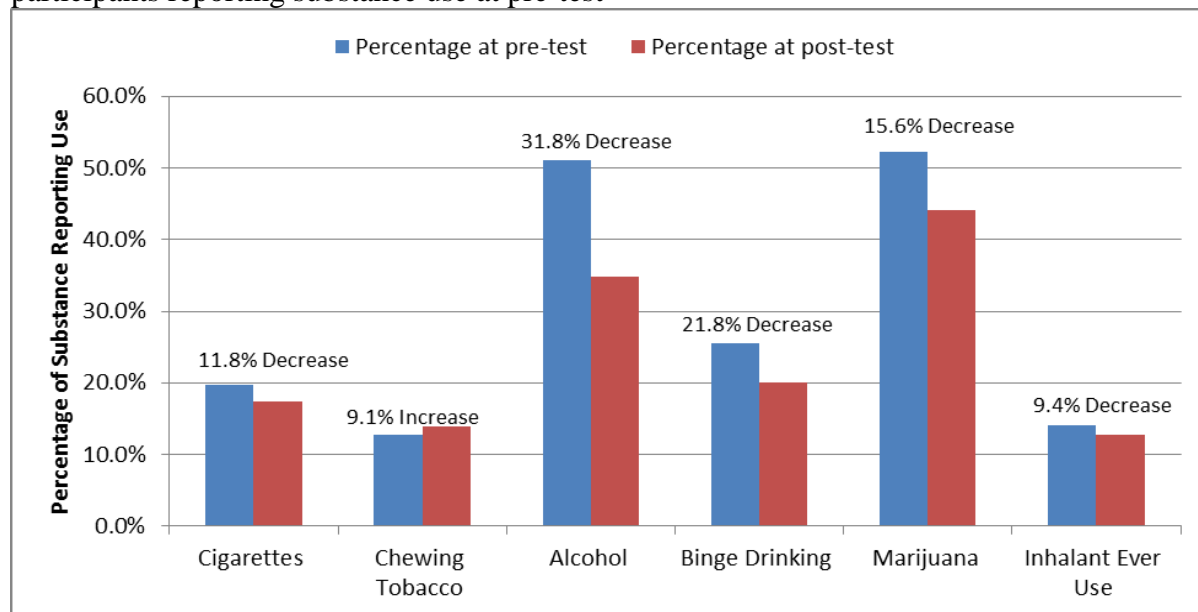
Figure 3: The percentage of girls reporting past 30-day substance use at post-test among program participants reporting substance use at pre-test.
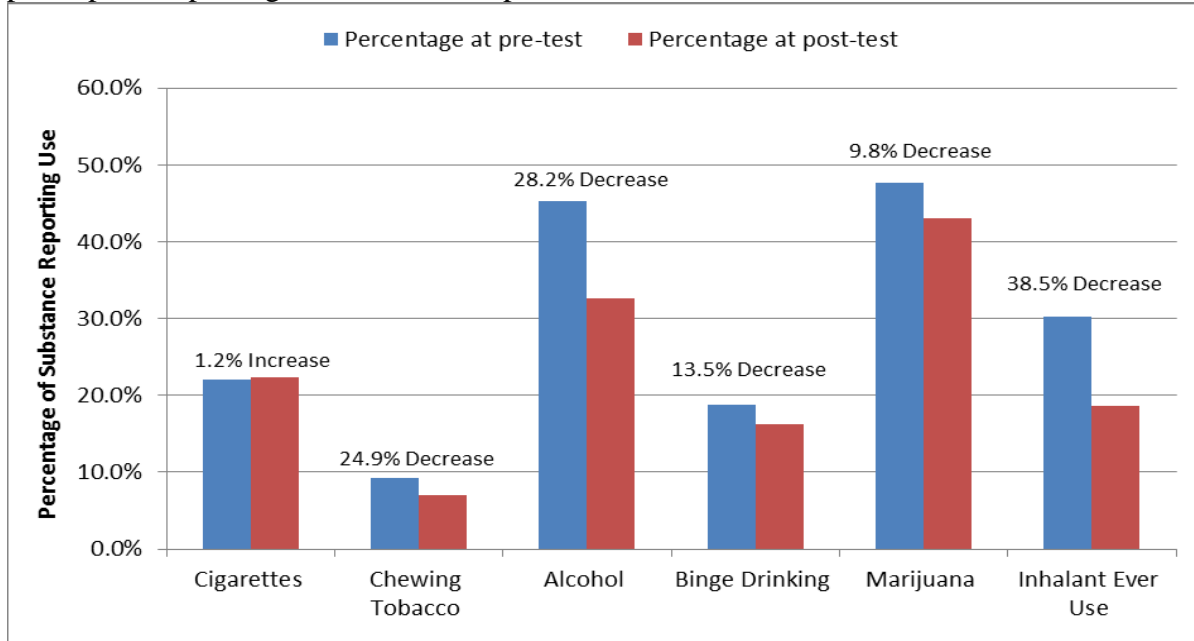
Table 8 summarizes results regarding substance use and availability on school property during this school year. The rate of marijuana use on school property was the highest (5.3% overall) among all types of substances. Illegal drugs on campus were more available than prescription drugs. These measures are included in FY14 for the first time and provide baseline prevalence rates of substance use and availability on campus. This question is only asked at post-test after students have spent some months back at school and have a sense of use and availability on school property. These data are helpful for informing school administrators what youth are reporting about use and access on school property and whether the school may need to make efforts to increase monitoring of youth and substance use on school property.

Table 8: Substance use and availability of drugs on school property in this school year

Substance (Total N =857)	%		
	Overall	Boys	Girls
Use			
Cigarettes	2.4	2.9	2.0
Chewing Tobacco	1.5	2.6	0.3
Alcohol	1.7	1.4	2.0
Marijuana	5.3	4.9	5.7
Prescription drug use	1.8	2.5	1.0
Availability on campus			
Illegal drug	8.7	8.4	8.9
Prescription drug	4.0	4.9	3.1

Comparing SFS Respondents to YRRS Respondents

In the next section, we compare trajectories of boys and girls across grades. As previously explained, we plot pre and post-test estimates of the SFS students along with the YRRS estimates by grade. For a detailed explanation for how we arrived at the post-test prevalence among the YRRS sample, please refer back to the methods section. We used 2011 YRRS data because 2013 data were not yet available for these analyses.

Tobacco use (all boys and girls, grades 6-9)

In general, the prevalence of tobacco use in the past 30 days among boy and girl 2014 SFS program participants was lower at post-test than the average New Mexico student as reported by the 2011 YRRS. SFS students reported a mixed trend across grades and gender. Particularly in boys, 7th and 9th graders reported an increasing trend yet 6th and 8th graders decreasing (Figure 4). Girls showed an increasing trend from 7th to 9th grade and the increases were slower in 8th and 9th grade than in 7th grade (Figure 5).

Figure 4: Percent of 6th -9th grade boys who report past 30-day cigarette use
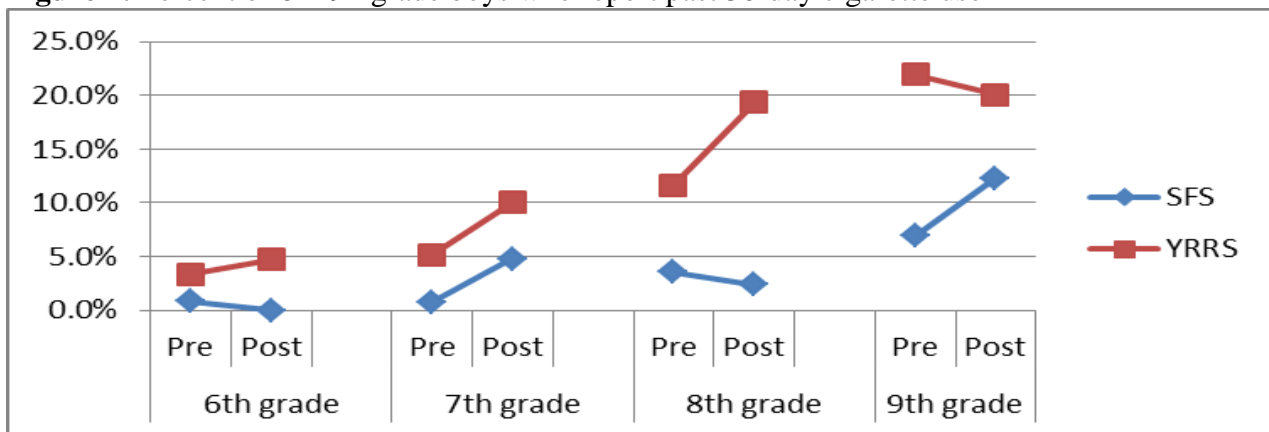
Figure 5: Percent of 6th-9th grade girls who report past 30-day cigarette use
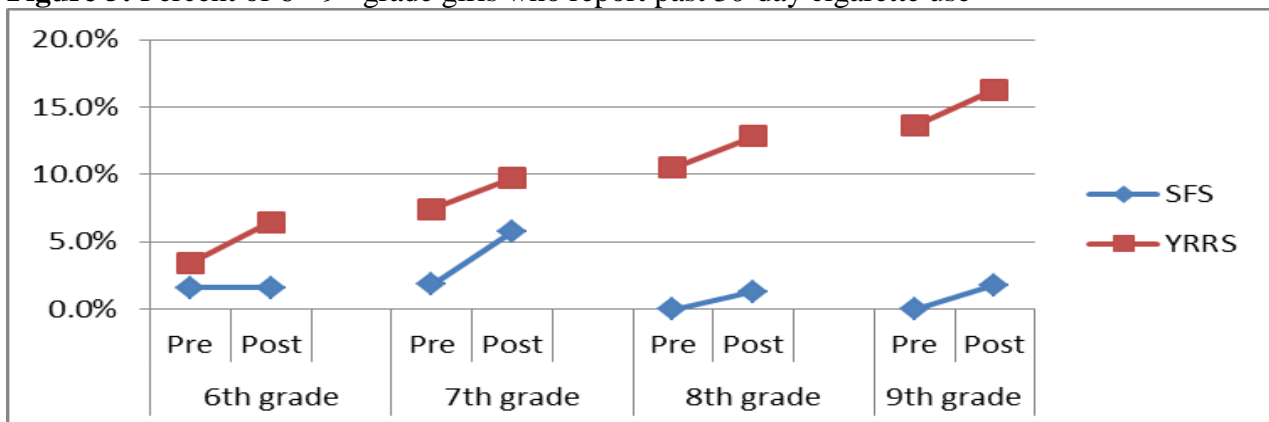
Alcohol use (all boys and girls, grades 6-9)

Both boys and girls showed inconsistent patterns in past 30-day alcohol use between pre-test and post-test across all grades, for example, 8th grade girls slightly increased yet 9th grade girls decreased from pre to post-test. None of the changes were statistically significant. Again, the prevalence rates are generally lower among SFS students than YRRS students (see Figure 6 & Figure 7).

Figure 6: Percentage of 6th-9th grade boys who report drinking alcohol in the past 30 days
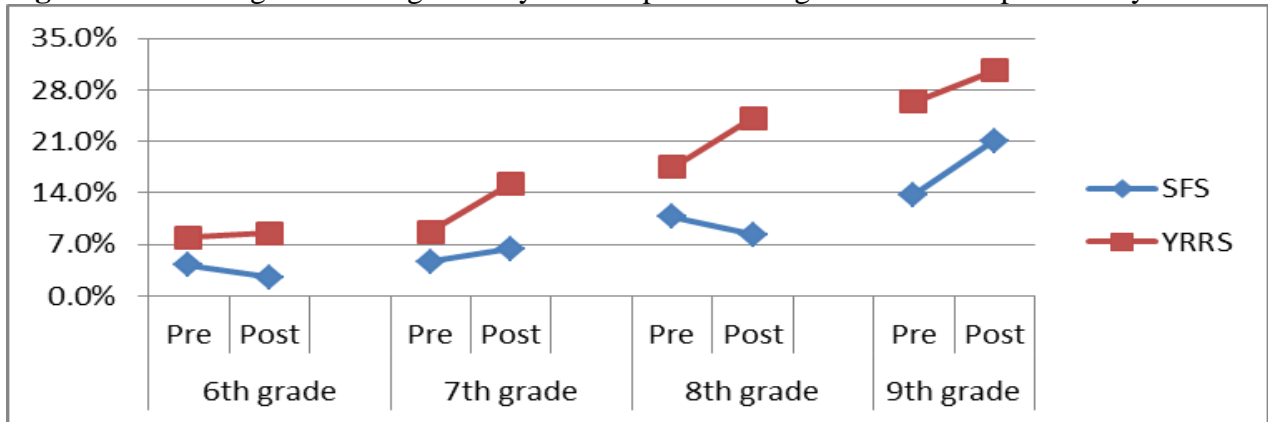
Figure 7: Percentage of 6th-9th grade girls who report drinking alcohol in the past 30 days
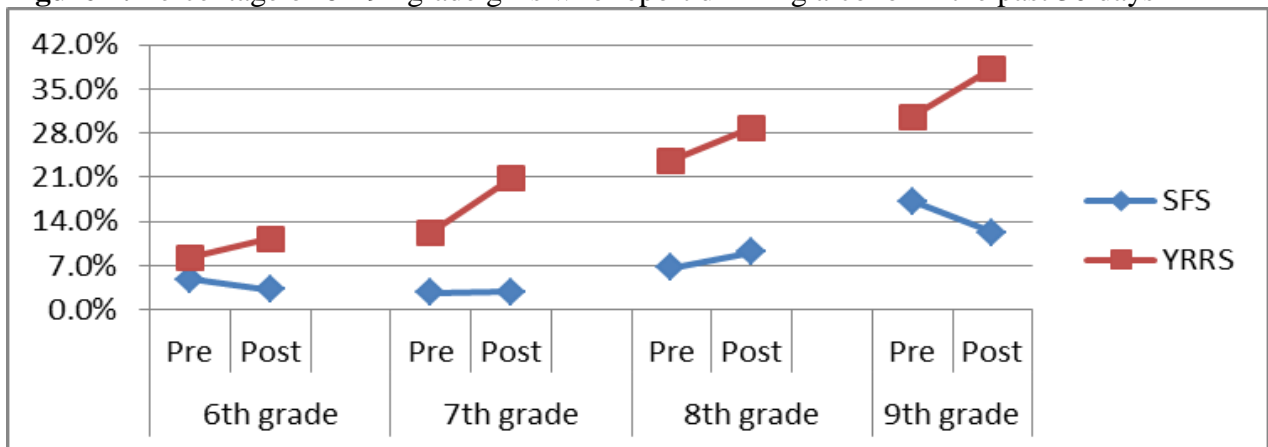
Binge drinking also displays inconsistent patterns across grades and genders, such as an increase for 7th grade boys and girls, and a decrease for them in 9th grade, yet such changes did not reach statistical significance. Overall, SFS program participants report a lower prevalence rate of binge drinking than YRRS respondents (Figures 8 & 9).

