



SPIRIT

FOURTH YEAR REPORT

PREPARED FOR
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DIVISION OF ALCOHOL AND DRUG ABUSE

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The Missouri Division of Alcohol and Drug Abuse is pleased to present this Fourth Year Report of the Missouri School-based Substance Abuse Prevention Intervention Resources Initiative (SPIRIT).

The report, prepared by the Missouri Institute of Mental Health (MIMH), was made possible through the Division's partnership with five school districts: Knox County, Hickman Mills (Kansas City), Jennings (St. Louis County), New Madrid County, and Carthage (Jasper County).

SPIRIT objectives are to delay onset and decrease use of substances, improve overall school performance, and reduce incidents of violence. The report shows positive outcomes and suggests future enhancements. I hope it gives you a deeper understanding of this exciting project.



Michael Couty, Director
Division of Alcohol and Drug Abuse

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
CHAPTER 1: INTRODUCTION	5
I. SPIRIT PROGRAMS	
II. METHODOLOGY	
III. ENROLLMENT IN THE SPIRIT PROGRAM	
CHAPTER 2: PROGRAM DESCRIPTIONS AND FIDELITY	11
I. PEACEBUILDERS	
II. POSITIVE ACTION	
III. SECOND STEP	
IV. LIFE SKILLS TRAINING	
V. RECONNECTING YOUTH	
CHAPTER 3: PRINCIPALS' AND PROVIDERS' PERCEPTIONS OF PROGRAM EFFECTIVENESS.....	17
I. PRINCIPAL INTERVIEWS	
II. PROVIDER INTERVIEWS	
CHAPTER 4: YOUTH PERCEPTION OF PROGRAM EFFECTIVENESS.....	23
I. DEMOGRAPHICS	
II. PERCEPTION OF PROGRAM EFFECTIVENESS	
CHAPTER 5: KINDERGARTEN - 3RD GRADE OUTCOMES.....	35
I. DEMOGRAPHICS	
II. RISK AND PROTECTIVE FACTORS	
CHAPTER 6: 4TH - 5TH GRADE OUTCOMES	40
I. DEMOGRAPHICS	
II. SUBSTANCE USE	
III. RISK AND PROTECTIVE FACTORS	
CHAPTER 7: 6TH - 12TH GRADE OUTCOMES.....	52
I. DEMOGRAPHICS	
II. SUBSTANCE USE	
III. RISK AND PROTECTIVE FACTORS	
INDEX OF TABLES AND FIGURES	75

EXECUTIVE SUMMARY

Over the past four years, more than 5,500 children and youth have participated in the SPIRIT school-based substance abuse prevention program. Five school districts are currently being served: Carthage, Hickman Mills, Jennings, Knox and New Madrid school districts. The program offers a variety of evidence-based prevention programs selected by the districts including PeaceBuilders, Positive Action, Life Skills Training, Reconnecting Youth, and Second Step. The evaluation was performed by the Missouri Institute of Mental Health (MIMH).

This report provides fourth year outcomes of the main goals of the project, which are to 1) reduce violence and aggressive behaviors, 2) improve overall school performance, 3) decrease the use of alcohol, tobacco, and other drugs, and 4) delay the onset of substance use. Data were collected through

- Teacher reports of student behavior (K-3rd grade), which measured aggression and social competence, known risk and protective factors that are related to youth substance use
- Youth self-report (4th grade and up), which measured risk and protective factors related to substance use (all grades) in the home, school and community, and youth substance use and related questions (6th grade and up)
- Youth survey of satisfaction and perceptions of program impact were administered to youth across all grade levels
- In-person interviews with service providers exploring issues related to program design and implementation
- In-person interviews with school principals to obtain impressions of SPIRIT's impact on the school
- Observation of program activities
- Reports of program fidelity, which quantified the amount of time and type of intervention provided to participating students
- Document review, particularly review of provider monthly reports, and
- School-level data for school performance data, including behavior (all grades), and grades and attendance (middle and high school).

All instruments with the exception of the satisfaction survey were administered all four years of the project. The satisfaction instrument was added in 2005.

Because the SPIRIT proposal was re-bid at the beginning of the fourth year and not funded until October 1, 2005, the rate of student participation in the evaluation was somewhat compromised. Nonetheless, analysis this year included pre/post differences between Fall 2005 and Spring 2006 (Time 7 to Time 8 analysis), and differences for those who had a baseline at any time during SPIRIT implementation and a post test during 2002-2006. Key findings were as follows:¹

- Principals and providers were enthusiastic about the SPIRIT program and felt that it had made a positive impact upon the school environment and the students being served. Most believed that problems with drugs and alcohol were minimal, but that bullying and relational violence were continuing problems that were helped by the SPIRIT program.
- Many principals and providers felt that the lack of parental involvement in some children's lives was a major cause of the negative behaviors they were seeing in school and that SPIRIT could expand to include more parental involvement.
- Student satisfaction remained very high. Consistently, elementary school students were more satisfied than middle school students. Students participating in Reconnecting Youth were satisfied with the program.
- Students were more positive in elementary school than middle school, which could have been due to differences in programming or the general trend for students to be come less satisfied in middle school than elementary school. Thirty percent of middle school youth participating in Positive Action and 27% of those participating in Life Skills Training did not like the program.
- Encouragingly, middle school students in Year 4 thought the program had a more positive effect on their ability to "say no" to their peers than those in Year 3. While in Year 3 middle schoolers were much less likely than elementary school students to be able to "say no", in Year 4 middle school students perceived the program to affect their resistance skills as much as younger students did.
- During observations of PeaceBuilder lessons at both sites utilizing this program, of Second Step at elementary and middle school levels and of Life Skills Training at one site, children and youth were interactively involved and appeared to be engaged.

¹ The fidelity of Reconnecting Youth, Life Skills Training, Positive Action, and Second Step was compromised because of design modifications at specific schools, although program changes at some sites were more dramatic than others. Some changes were the result of scheduling restrictions due to full school schedules; others were the result of limitations of the program itself (e.g., age-appropriateness). These factors are extremely important in the interpretation of program outcomes. Programs with higher fidelity, in theory, should show more positive outcomes because they are being implemented as intended. Given that four of five programs had significant changes, we might anticipate less impact on proposed outcomes.

- There were statistically significant improvements in social competence among female students in K-3. Male students, who were significantly lower in social competence than females, remained consistent over time.
- In K-3, the incidence of both proactive and reactive aggression over the course