Figure 8: Percentage of 6th-9th grade boys who report binge drinking in the past 30 days
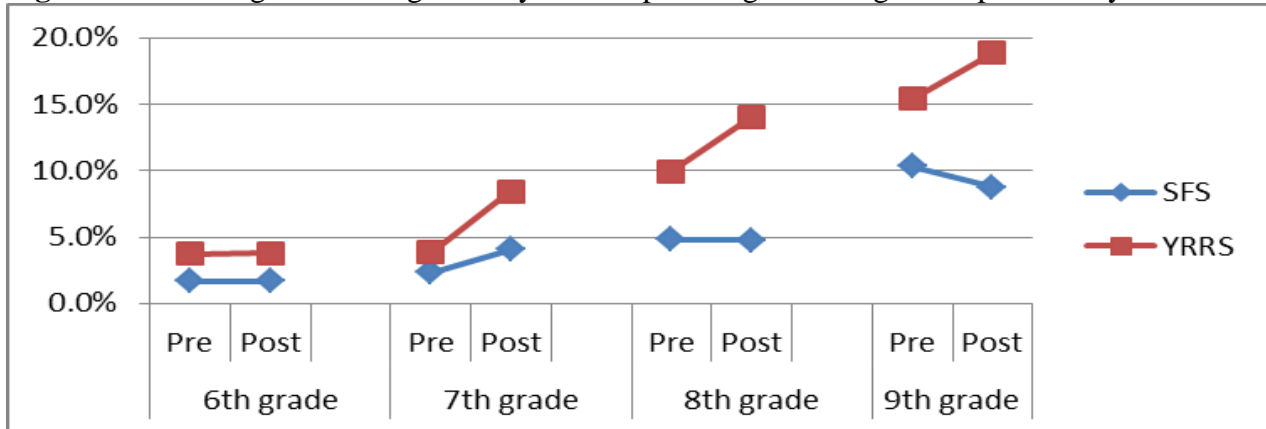
Figure 9: Percentage of 6th-9th grade girls who report binge drinking in the past 30 days
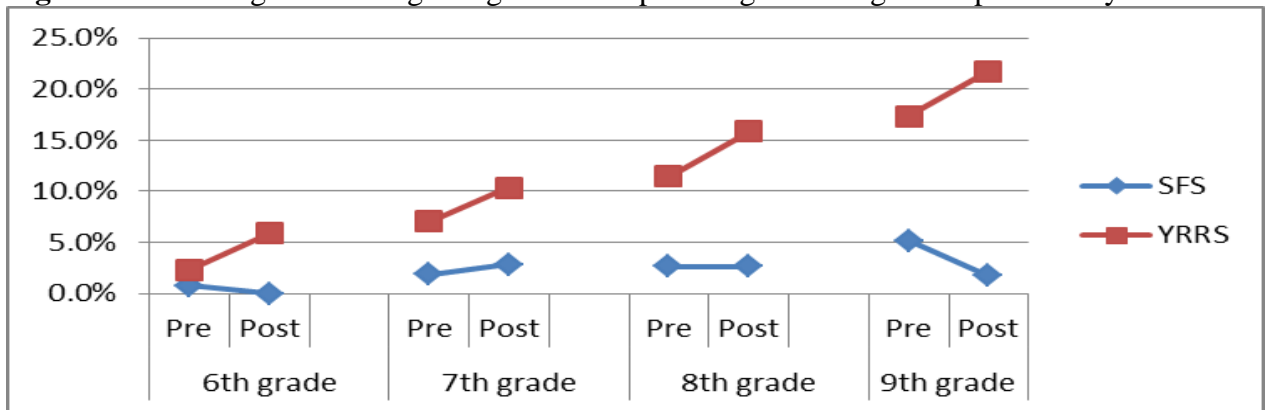
In sum, SFS students generally have less current alcohol use and binge drinking than their YRRS counterparts. Depending on which alcohol consumption behavior is in question, there are no consistent trends observed in the SFS sample.

Other Drug use (all boys and girls grades 6-9)

The increasing trend of SFS students reporting past 30-day marijuana use was similar to findings in the YRRS across grades and gender (Figure 10 & Figure 11). The pre-test levels at 6th and 7th grades for boys and girls were close to YRRS estimates. By 9th grade, the post-test prevalence rate of use among boys has reached the level reported in the YRRS; and girls have higher prevalence rates than YRRS at both pre- and post-tests. The overall marijuana use of FY14 SFS cohort did not change significantly between pre and post-test, but the rates of marijuana past-30 day use are much close to the rates reported in the 2011 YRRS compared with other substances, where SFS students report lower use than the YRRS student sample.

Figure 10: Percentage of 6th-9th grade boys who report past 30-day marijuana use
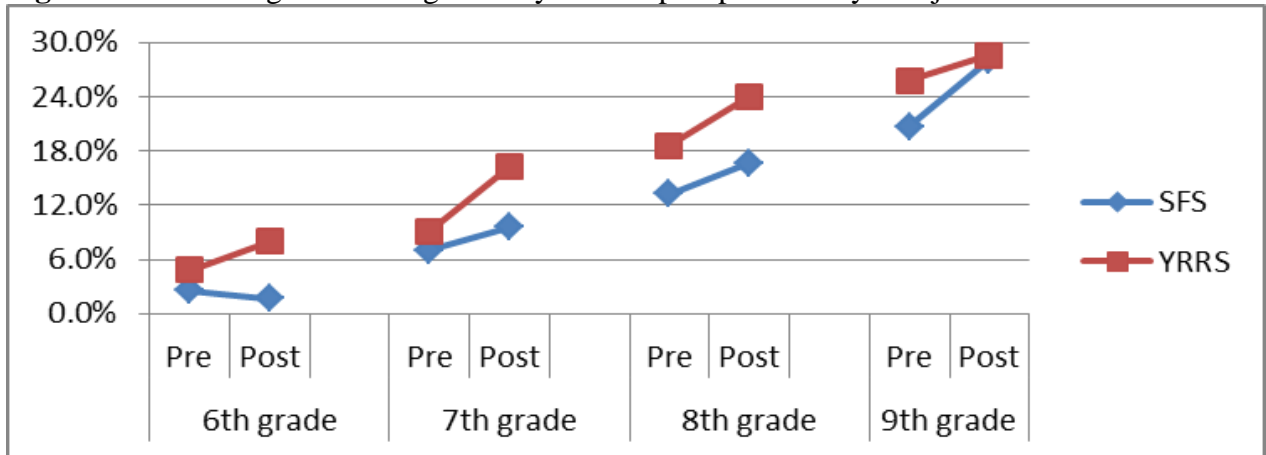
Figure 11: Percentage of 6th-9th grade girls who report past 30-day marijuana use
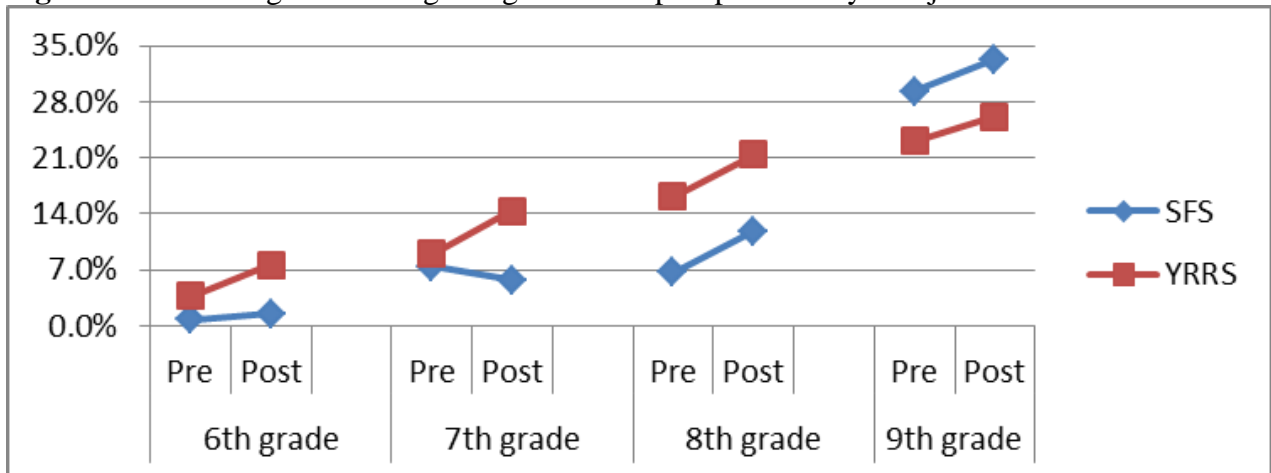
Results from General Linear Models

The GLM analyses assess the effect size of prevention programs over the course of the program on substance use. Findings from the GLM analyses generally support the results obtained from the McNemar's tests for both boys and girls but are more conservative. For boys, no statistically significant changes were seen between pre and post-test in the unadjusted and adjusted models (see Table 9). Among girls, only alcohol use achieved statistical significance in the unadjusted model. After controlling for covariates (i.e., grade, ethnicity, and English as a primary language at home) there was no longer a statistically significant change (see Table 10). Overall, average estimates of use among boys and girls were low, which is not surprising given that these are middle school students and any increases or decreases are likely due to chance.

Table 9: Examining the effect of time from pre-test substance use to the post-test substance use for boys, unadjusted and adjusted[a] model results

Substance (unadjusted n /adjusted n)	Unadjusted				Adjusted				
	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[c]	Base-line Mean	Post-test Mean	F-test & sig.[b]	effect size[c]	Desired Outcome
Cigarettes (428/391)	0.09	0.11	0.37	0.001	0.05	0.08	0.73	0.002	↻
Chewing Tobacco (428/391)	0.06	0.11	2.33	0.005	0.06	0.12	0.27	0.001	↻
Alcohol (392/360)	0.12	0.14	0.29	0.001	0.09	0.11	2.20	0.006	↻
Binge Drinking (391/358)	0.06	0.07	0.24	0.001	0.04	0.06	0.27	0.001	↻
Marijuana (413/377)	0.23	0.29	3.47	0.008	0.15	0.24	3.42	0.009	↻

[a]Model adjusted for grade, ethnicity, and English as a primary language at home.
[b]Exact statistic provided
[c]Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.

Table 10: Examining the effect of time from pre-test substance use to the post-test substance use for girls, unadjusted and adjusted[a] model results

Substance (unadjusted n /adjusted n)	Unadjusted				Adjusted				
	Base-line Mean	Post-test Mean	F-test & sig.[b]	effect size[c]	Base-line Mean	Post-test Mean	F-test & sig.[b]	effect size[c]	Desired Outcome
Cigarettes (404/368)	0.12	0.14	1.33	0.003	0.01	0.04	0.002	0.000	↻
Chewing Tobacco (403/367)	0.02	0.03	0.08	0.000	0.02	0.02	0.24	0.001	↻
Alcohol (376/343)	0.09	0.16	8.85**	0.023	0.04	0.08	0.01	0.000	↻
Binge Drinking (375/342)	0.05	0.08	2.58	0.007	0.01	0.01	0.54	0.002	↻
Marijuana(389/302)	0.17	0.22	2.61	0.007	0.11	0.14	0.07	0.000	↻

[a]Model adjusted for grade, ethnicity, and English as a primary language at home.
[b]Exact statistic provided
[c]Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.
**$p<.01$

There were slight decreases in respondents' attitudes about substance use between pre-test and post-test for boys in the unadjusted model (see Table 11.) Some changes are in the desirable direction, some in an undesirable direction, though most of these changes over time do not reach statistical significance in either the unadjusted or the adjusted models. The exception was that girls significantly decreased their intention to smoke over the next year at post-test in the model that adjusted for the influences of grade, ethnicity and language spoken at home (see Table 12). Without a control group for comparison, there is no way to know if this decrease was due to the prevention programming or not, but it suggestive that the prevention programming had some positive effect on intentions to smoke among the SFS girls.

Table 11: Examining the effect of time from pre-test scores for perception of harm, parental approval, respondent approval and intentions to smoke to post-test scores for boys, unadjusted and adjusted[a] model results

Measure (unadjusted n/ adjusted n)	Unadjusted				Adjusted				
	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[b]	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[c]	Desired Outcome
Risk of Harm Scale (423/385)	1.74	1.75	0.39	0.001	1.73	1.78	0.38	0.001	↑
Parental Attitudes toward Alcohol Use (427/390)	2.72	2.73	0.14	0.000	2.75	2.76	0.06	0.000	↑
Respondent Attitudes toward Alcohol Use (427/390)	2.68	2.61	5.21*	0.012	2.71	2.64	0.05	0.000	↑
Intention to smoke a cigarette soon (340/323)	0.03	0.02	1.67	0.005	0.03	0.02	0.01	0.000	↓
Intention to smoke a cigarette during the next year (396/366)	0.23	0.27	0.82	0.002	0.22	0.26	0.66	0.002	↓
Intention to smoke a cigarette if offered by best friend (393/364)	0.26	0.27	0.03	0.000	0.25	0.27	2.23	0.006	↓

[a]Model adjusted for grade, ethnicity, and English as a primary language at home.
[b]Exact statistic provided
[c]Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.
*$p \leq .05$.

20

Table 12: Examining the effect of time from pre-test scores for perception of harm, parental approval, respondent approval and intentions to smoke to post-test scores for girls, unadjusted and adjusted[a] model results

Measure (unadjusted n/ adjusted n)	Unadjusted				Adjusted				
	Base-line Mean	Post-test Mean	F-test & sig.[b]	effect size[c]	Base-line Mean	Post-test Mean	F-test & sig.[b]	effect size[c]	Desired Outcome
Risk of Harm Scale (399/363)	1.86	1.92	1.86	0.005	1.86	1.90	0.00	0.000	⋂
Parental Attitudes toward Alcohol Use (406/370)	2.78	2.77	0.17	0.000	2.81	2.80	0.55	0.001	⋂
Respondent Attitudes toward Alcohol Use (405/369)	2.67	2.62	2.18	0.005	2.74	2.66	0.00	0.000	⋂
Intention to smoke a cigarette soon (331/320)	0.03	0.04	1.14	0.003	0.03	0.04	0.01	0.000	⋃
Intention to smoke a cigarette during the next year (377/356)	0.32	0.29	0.47	0.001	0.33	0.29	6.94**	0.019	⋃
Intention to smoke a cigarette if offered by best friend (376/355)	0.35	0.32	0.65	0.002	0.35	0.33	1.93	0.005	⋃

[a]Model adjusted for grade, ethnicity, and English as a primary language at home.
[b]Exact statistic provided
[c]Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.
**$p \leq .01$.

Summary

In FY 14, self-reported reported ATOD use among all SFS program participants showed few significant changes from pre-test to post-test. This was not true among those youth reporting use at pre-test. Many youth reporting ATOD use of one kind or another at the beginning of the program frequently reduced their use by the end of the program even if the decrease was not statistically significant. Even when increases in self-reported use increased, increases were typically not statistically significant, meaning they could be due merely to chance, nor where they typically to same extent as the increases among youth in the representative YRRS sample. Compared to FY13, the ATOD prevalence rates in FY14 were slightly higher. This may be due to the inclusion of high school students (9th grade) in FY14 sample, whereas FY13 sample only contained middle school students. High school students tend to have higher prevalence rates of substances than middle school students in general due to maturation. Measures on perceptions of harm and attitudes associated with ATOD use exhibited very few significant changes from pre to post-test. Perceived risk of harm and attitudes towards alcohol use remained high overall. Intentions to smoke did not increase over time; and girls significantly reduced their intention to smoke next year at post-test in the more rigorous adjusted GLM model.

When SFS data are compared to YRRS data, we continue to see that SFS respondents are reporting lower use overall and in general better trajectories over time than YRRS respondents. One noticeable change was that, compared with FY13 SFS sample, the prevalence rates of past-30 day marijuana use in FY14 SFS sample were closer to YRRS sample. It requires special attention from local providers to address this continuing increasing trend.

Hispanic & Native American SFS Program Participants

Background

The diverse population of New Mexico is reflected in the demographics of the SFS program participants. At the local level, there is particular interest in examining the outcomes of two subgroups of the state: Native American and Hispanic adolescents. These separate analyses are important since there are few studies focusing on drug prevention for minority and rural youth.

Methods

The SFS dataset was sufficiently large enough to examine unique differences in two subgroups: Hispanic and Native American youth. Demographic information was collected as part of the SFS survey instrument; respondents were allowed to choose more than one race/ethnicity when completing the survey, although PIRE ultimately developed a hierarchy to code the race/ethnicity data for ease of comparison with state data and at a local level. First, a filter was applied to the dataset to pull out all respondents coded as Hispanic (subcategories included Mexican/Mexican American/Chicano, Spanish, Central American, South American, Puerto Rican, Cuban, and Other) and analyses were run on that subgroup. The analyses were analogous to the total sample analyses and included univariate statistics, demographic frequencies, descriptive statistics, paired t-test analysis, and GLM. Similarly, a filter was applied to pull out all respondents coded as Native American (subcategories included Pueblo, Navajo, Apache, and Other) and the analyses were replicated.

Results for Hispanic SFS Program Participants

Surveys were completed by 480 SFS program participants who self-identified as Hispanic, including the subcategories of Mexican/Mexican American/Chicano, Spanish, Central American, South American, Puerto Rican, Cuban, and Other. Of the Hispanic participants, 48.1% were boy and 51.9% were girl. The average age for boy participants was 12.4 years old and the average age for girl participants was 12.5 years old. About three quarters of both boys (61.9%) and girls (62.0%) lived in homes where a language other than English was spoken. Table 13 provides the breakdown of the sample by demographics and Table 14 presents parental education level.

Table 13: Demographics for Hispanic SFS program participants (n=480)[a]

Demographic	% SFS Program Participants Boys (n=227)	% SFS Program Participants Girls (n=247)
Grade[a]		
5th grade	5.7	3.9
6th grade	41.0	44.1
7th grade	20.8	15.7
8th grade	21.7	21.8
9th grade	10.9	14.4
Language Other than English Spoken Most Often[b]		
Yes	61.9	62.0

[a]Missing data for gender n=6, for grade n=2.
[b]Dichotomous variable (yes or no) capturing the percentage of youth living in homes where English is not the primary language. Missing data for language other than English: male=4 female=2.

Table 14: Parental education level of Hispanic SFS program participants

Parents education level	%	
	Mother	Father
Not sure	36.9	43.6
Some high school or less	15.0	29.6
High school or Some college	31.9	12.1
College and above	16.2	43.6

In FY 14, Hispanic middle and high school students participating in direct prevention programming did not report significant changes in their substance use from pre- to post-test except for boys on inhalant ever use. Among Hispanic boys, cigarette use and alcohol consumption remained unchanged, and binge drinking decreased slightly. Marijuana and chewing tobacco use increased by only one respondent each. Among the SFS Hispanic girls, great increases in marijuana use and lifetime inhalant use were reported yet they were not statistically significant (see Table 15). Generally speaking, very few Hispanic school youth reported misusing prescription medications though both boys and girls increased their use of prescription pain-killers to get high at post-test (see Table 16).

Table 15: Past 30-day ATOD use[a] differences from pre-test to post-test for Hispanic SFS program participants

Substance	Pre-test		Post-test		McNemar Test	Pre-test		Post-test		McNemar Test	Desired Outcome
Total sample N=480	n	%	n	%		n	%	n	%		
	Boys					Girls					
Cigarettes	7	3.1	7	3.1	0.0	9	3.7	9	3.7	0.0	↻
Chewing Tobacco	4	1.8	5	2.2	0.1	3	1.2	2	0.8	1.0	↻
Alcohol	18	8.0	18	8.0	0.0	26	10.6	22	8.9	0.7	↻
Binge Drinking	9	4.0	7	3.1	0.3	12	4.9	9	3.7	0.6	↻
Marijuana	14	6.4	15	6.7	0.1	21	8.5	27	11.0	2.3	↻
Inhalant ever use	5	2.2	12	5.4	4.5*	12	4.9	17	6.9	1.5	↻

[a] Dichotomous substance use variable (yes or no).
*$p < .05$.

Table 16: Past 30-day prescription drug use[a], differences from pre-test to post-test for Hispanic SFS program participants

Substance	Pre-test		Post-test		McNemar Test	Pre-test		Post-test		McNemar Test	Desired Outcome
Total sample N=480	n	%	n	%		n	%	n	%		
	Boys					Girls					
Any R_x medication not prescribed	10	4.5	9	4.0	0.1	8	3.3	4	1.6	2.7	↻
Taken Any R_x pain pills to get high	6	2.7	7	3.1	0.2	4	1.6	5	2.0	1.0	↻

[a] Dichotomous substance use variable (yes or no).

When only those participants who reported baseline substance specific ATOD use were examined, we found some significant decreases in the frequency of use mainly among boy respondents. Among Hispanic boys who reported use at baseline, the prevalence of cigarette use and alcohol use decreased significantly. Among Hispanic girls, the reported frequency of substance use across the majority of the indicators decreased however, since the prevalence of use was so low to begin with, these changes were not statistically significant except lifetime inhalant use. Care should be taken about the validity of the decrease seen in ever using an inhalant (see **Table 17** for details).

Table 17: The average number of times in the past 30 days of substance use[a], at pre- and post-test among Hispanic SFS program participants who reported substance specific use at baseline

Substance (Respondents reporting use at baseline, boy n & girl n)	Pre-test Mean	Post-test Mean	t-value	Pre-test Mean	Post-test Mean	t-value	Desired Outcome
	Boys			*Girls*			
Cigarettes (7/9)	2.4	1.3	-4.4**	1.9	1.8	-0.6	↻
Chewing tobacco (4/3)	1.8	0.8	-2.5	1.3	1.0	-0.5	↻
Alcohol (14/17)	1.7	0.6	-2.7*	1.3	1.5	-0.9	↻
Binge drinking (14/17)	0.8	0.4	-1.3	0.6	0.7	-0.2	↻
Marijuana (12/20)	2.7	2.1	-1.4	2.0	1.7	-1.2	↻
Inhalant ever use (5/12)	1.0	0.6	-1.6	1.0	0.5	-3.3**	↻

[a]0=0 times, 1=1 or 2 times, 2=3 to 9 times, 3=10 to 19 times, 4=20 to 39 times, 5=40 or more times.
$*p \leq .05$, $**p \leq .01$

Table 18 presents the change in the prevalence of ATOD use among those who reported any ATOD use at pre-test (as opposed to substance specific use). Results indicate that Hispanic boys who reported any ATOD use at baseline decreased their prevalence of use in almost every substance except for lifetime inhalant use. A similar trend was observed among female ATOD users. They decreased their prevalence of use at post-test on every measure. Hispanic girls reported greater use at pre-test and post-test than boys in measures of alcohol use, binge drinking, marijuana use, and lifetime inhalant use. Although the actual numbers are small overall, it seems that the prevention programming may be more effective among boys than among girls. Figure 12 and Figure 13 graph the changes from pre-test to post-test for boys and girls respectively based on the data in Table 18.

Table 18: Past 30-day ATOD use[a] at post-test among those Hispanic SFS program participants reporting any ATOD use at pre-test

Substance Baseline users: boy=35 girl=46	% Pre-test	% Post-test	% Change	% Pre-test	% Post-test	% Change
	Boys			Girls		
Cigarettes	20.0	11.4	-42.9	19.6	17.4	-11.1
Chewing Tobacco	11.4	8.6	-25.0	6.5	4.4	-33.3
Alcohol	51.4	25.7	-50.0	56.5	32.6	-42.3
Binge Drinking	25.7	11.4	-55.5	26.1	15.2	-41.7
Marijuana	40.0	37.1	-7.2	45.7	43.5	-4.8
Inhalant ever use	14.3	17.1	19.9	26.1	17.4	-33.3

[a] Dichotomous substance use variable (yes or no).

Figure 12: Percent of Hispanic boys reporting substance use at post-test among only program participants reporting substance use at pre-test
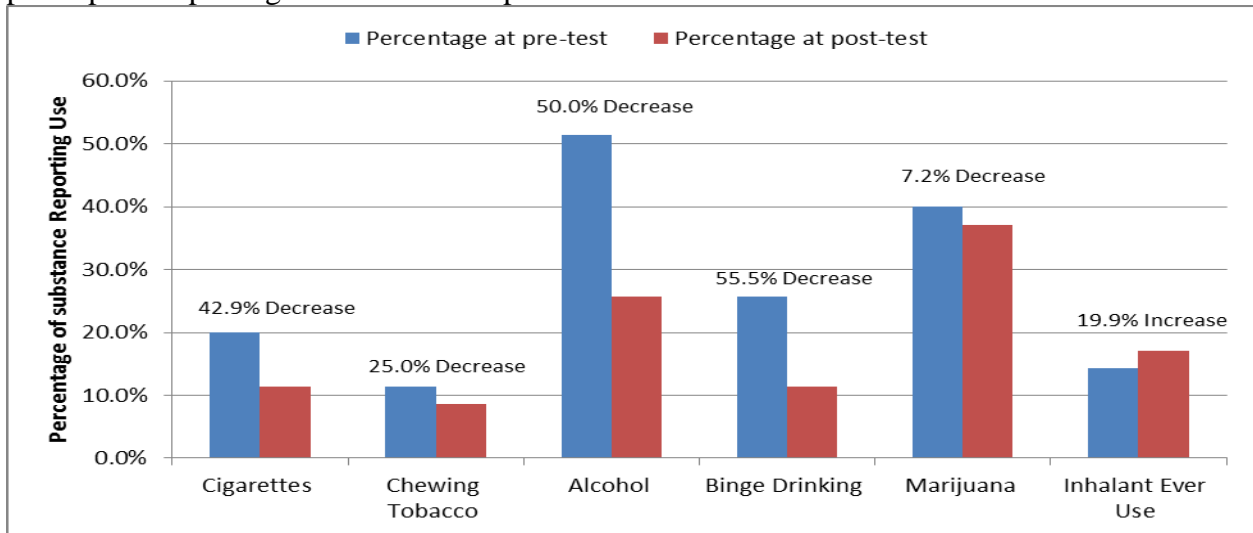
Figure 13: Percent of Hispanic girls reporting substance use at post-test among only program participants reporting substance use at pre-test
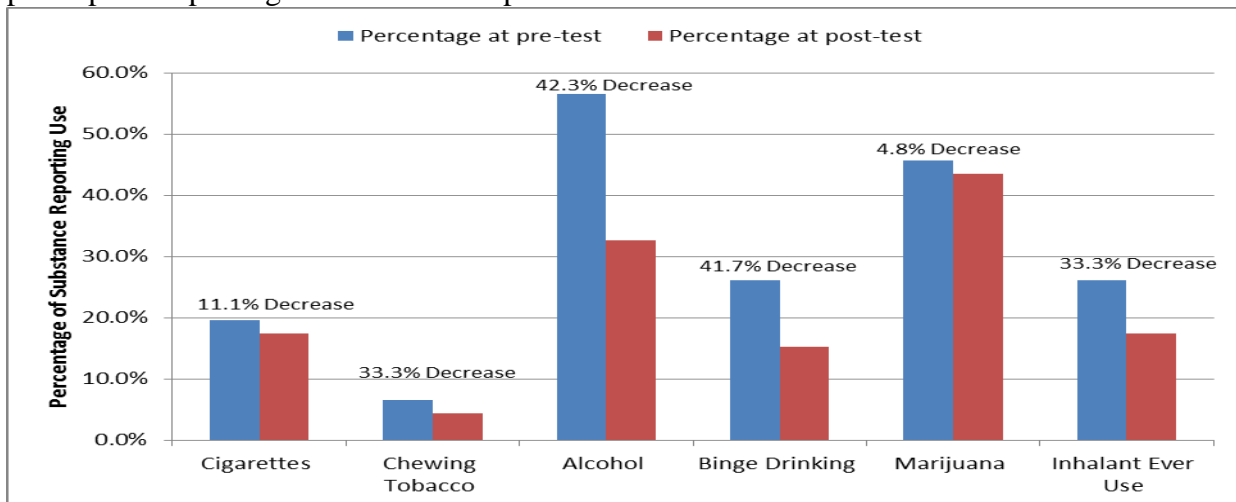
SFS Hispanic Subpopulation Compared with YRRS Hispanic Subpopulation

Tobacco use (Hispanic students, grades 6 - 9)

In this section, we compare the prevalence of ATOD use among male and female Hispanic SFS school participants in OSAP funded prevention programming and male and female Hispanic 6th to 9th grade students in the NM 2011 YRRS sample. As we know from the results presented above, both boys and girls in SFS programs increased their ATOD use slightly over time. Yet, it helps to see if these increases are also occurring among a representative sample of Hispanic 6th to 9th grade students and if the increases are relatively similar or differ in the extent increases occur over time. Students receiving prevention programming ideally will not increase as quickly as the typical student who may not be receiving any prevention programming.

In Figure 14 and Figure 15 below we can see that among Hispanic boys, SFS students in 7th and 9th grades increased the prevalence of past 30-day cigarette use. Smoking did not increase among 6th and 8th graders. Compared with YRRS Hispanic male sample, however, the prevalence of past 30-day cigarette use among the SFS sample remains much lower overall. Among Hispanic girls in 6th to 8th grades past 30-day cigarette use essentially did not change over time, whereas among the general Hispanic female YRRS sample, there was considerable increase over time from 6th grade to 9th grade, in past 30-day cigarette use from pre to post-test.

Figure 14: Percent of 6th-9th grade Hispanic boys reporting past 30-day cigarette use
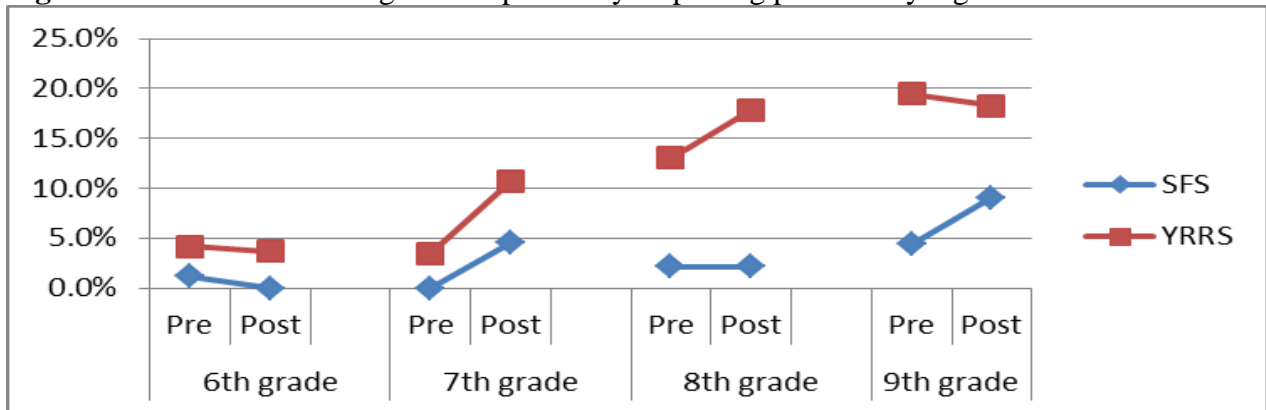
Figure 15: Percent of 6th-9th grade Hispanic girls reporting past 30-day cigarette use
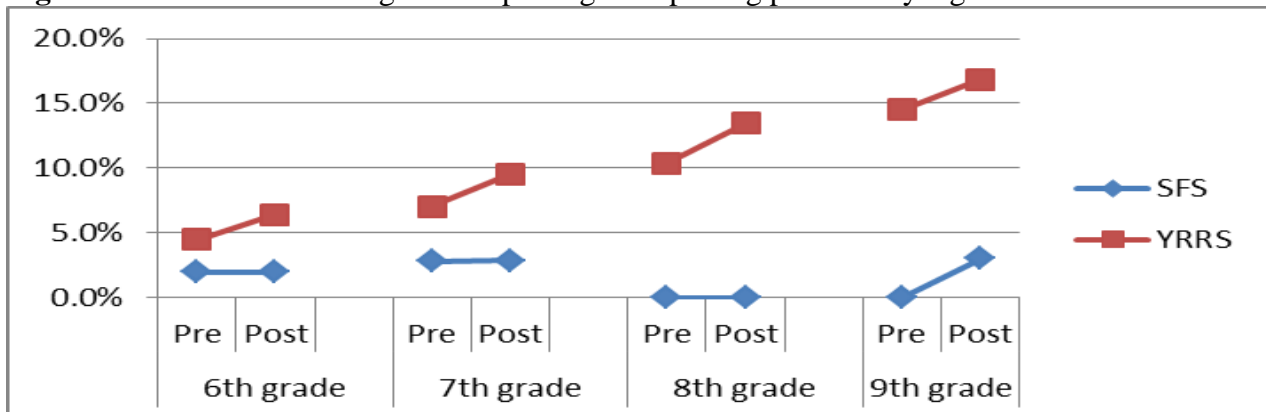
Alcohol use (Hispanic students, grades 6 - 9)

The patterns of past 30-day drinking are different for SFS Hispanic boys and girls. Among boys, there were increases from pre- to post-test in 7th and 9th grades and slight decrease in 6th and 8th grades, whereas girls remained generally unchanged (6th – 8th grades) or showed decreases in 9th grade (Figure 16 & Figure 17); no changes were statistically significant. It is generally observed that use among the YRRS sample of Hispanic students increased faster among both genders except for sixth grade male students.

Figure 16: Percentage of 6th-9th grade Hispanic boys who report drinking in the past 30 days
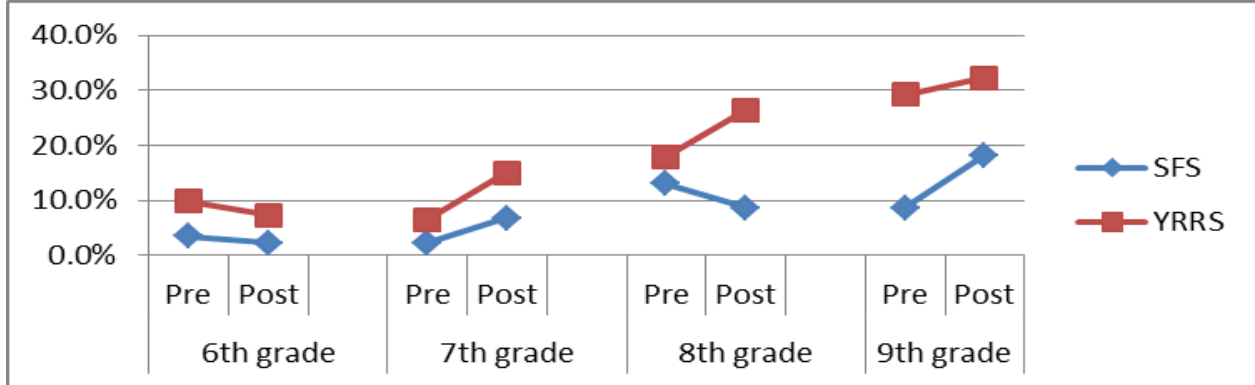
Figure 17: Percentage of 6th-9th grade Hispanic girls who report drinking in the past 30 days
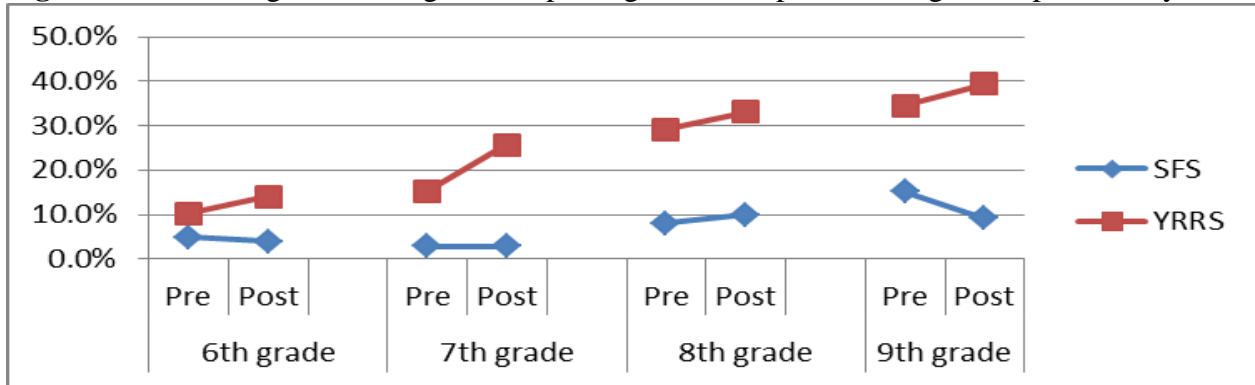
Current binge drinking among SFS Hispanic students is typically lower than among the corresponding YRRS sample (See Figure 18 & Figure 19). Male 8th and 9th graders both reduced their prevalence of binge drinking at post-test compared with pre-test. Boys in the 7th grade did increase their use, similar to the YRRS 7th graders. Hispanic SFS girls remained virtually unchanged from pre to post-test in 6th to 8th grades, and 9th graders decreased their use at post-test. On the other hand, among the girl YRRS sample use increased at every grade.

Figure 18: Percentage of 6th-9th grade Hispanic boys reporting binge drinking in the past 30 days
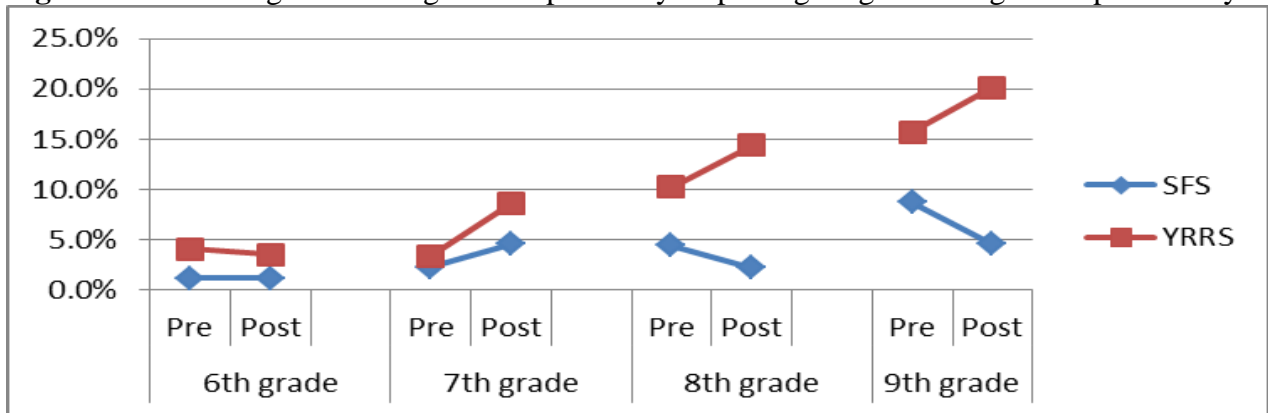
Figure 19: Percentage of 6th-9th grade Hispanic girls reporting binge drinking in the past 30 days
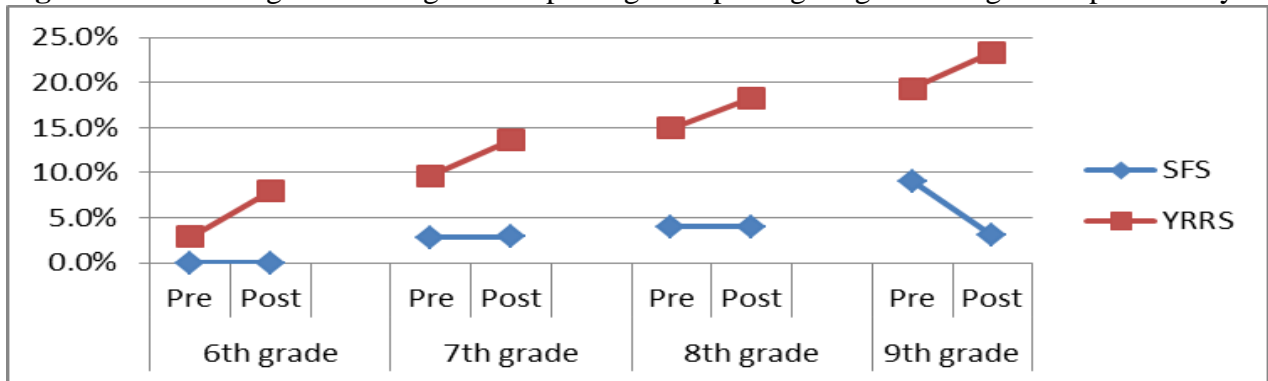
Drug use (Hispanic students, grades 6 - 9)

Surprisingly, current marijuana use remained generally unchanged for the SFS 6th to 9th grade boys. On the other hand, 8th and 9th grade SFS girls increased their marijuana use. Especially 9th grade SFS female students started at the same level of current marijuana use as the YRRS students then the SFS students surpassed the latter at post-test. In addition, 9th grade SFS girls reported more use than 9th grade boys at pre-test and post-test (see Figure 20 & Figure 21). When compared to their YRRS counterparts, the trends among the SFS respondents are still relatively lower with the exception of 9th grade girls who at post-test reported more use than those in the YRRS sample.

Figure 20: Percentage of 6th-9th grade Hispanic boys reporting marijuana use in the past 30 days
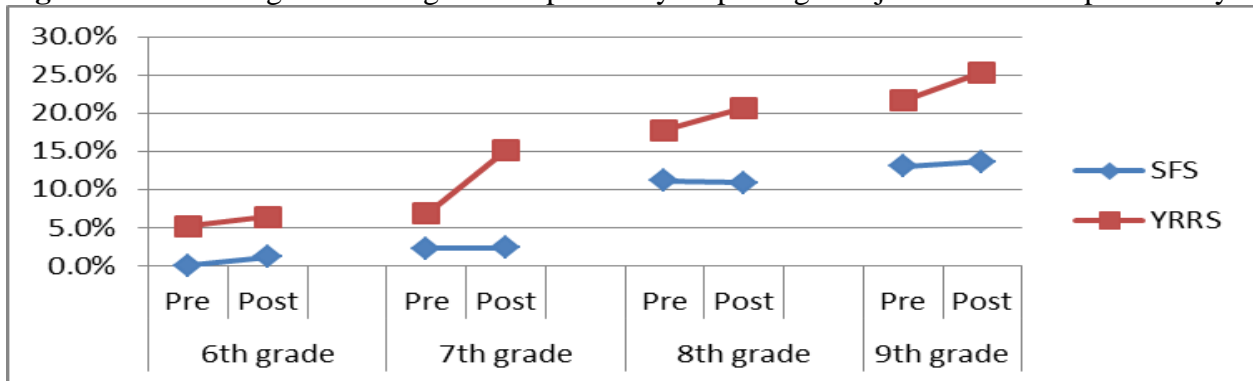
Figure 21: Percentage of 6th-9th grade Hispanic girls reporting marijuana use in the past 30 days
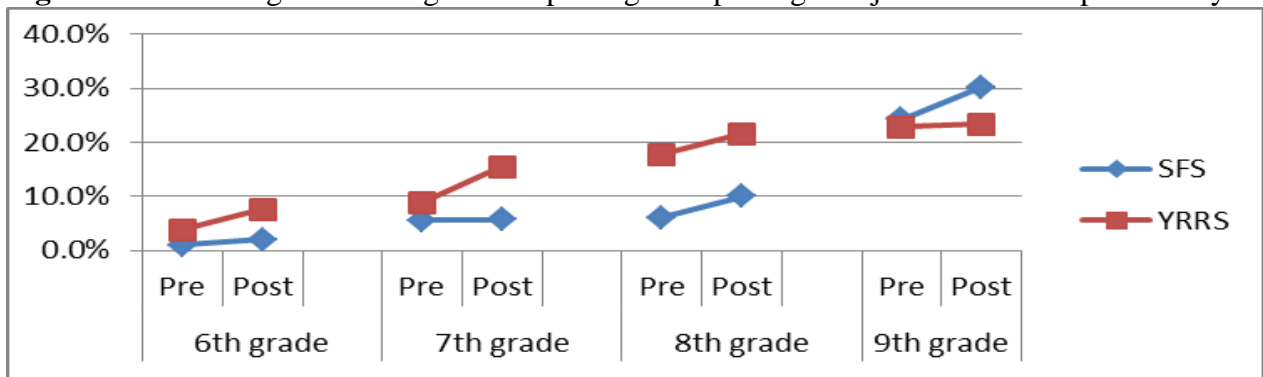
General Linear Models

The unadjusted GLMs with Hispanic boys support results obtained from the McNemar tests and the paired t-test analysis. There were no significant changes in use of any substance in both unadjusted and adjusted models. The general trends in use tended to decrease or remain stable overtime (see Table 19).

Table 19: Examining the effect of time from pre-test substance use to the post-test substance use for Hispanic boys, unadjusted and adjusted[a] model results

Substance (unadjusted n /adjusted n)	Unadjusted				Adjusted				
	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[c]	Base-line Mean	Post-test Mean	F-test & sig.[b]	effect size[c]	Desired Outcome
Cigarettes (225/207)	0.08	0.08	0.03	0.000	0.02	0.04	3.10	0.015	↻
Chewing Tobacco (225/207)	0.03	0.05	0.55	0.002	0.03	0.06	2.22	0.011	↻
Alcohol (208/193)	0.12	0.10	0.14	0.001	0.10	0.09	0.04	0.000	↻
Binge Drinking (208/192)	0.06	0.05	0.03	0.000	0.04	0.05	0.44	0.002	↻
Marijuana (220/202)	0.15	0.14	0.12	0.001	0.07	0.08	0.05	0.000	↻

[a] Adjusted for grade and language spoken at home.
[b] Exact statistic provided.
[c] Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.

Among Hispanic female students, alcohol use increased significantly over time only in the unadjusted model, but this increase was no longer statistically significant after the model adjusted for the influence of grade and language spoke at home (see Table 20). Unlike boys, however, girls tended to generally report more use at post-test than at pre-test for most of substances indicating that trends were not in the desired direction.

Table 20: Examining the effect of time from pre-test substance use to the post-test substance use for Hispanic girls, unadjusted and adjusted[a] model results

Substance (unadjusted n /adjusted n)	Unadjusted				Adjusted				
	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[c]	Base-line Mean	Post-test Mean	F-test & sig.[b]	effect size[c]	Desired Outcome
Cigarettes (246/226)	0.07	0.07	0.20	0.001	0.01	0.02	0.04	0.000	↻
Chewing Tobacco (245/225)	0.02	0.01	0.33	0.001	0.02	0.01	0.23	0.001	↻
Alcohol (223/206)	0.10	0.18	7.00**	0.020	0.03	0.10	0.60	0.003	↻
Binge Drinking (223/206)	0.06	0.07	0.03	0.000	0.02	0.02	0.59	0.003	↻
Marijuana (242/222)	0.17	0.21	2.13	0.009	0.10	0.13	0.003	0.000	↻

[a] Adjusted for grade and language spoken at home.
[b] Exact statistic provided.
[c] Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.
**$p \leq .01$.

Among Hispanic boys, most measures of perceptions of risk and attitudes towards substance use in the core module showed little significant change from pre-test to post-test (see Table 21). On most measures, the changes were moving towards desirable directions, yet over time boys did show more tolerant attitudes toward alcohol use. Yet the change is minimal, and should be viewed in terms of maturation overtime.

Table 21: Examining the effect of time from pre-test scores for perception of harm, parental and respondent approval and intentions to smoke to post-test scores among Hispanic boys, unadjusted and adjusted[a] model results

Measure (unadjusted n/ adjusted n)	Unadjusted				Adjusted				
	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[c]	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[c]	Desired Outcome
Risk of Harm Scale (225/206)	1.87	1.89	0.18	0.001	1.89	1.92	0.61	0.003	↷
Parental Attitudes toward Alcohol Use (225/207)	2.71	2.72	0.01	0.000	2.76	2.74	1.23	0.006	↷
Respondent Attitudes toward Alcohol Use (224/206)	2.71	2.64	3.11	0.014	2.73	2.67	1.13	0.006	↷
Intention to smoke a cigarette soon(190/181)	0.05	0.03	2.29	0.012	0.04	0.02	0.13	0.001	↶
Intention to smoke a cigarette during the next year (211/196)	0.24	0.20	0.68	0.003	0.22	0.20	0.02	0.000	↶
Intention to smoke a cigarette if offered by best friend (211/207)	0.27	0.24	0.51	0.002	0.24	0.24	0.05	0.000	↶

[a]Adjusted for grade and language spoken at home.
[b]Exact statistic provided.
[c]Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.

Among Hispanic girls we find similar results to the boys in general. Girls' perceived risk of harm increased over time yet failed to achieve a significant level in both unadjusted and adjusted models. Personal attitudes towards alcohol use became more tolerant over time and intention to smoke also increased. However, none of these changes were statistically significant in either the unadjusted or adjusted models and can likely be a reflection of changes associated with natural maturation (see Table 22).

Table 22: Examining the effect of time from pre-test scores for perception of harm, parental and respondent approval and intentions to smoke to post-test scores among Hispanic girls, unadjusted and adjusted[a] model results

Measure (unadjusted n/ adjusted n)	Unadjusted				Adjusted				
	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[c]	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[c]	Desired Outcome
Risk of Harm Scale (241/221)	2.00	2.10	3.36	0.014	2.01	2.08	0.01	0.000	�^
Parental Attitudes toward Alcohol Use (246/226)	2.77	2.77	0.00	0.000	2.79	2.79	1.82	0.008	↑
Respondent Attitudes toward Alcohol Use (246/226)	2.66	2.62	0.73	0.003	2.71	2.65	0.96	0.004	↑
Intention to smoke a cigarette soon (210/202)	0.03	0.04	0.14	0.001	0.03	0.04	0.01	0.000	↓
Intention to smoke a cigarette during the next year (234/220)	0.32	0.28	0.68	0.003	0.33	0.28	3.34	0.015	↓
Intention to smoke a cigarette if offered by best friend (233/219)	0.38	0.30	2.28	0.010	0.37	0.31	4.35	0.020	↓

[a]Adjusted for grade and language spoken at home.
[b]Exact statistic provided.
[c]Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.

Summary

Hispanic middle school and high school students participating in OSAP-funded direct service prevention programming during FY14 saw few significant changes in behavior either negatively or positively. There were few increases or decreases in substance use. Indeed, the prevalence of substance use remained statistically the same over time. It is encouraging to continue to observe this pattern both in FY13 and again in FY14 given that in the years prior, there were significant increases found in marijuana and alcohol use as well as misuse of prescription medications. Most students in the Hispanic SFS sample reported using substances less than the comparable sample in the YRRS. One exception was SFS Hispanic female students past 30-day marijuana use, which was similar to the YRRS at pre-test and higher at post-test. The low prevalence rates may be in large

part due to how data are collected in SFS programs in comparison to the YRRS, and it may also reflect differences in who is selected or self-selects into the program as compared to the general middle school and high school population of YRRS. An additional positive finding is that the increases in prevalence are generally lower in the SFS sample than among the YRRS sample. While comparisons between the SFS and YRRS samples should be viewed cautiously, the results would suggest that SFS participants are using fewer substances over time than students in the general population, and are less influenced by changes that occur as a result of maturation. The use of substances among girls, some of which are greater than among boys of the same age, may indicate that younger girls may be spending time with older boys or girls who are influencing them slightly earlier than boys. These data do not provide information on the context in which the children are first exposed to drugs and alcohol, although local providers in all likelihood have a sense of it, which helps them in interpreting their own local data.

Results for Native American SFS Program Participants

Surveys were completed by 242 Native American program participants. There were more male (56.1 %) than female (43.9%) respondents and the average age was 13.1 years old for boys and 12.8 years old for girls. Most students were in the 7th grade. Similar to their Hispanic peers, more than half of Native American students (63% of boys and 61% of girls) lived in homes where a language other than English was spoken (see Table 23). It should be pointed out that when looking at the results of the analysis of this subgroup, the small number of respondents in some analyses makes the estimates very unstable and not reliable. Table 24 summarizes parental education level of the participants.

Table 23: Demographics for Native American SFS program participants (n=242)

Demographic	% SFS Program Boy Participants (n=134)	% SFS Program Girl Participants (n=105)
Grade[a]		
5th grade	0.8	0.0
6th grade	6.2	9.9
7th grade	55.0	57.4
8th grade	15.5	12.9
9th grade	22.5	19.8
Language Other than English Spoken Most Often[bc]		
Yes	62.6	61.0

[a]Missing data for gender n=3, for grade n=9.
[b] Dichotomous variable (yes or no) capturing the percentage of youth living in homes where English is not the primary language.
[c]Missing data for language other than English: boy=3.

Table 24: Parent education level of Native American SFS program participants

Parent education level	% Mother	Father
Not sure	40.2	48.9
Some high school or less	30.8	8.9
High school or Some college	17.4	29.8
College and above	40.2	12.4

Table 25 presents prevalence rates of substance use among Native American SFS program participants. There were no statistically significant changes from pre- to post-test for any of substances among Native American boys or girls. Both boys and girls were observed increasing reported use in almost every category of substance, particularly marijuana for boys and cigarettes for girls. However, self-reported use is generally low among most substances with the exception of marijuana which is markedly greater than all over substances.

Table 25: Past 30-day ATOD use[a] differences from pre-test to post-test for Native American SFS program participants

Substance Total sample N=242	Pre-test		Post-test		McNemar Test	Pre-test		Post-test		McNemar Test	Desired Outcome
	n	%	n	%		n	%	n	%		
	Boys					Girls					
Cigarettes	7	5.3	9	6.9	0.4	3	3.0	6	6.1	3.0	↻
Chewing Tobacco	4	3.1	8	6.1	1.6	2	2.0	3	3.0	0.3	↻
Alcohol	12	9.2	12	9.2	0.0	5	5.0	6	6.0	0.1	↻
Binge Drinking	7	5.4	8	6.2	0.1	1	1.0	1	1.0	0.0	↻
Marijuana	24	18.3	29	22.1	1.5	17	17.4	17	17.4	0.0	↻
Inhalant use ever	5	3.9	4	3.1	0.1	8	7.9	9	8.9	0.1	↻

[a] Dichotomous substance use variable (yes or no).

Prescription drug use is a growing issue among youth and young adults in NM and across the US. However, as in FY13, it appears that among these students in FY14, there is relatively little use of prescription medications that are not specifically prescribed for them (see Table 26).

Table 26: Past 30-day prescription drug use[a] differences[b] from pre-test to post-test for Native American SFS program participants

Substance Total sample N=242	Pre-test		Post-test		McNemar Test	Pre-test		Post-test		McNemar Test	Desired Outcome
	n	%	n	%		n	%	n	%		
	Boys					Girls					
Any R_x medication not prescribed	0	0.0	0	0.0	NA	1	1.6	2	3.3	0.3	↻
Taken Any R_x pain pills to get high	0	0.0	1	1.7	NA	2	3.3	1	1.6	0.3	↻

When only those participants who report baseline substance specific ATOD use are examined, we find post-test substance use decreased or remained stable on most of measures for Native American boys and girls. Boys saw slight increases in binge drinking and marijuana use, and girls in cigarette and binge drinking (see Table 27). Since the prevalence of use was so low to begin with these changes were not statistically significant. Girls' lifetime inhalant use at post-test decreased significantly. Again care should be taken about the change in lifetime inhalant use. Decrease in lifetime inhalant use at post-test implies reporting errors either at pre or post-test.

Table 27: The average number of times in the past 30 days of substance use[a], at pre-test and post-test among Native American SFS program participants who reported substance specific use at baseline.

Substance (Respondents reporting use at baseline, Boys n / Girls n)	Pre-test Mean	Post-test Mean	t-value	Pre-test Mean	Post-test Mean	t-value	Desired Outcome
	Boys			*Girls*			
Cigarettes (7/3)	2.1	0.7	-1.6	2.7	3.0	1.0	↻
Chewing tobacco (4/2)	2.8	0.3	-2.1	1.0	1.0	0.0	↻
Alcohol (7/3)	1.6	1.3	-0.4	1.3	1.3	0.0	↻
Binge drinking (7/3)	0.6	0.9	0.4	0.0	1.0	1.0	↻
Marijuana (20/10)	2.4	2.5	0.1	1.9	1.2	-1.9	↻
Inhalant ever use (5/8)	1.0	0.0	NA	1.0	0.5	-2.7*	↻

*$p \leq .05$.

Table 28 presents the change in the prevalence of ATOD use among those who report any ATOD use at pre-test. Native American boys who reported any ATOD use at baseline had increased their prevalence of use in cigarette, chewing tobacco and binge drinking, yet decreased their use in alcohol, marijuana and inhalant ever use. Female ATOD users at pre-test had greatly increased their use in cigarette and binge drinking but decreased in marijuana use and inhalant ever use at post-test. Note that pre-test prevalence rates of marijuana use were rather high between boys and girls, but the actual sample sizes are pretty small. Figure 22 and Figure 23 graph the changes from pre-test to post-test for boys and girls respectively.

Table 28: Past 30-day ATOD use[a] at post-test among middle school Native American SFS program participants reporting any ATOD use at pre-test

Substance Baseline users: Boys=30 Girls=24	% Pre-test	% Post-test	% Change	% Pre-test	% Post-test	% Change
	Boys			*Girls*		
Cigarettes	23.3	26.7	14.3	12.5	21.7	73.9
Chewing Tobacco	13.3	16.7	25.1	8.3	8.3	0.0
Alcohol	40.0	36.7	-8.3	20.8	25.0	20.0
Binge Drinking	23.3	27.6	18.3	4.4	8.3	91.5
Marijuana	80.0	60.0	-25.0	70.8	45.8	-35.3
Inhalant ever use	17.2	10.0	-42.0	33.3	16.7	-50.0

Figure 22: Percent of Native American boys reporting substance use at post-test among program participants that report substance use at pre-test
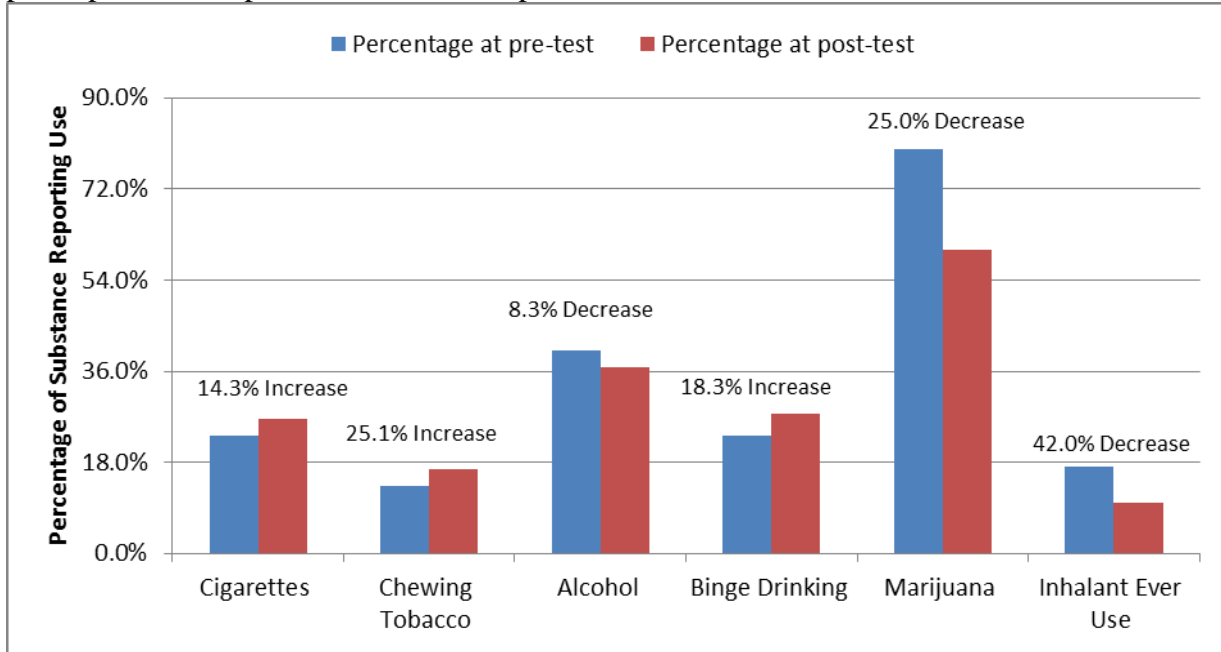
Figure 23: Percent of Native American girls reporting substance use at post-test among program participants that report substance use at pre-test
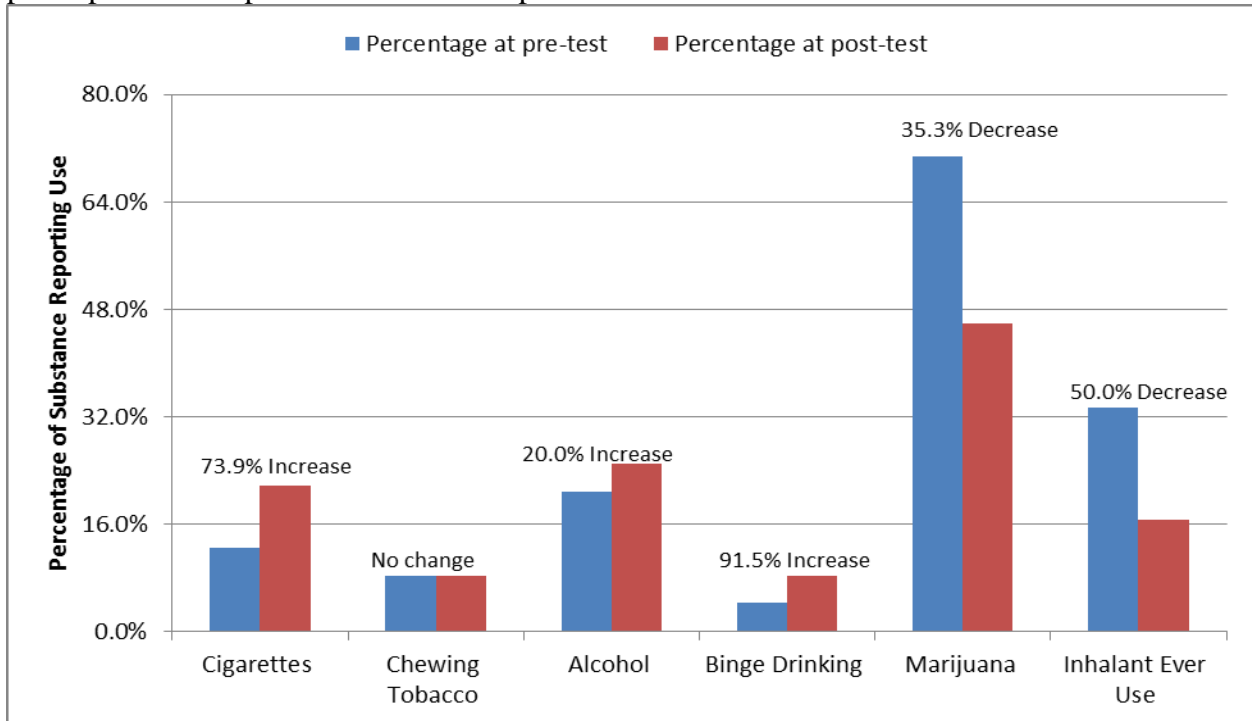
Tobacco use (Native American students, grades 6 -9)

The baseline prevalence rates of past 30-day cigarette use were generally lower for SFS students compared to their counterparts in 2011 YRRS sample. Past 30 day cigarette use reflects current use and can be expected to change over the course of a prevention program. Among Native American boys, current cigarette use increased slightly among 7th and 9th graders, decreased among 8th graders and remained the same among 6th graders (see Figure 24). On the other hand Native American girls reported no use at 6th, 8th and 9th grades, but relatively high increases among 7th graders (see Figure 25). These changes in boys and girls appeared random. Additional information is needed to understand these changes across grades.

Figure 24: Percent of 6th-9th grade Native American boys reporting cigarette smoking, last 30 days
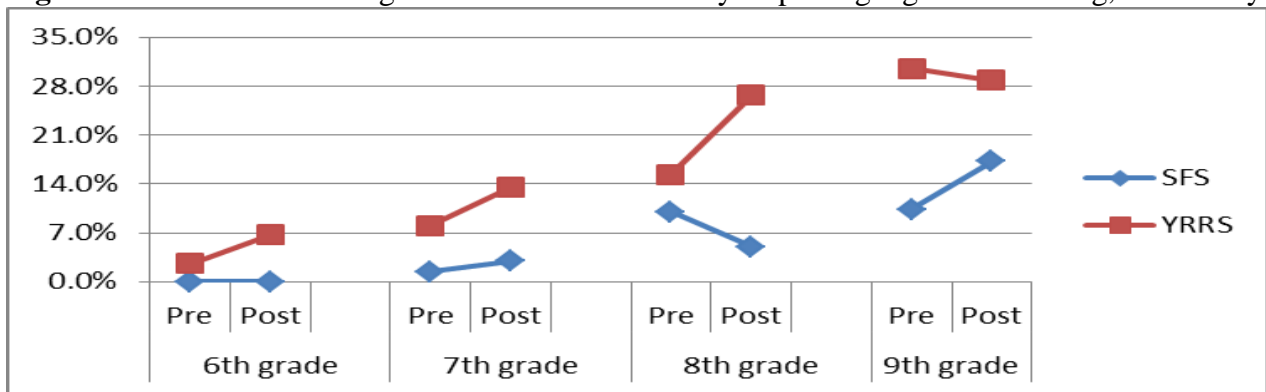
Figure 25: Percent of 6th-9th grade Native American girls reporting cigarette smoking, last 30 days
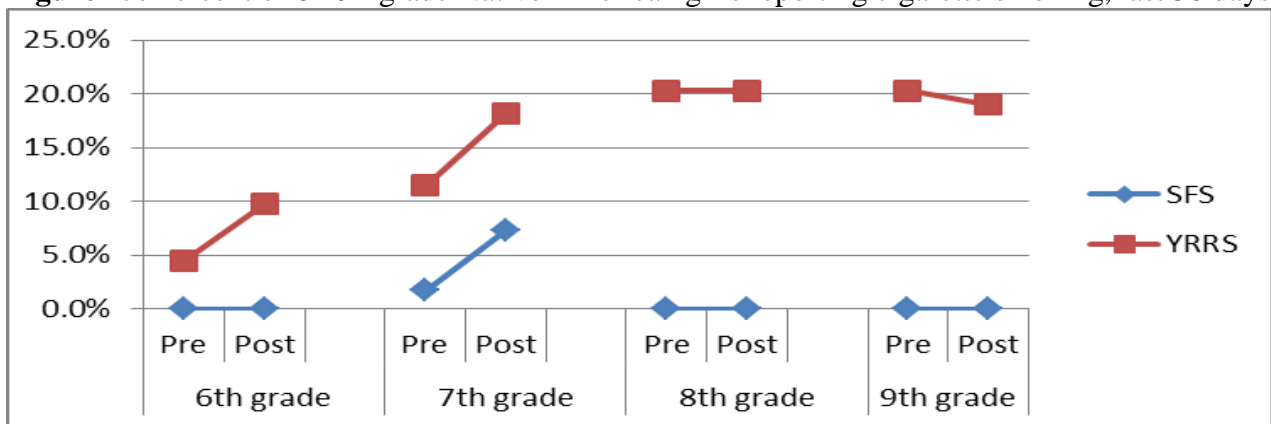
Alcohol use (Native American students, grades 6 - 9)

SFS Native American male students had a similar pattern of past 30-day alcohol consumption as their YRRS counterparts but at a lower level. One noticeable difference was that 6th grade SFS students reported a higher level of alcohol consumption than their YRRS counterpart at pre-test then dropped to zero alcohol consumption at post-test, exhibiting a downward trend rather than moving upward (see Figure 26). SFS Native American girls reported no use in 6th grade and remained unchanged from pre- to post-test in 7th grade. Eighth grade girls also reported no use at pre-test yet at post-test the prevalence rate of alcohol consumption reached almost 20% (see Figure 27). It is interesting to note that both 8th grade girls and boys had not used alcohol at pre-test. But the increase from pre-test to post-test was steeper for the 8th grade girls than the boys. Finally 9th grade girls showed a decreasing trend from pre-test to post-test.

Figure 26: Percentage of 6th-9th grade Native American boys reporting past 30-day alcohol consumption
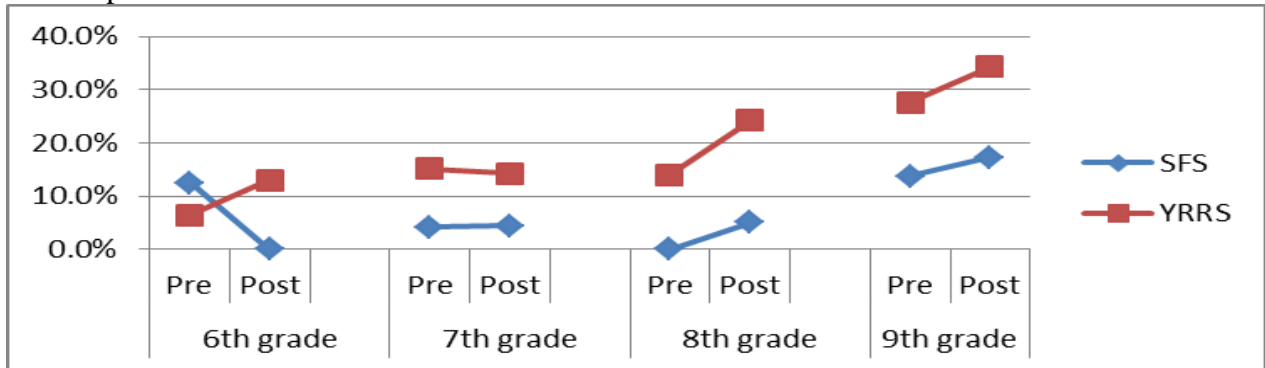
Figure 27: Percentage of 6th-9th grade Native American girls reporting past 30-day alcohol consumption
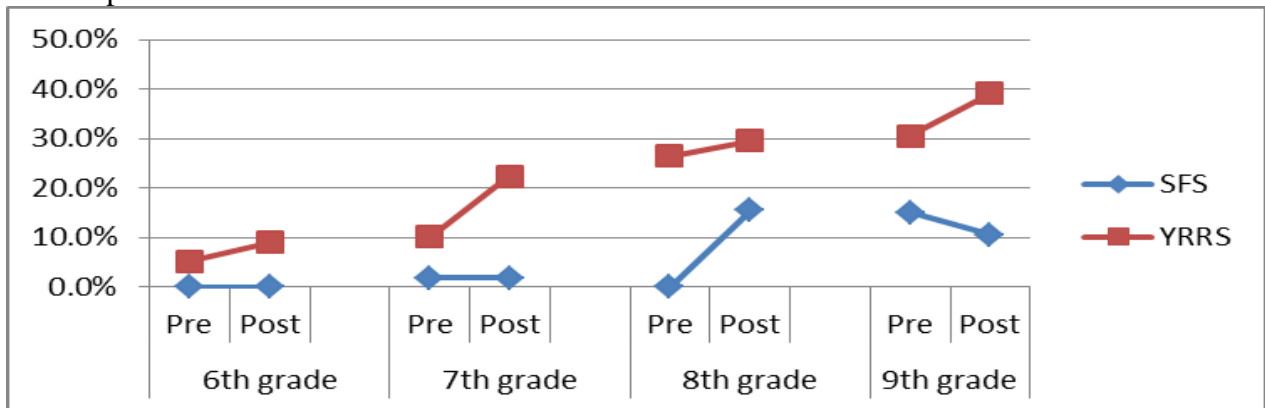
SFS Native American boys reported no binge drinking among the 6th graders, and 7th graders through 9th graders reported virtually no change from pre-test to post-test (see Figure 28). Similarly, the girls in the SFS Native American sample reported no binge drinking at all among 6th, 8th and 9th graders; and even though there was some binge drinking reported among the 7th grade girls (see Figure 29), there was no increase over time. The trajectories among both boys and girls are generally better than among the YRRS sample.

Figure 28: Percentage of 6th-9th grade Native American boys reporting binge drinking in the past 30 days
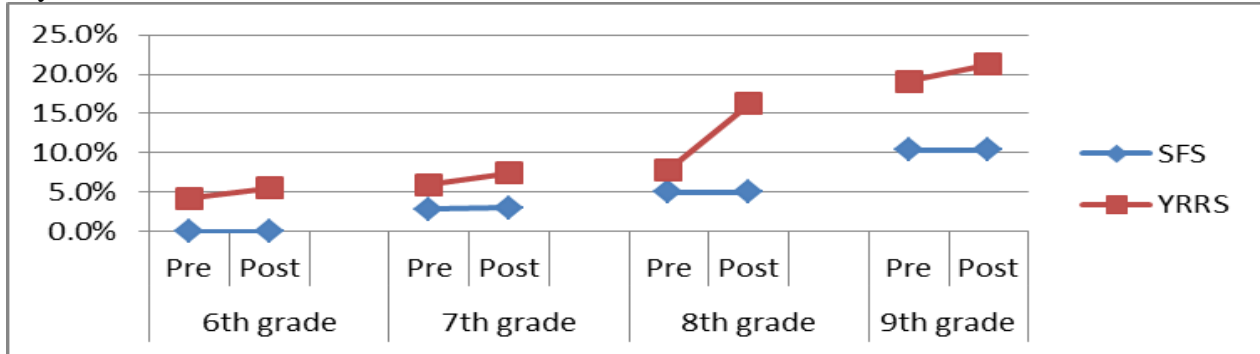
Figure 29: Percentage of 6th-9th grade Native American girls reporting binge drinking in the past 30 days
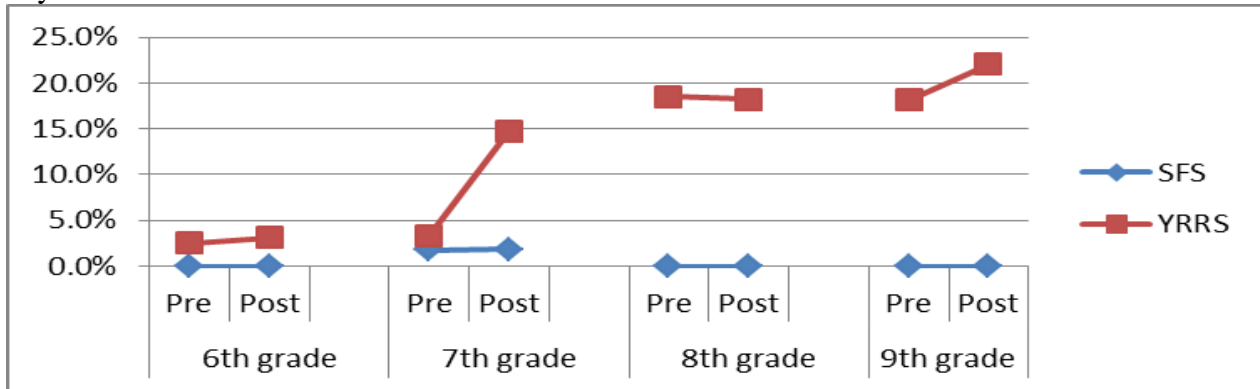
Drug use (Native American students, grades 6th-9th)

When looking at past 30 day marijuana use, the prevalence of the SFS male sample is slightly lower than the YRRS sample but the increasing use patterns from pre-test to post-test are very similar between these two samples except for the SFS 6th grade boys (Figure 30). The 6th grade boys reported much higher use at pre-test than at post-test. Compared to their YRRS counterparts, SFS girls showed inconsistent patterns in their current marijuana use. At 6th and 7th grades, the SFS girls reported no use or lower level use than the YRRS sample; while at 8th grade (post-test) and 9th grade, the SFS sample had reached almost the same level of marijuana use as the YRRS sample (see Figure 31). In comparison, in FY13, the SFS Native American sample reported a similar level

of past 30-day marijuana use as the YRRS sample. The same observation has been made in FY14. It may require special attention in prevention programs given that SFS Native American students tended to have lower use of alcohol, tobacco, and other drugs yet at the same time they reported current marijuana use at levels very similar to those in the YRRS sample.

Figure 30: Percentage of 6th-9th grade Native American boys reporting past 30 day marijuana use
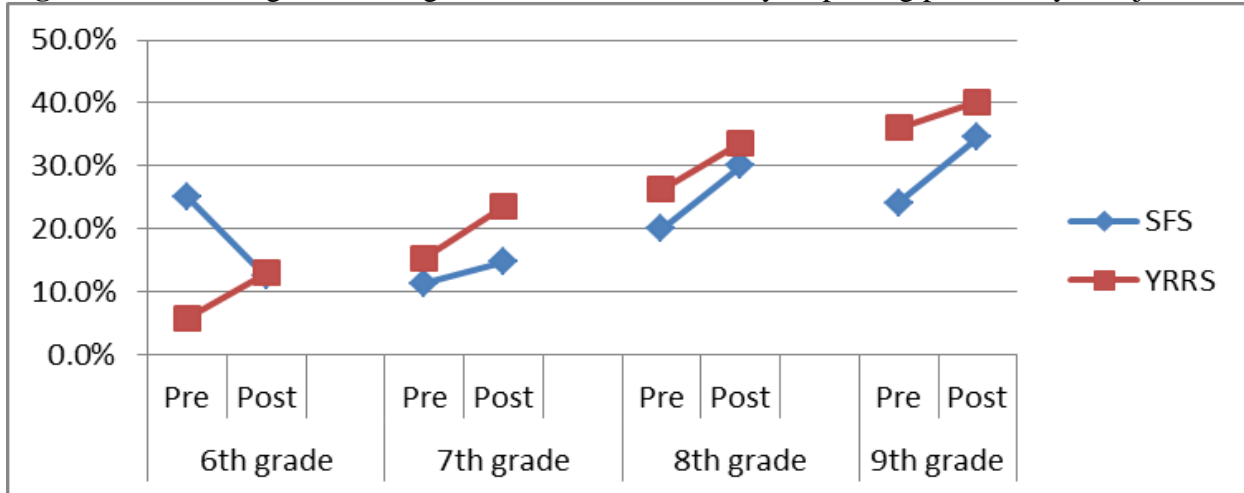
Figure 31: Percentage of 6th-9th grade Native American girls reporting past 30 day marijuana use
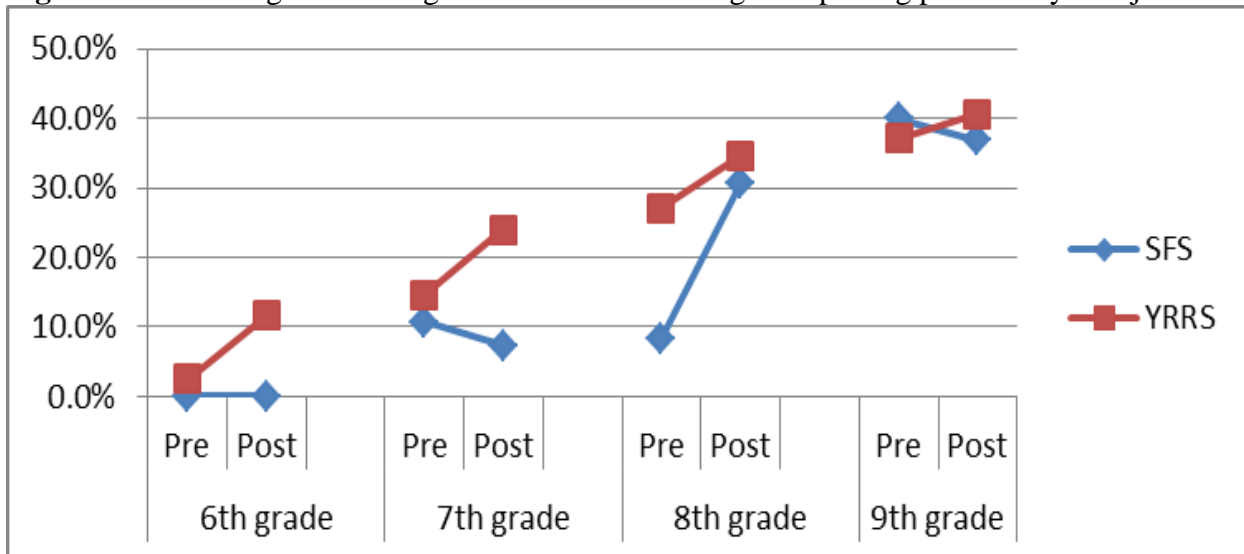
General Linear Models

The GLM Models were run to examine the effect of prevention programs between pre- and post-test on the outcome. We controlled for pre-test estimates on the outcome because we assumed that use at pre-test will predict at least in part use at post-test. In the adjusted models, we also controlled for the grade in which a student is and the language spoken at home. Among the Native American male SFS sample, there were no significant changes in ATOD use in the unadjusted and adjusted models. However the boys' intention to smoke a cigarette offered by their best friend significantly decreased in the adjusted model though its effect size was small. As for other attitude measures such as perception of risks or parental attitude towards alcohol, they did not show any significant changes in the unadjusted and adjusted models. For this age group, no significant increases in use and no significant changes in attitudes are generally positive findings since this is a time when youth begin experimenting in general and attitudes become more lenient (see Table 29 & Table 30).

Table 29: Examining the effect of pre-test substance use on the post-test substance use for Native American boys, unadjusted and adjusted[a] model results

Substance (unadjusted n/adjusted n)	Unadjusted				Adjusted				Desired Outcome
	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[c]	Base-line Mean	Post-test Mean	F-test & sig.[b]	effect size[c]	
Cigarettes (131/123)	0.11	0.16	0.29	0.002	0.11	0.15	0.00	0.000	↻
Chewing Tobacco (131/123)	0.08	0.12	0.25	0.002	0.09	0.13	0.09	0.001	↻
Alcohol (121/113)	0.09	0.14	1.00	0.008	0.06	0.10	2.11	0.019	↻
Binge Drinking (120/112)	0.05	0.09	1.00	0.008	0.04	0.05	0.58	0.005	↻
Marijuana (123/115)	0.39	0.50	1.79	0.014	0.32	0.46	0.37	0.003	↻

[a]Adjusted for grade and language spoken at home.
[b]Exact statistic provided.
[c] Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.

Table 30: Examining the effect of pre-test scores for perception of harm, parental approval, respondent approval and intentions to smoke on post-test scores among Native American boys, unadjusted and adjusted[a] model results

Measure (unadjusted n/ adjusted n)	Unadjusted				Adjusted				Desired Outcome
	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[c]	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[c]	
Risk of Harm Scale (128/120)	1.40	1.50	0.90	0.007	1.39	1.53	0.00	0.000	⋂
Parental Attitudes toward Alcohol Use (130/122)	2.78	2.84	1.19	0.009	2.77	2.84	2.87	0.024	⋂
Respondent Attitudes toward Alcohol Use (131/123)	2.65	2.63	0.14	0.001	2.65	2.62	0.53	0.004	⋂
Intention to smoke a cigarette soon (95/92)	0.02	0.02	0.00	0.000	0.02	0.02	0.58	0.006	⋃
Intention to smoke a cigarette next year (118/111)	0.25	0.28	0.27	0.002	0.22	0.25	0.92	0.008	⋃
Intention to smoke a cigarette if offered by best friend (117/111)	0.31	0.26	1.00	0.009	0.30	0.25	4.20*	0.037	⋃

[a]Adjusted for grade and language spoken at home.
[b]Exact statistic provided.
[c]Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.
*$p \leq .05$.

Among the Native American girls, there were no significant effects of time on ATOD measures in the unadjusted and adjusted models (see Table 31). When examining the Native American girls on measures associated with ATOD use, a positive time effect was found on their intention to smoke during next year in the adjusted models (see Table 32). The change was in the desired direction and there was a medium effect size of time spent in the prevention program, which suggests that the programming may have influenced this positive change.

Table 31: Examining the effect of pre-test substance use on the post-test substance use for Native American girls, unadjusted and adjusted[a] model results

Substance (unadjusted n /adjusted n)	Unadjusted				Adjusted				
	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[c]	Base-line Mean	Post-test Mean	F-test & sig.[b]	effect size[c]	Desired Outcome
Cigarettes (99/95)	0.08	0.15	3.34	0.033	0.01	0.08	1.07	0.011	↻
Chewing Tobacco (99/95)	0.02	0.04	1.00	0.10	0.02	0.04	0.19	0.002	↻
Alcohol (96/92)	0.04	0.09	1.68	0.017	0.03	0.05	0.49	0.006	↻
Binge Drinking (95/91)	0.00	0.03	1.00	0.011	0.00	0.00	NA	NA	↻
Marijuana (89/85)	0.21	0.27	0.58	0.007	0.15	0.22	0.36	0.004	↻

[a]Adjusted for grade and language spoken at home.
[b]Exact statistic provided.
[c] Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.

Table 32: Examining the effect of pre-test scores for perception of harm, parental approval, respondent approval and intentions to smoke on post-test scores for Native American girls, unadjusted and adjusted[a] model results

Measure (unadjusted n/ adjusted n)	Unadjusted				Adjusted				
	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[c]	Base-line Mean	Post-Test Mean	F-test & sig.[b]	effect size[c]	Desired Outcome
Risk of Harm Scale (100/96)	1.40	1.37	0.04	0.000	1.37	1.35	1.05	0.011	↺
Parental Attitudes toward Alcohol Use (101/97)	2.86	2.86	0.00	0.000	2.86	2.86	0.57	0.006	↺
Respondent Attitudes toward Alcohol Use (101/97)	2.76	2.71	0.67	0.007	2.79	2.73	0.31	0.003	↺
Intention to smoke a cigarette soon (93/80)	0.02	0.06	1.82	0.022	0.03	0.06	1.22	0.016	↻
Intention to smoke a cigarette next year (93/91)	0.34	0.32	0.06	0.001	0.35	0.32	6.02*	0.064	↻
Intention to smoke a cigarette if offered by best friend (93/91)	0.32	0.40	1.19	0.013	0.33	0.41	0.15	0.002	↻

[a]Adjusted for grade and language spoken at home.
[b]Exact statistic provided.
[c]Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.
*$p \leq .05$.

Summary

The sample size for Native American respondents is relatively small, which means that estimates are likely not as precise as we might like and we need to be careful not to over-interpret or attribute changes in response rates without consideration of caveats. Overall, Native American use of alcohol, tobacco, and other drugs is consistently low, which is a positive finding. The exception would be marijuana use, where both boys and girls report levels of use similar to the YRRS sample, which generally reports higher prevalence rates than the SFS sample. Despite this, no statistically significant changes were found in ATOD use among Native American students regardless of gender, including decreases and increases in reported use. If we just examine trends, we find that Native Americans in the SFS sample tend to have lower or equal prevalence rates as the YRRS sample and increase their use at a far lower rate. Marijuana use among this sample remains a considerable cause for concern.

SFS Supplemental Modules

Modules B through E of the SFS are optional measurements that programs can choose to use if the constructs measured in the modules are relevant to the objectives in the prevention program. Although optional, many programs choose to administer them because the additional modules measure important changes occurring that are not measured in the Core Module. The measures in modules B-E are from the California Health Kids Survey (CHKS)[5] and have moderate to high reliability and validity among the SFS sample. The analyses on the supplemental modules were only performed on the whole sample and not stratified by gender or race/ethnicity subgroups. Permission to use these supplemental models was granted from the CHKS developers.

Findings for the SFS Supplemental Modules

Cronbach alphas at pre and post-test for participating students are provided for each subscale in Table 33. All scales at pre and post-test show adequate to good reliability with the exception of High expectations among pro-social peers at post-test.

Table 33: Reliability statistics for scales in the SFS supplemental modules

Scale/measure	Pre-test Cronbach's α	Post-test Cronbach's α
Violence Perpetration	0.734	0.837
Violence Victimization	0.740	0.813
Cooperation and Communication	0.626	0.673
Self-efficacy	0.689	0.742
Empathy	0.792	0.814
Problem solving	0.685	0.741
Self-awareness	0.732	0.739
Goals and Aspirations	0.737	0.793
Caring Relationships: Adults in School	0.764	0.849
High Expectations: Adults in School	0.809	0.913
Meaningful Participation: In the School	0.738	0.788
Caring Relationships: Adults in Home	0.814	0.839
High Expectations: Adults in Home	0.808	0.879
Meaningful Participation: In the Home	0.751	0.821
Caring Relationships: Adults in Community	0.805	0.883
High Expectations: Adults in Community	0.876	0.939
Meaningful Participation: In the Community	0.587	0.660
Caring Relationships: Peers	0.870	0.915
High Expectations: Pro-social peers	0.543	0.440

---

[5] Permission to use measures was obtained from WestEd prior to administering them.

Not all sites chose to use modules B & C but for those that did, the breakdown of their contribution to the overall sample can be found in Table 34.

Table 34: Data for Modules B and C by site

Site	Percent
Boot-heel Youth Association	9.5
Counseling Associates	58.0
Five Sandoval Indian Pueblos Council	7.5
North Central Community Based Services	25.0
Total	100.0

Modules B and C measure a student's perpetration of violence and their experiences with being victimized by others. The GLM results table (Table 35) presents the average scores from the perpetration scale and the victimization scale. The range for responses was 0 to 4, where 4 equaled high frequency, i.e., "almost every day", and 0 equaled "never". There were no significant changes from pre- to post-test in both perpetration and victimization in the unadjusted and adjusted models. Not that the averages reported at baseline and post-test are all below 1.

Table 35: Examining the effect of Module B and Module C pre-test scores on post-test scores for selected SFS program participants, unadjusted and adjusted[a] model results

	Unadjusted				Adjusted				
Measure (unadjusted n/adjusted n)	Base-line Mean	Post-test Mean	F-test & sig[b].	effect size[c]	Base-line Mean	Post-test Mean	F-test & sig[b].	effect size[c]	Desired Outcome
Violence Perpetration (348/335)	0.28	0.28	0.00	0.000	0.28	0.28	0.15	0.000	↻
Violence Victimization (348/335)	0.35	0.35	0.01	0.000	0.36	0.35	0.22	0.001	↻
Felt unsafe at or on way to school (326/315)	0.09	0.08	0.18	0.001	0.10	0.08	0.37	0.001	↻

[a]Model adjusted for biological sex, grade, ethnicity, and English as a primary language at home.
[b]Exact statistic provided.
[c]Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.

One additional measure from the NM YRRS is included in module C (see Table 36). It asks about the number of days absent from school in the past 30 days because of feeling unsafe. There are essentially no differences from pre to post-test. Almost 95% of students at post-test indicated they did not miss school because they felt unsafe.

Table 36: The percentage of respondents who did not go to school at least once during the past 30 days because they felt unsafe at or on their way to school by frequency category, selected SFS program participants

Did not go to school because of feeling unsafe	0 days	1 day	2 or 3 days	4 or 5 days	6 or more days
Baseline (%) (n=344)	94.2	3.8	1.2	0.6	0.3
Post-test (%) (n=329)	94.8	3.3	0.9	0.9	0.0

Modules D & E measure internal and external resiliency respectively. Resiliency is a construct consisting of many factors that have been shown to be correlated negatively with ATOD use. In other words, as resiliency increases, ATOD use decreases. Increased resiliency, measured as a whole or as subscales, decreases the likelihood of substance use among youth. Many prevention programs focus effort on increasing resiliency among youth to resist drugs and alcohol and peer pressure, etc. This is often particularly true of programs working with younger children who may not yet be using drugs. Again, not all sites chose to use modules D & E. Those programs that used Module D are listed in Table 37 and a breakdown of the contribution to the entire sample is provided.

Table 37: Data for Module D by site

Site	Percent
Boot-heel Youth Association	3.9
Counseling Associates	23.6
Five Sandoval Pueblos	3.0
North Central Community Based Services	10.2
Sandoval County SAP	36.8
Santa Fe Mountain Center	5.5
San Juan County Partnership	14.6
Southern New Mexico Human Development	2.6
Total	100.0

Internal resiliency is measured in Module D. Internal resiliency includes concepts such as self-efficacy, problem solving skills, self-awareness, having goals and aspirations and the ability to communicate and work with others productively. In the unadjusted GLM, significant improvement from pre- to post-test was found for every measure except for cooperation and self-awareness. However, these increases lost their significance after adjusting for the influences of

biological sex, grade, race/ethnicity, and language spoken at home (see Table 38). Fortunately, the changes all trended in the desired direction, meaning, respondents reported greater resiliency at post-test.

Table 38: Examining the effect of Module D pre-test scores on post-test scores for selected SFS program participants, unadjusted and adjusted[a] model results

Measure (unadjusted n/adjusted n)	Unadjusted				Adjusted				Desired Outcome
	Base-line Mean	Post-test Mean	F-test & sig.[b]	effect size[c]	Base-line Mean	Post-test Mean	F-test & sig.[b]	effect size[c]	
Cooperation & Communication (837/756)	2.07	2.12	2.24	0.003	2.07	2.11	0.36	0.000	∩
Self-efficacy (839/757)	2.26	2.33	10.12**	0.012	2.25	2.32	0.16	0.000	∩
Empathy (837/756)	2.07	2.13	4.01*	0.005	2.06	2.10	0.01	0.000	∩
Problem solving (839/757)	1.91	2.03	18.37***	0.021	1.90	2.03	0.02	0.000	∩
Self-awareness (837/756)	2.36	2.36	0.01	0.000	2.36	2.35	0.03	0.000	∩
Goals & Aspirations (837/756)	2.67	2.71	4.11*	0.005	2.68	2.72	0.06	0.000	∩

[a]Model adjusted for biological sex, grade, ethnicity, and English as a primary language at home.
[b]Exact statistic provided
[c]Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.
$*p \leq .05, **p \leq .01, ***p \leq .001$.

Those programs that chose to use Module E are listed in Table 39 and a breakdown of each program's contribution to the overall sample is provided.

Table 39: Data for module E by site

Site	Percent
Boot-heel Youth Association	7.0
Counseling Associates	42.7
Five Sandoval Indian Pueblo	5.5
North Central Community Based Services	18.4
San Juan County Partnership	26.4
Total	100.0

The measures of external resiliency in Module E reflect changes in relationships and expectations from caring peers and adults and meaningful participation in the community. Among the SFS respondents, there were almost no significant changes on these measures in the unadjusted and adjusted models. One exception was a significant decrease on high expectations from adults in the home in the unadjusted model but it was no longer significant in the adjusted model (see Table 40).

The scales for items on both resiliency modules were from 0 to 3 where 3 indicates having high resiliency and 0 indicating having very little. Examination of pre-test and post-test means of these measures indicates that most of the mean scores are greater than 2 at pre-test, which leaves little room for improvement. This may explain why little improvement is observed in the average scores for these scales even though most are trending in the desired direction.

Table 40: Examining the effect of Module E pre-test scores on post-test scores for selected SFS program participants, unadjusted and adjusted[a] model results

Measure (unadjusted n/adjusted n)	Unadjusted				Adjusted				Desired Outcome
	Base-line Mean	Post-test Mean	F-test & sig.[b]	effect size[c]	Base-line Mean	Post-test Mean	F-test & sig.[b]	effect size[c]	
Caring Relationships: Adults in School (465/450)	2.13	2.20	2.35	0.005	2.12	2.20	0.68	0.002	⌒
High Expectations: Adults in School (464/450)	2.50	2.44	1.80	0.004	2.49	2.44	0.02	0.000	⌒
Meaningful Participation: In the School (465/450)	198	2.02	0.96	0.002	1.97	2.01	2.22	0.005	⌒
Caring Relationships: Adults in Home (465/451)	2.38	2.37	0.02	0.000	2.38	2.36	2.03	0.005	⌒
High Expectations: Adults in Home (466/451)	2.70	2.63	5.01*	0.011	2.71	2.63	0.92	0.002	⌒
Meaningful Participation: In the Home (463/448)	2.23	2.29	3.02	0.007	2.22	2.27	0.18	0.000	⌒
Caring Relationships: Adults in Community (464/450)	2.39	2.42	0.77	0.002	2.39	2.42	1.17	0.003	⌒
High Expectations: Adults in Community (465/450)	2.52	2.51	0.03	0.000	2.52	2.52	0.13	0.000	⌒
Meaningful Participation: In the Community (462/447)	1.79	1.85	2.68	0.001	1.78	1.85	1.56	0.004	⌒
Caring Relationships: Peers (462/447)	2.21	2.22	0.11	0.000	2.20	2.22	0.28	0.001	⌒
High Expectations: Pro-social peers (466/451)	2.14	2.12	0.82	0.002	2.14	2.11	0.53	0.001	⌒

[a]Model adjusted for biological sex, grade, ethnicity, and English as a primary language at home.
[b]Exact statistic provided
[c]Partial eta squared where effects are: small = .01, medium = .06, large = .14 or larger.
*$p \leq .05$.

Summary of SFS Survey Findings

In FY14, the findings suggest there were no significant changes in overall ATOD use across genders and grades. There were decreasing trends in self-reported use of alcohol and binge drinking among the students. It is notable that prevalence rates of current marijuana use at pre-test for boys and girls were similar and were higher than any other types of substance. At post-

test use among boys and girls moved in opposite directions, that is, boy students decreased marijuana use at post-test and girl student increased at post-test though non-significantly. Reported prescription drug misuse was generally low among both boys and girls. Taking prescription pain-killers to get high was a new question added in FY14. Both boys and girls reported increased use at post-test but changes were minimal. As we have observed in previous years, alcohol use among Hispanic students tended to be higher than other substances while marijuana use stood out as the most prevalent substance of use among Native Americans. When we compared SFS pre and post-test trajectories in substance use with YRRS estimates, overall SFS respondents reported less use than their YRRS counterparts and their increases in use over time were typically less steep. This suggests that the prevention programs may be helping to delay initiation of use and/or decreasing use among program participants.

In addition, there were no significant changes in measures of perceived risk of harm or attitudes associated with ATOD use over time. Regardless of race/ethnicity, respondents' attitudes toward alcohol use generally became more accepting over time. These changes were relatively small overall and not significant.

In FY14, we have included 7 new questions regarding substance use and availability on school property during this school year. The rate of marijuana use on school property was the highest among all types of substances. Illegal drugs on campus were more available than prescription drugs as well.

Across the board, when we examined only those SFS students who reported ATOD use at pre-test, we found that their reported use at post-test decreased. This at least suggests that the prevention programs implemented may be helpful in reducing use. However, without a strong comparison group, we are unable to say that it was solely the effect of the program. As in most surveys of this nature, there is a strong tendency for respondents to give the socially desirable response. This tendency may be even stronger among youth in prevention programs. Attachment to the prevention providers at post-test may well influence how students respond at post-test in particular.

The use of the YRRS data is helpful in seeing how a convenience sample of SFS students compares to a representative sample of their peers. That said, it does not allow for pre- and post-intervention comparisons in the same way a true control group might. We have attempted to replicate the equivalent of a pre- & post-intervention scenario with the YRRS data but it is only a proxy and therefore should be considered with care.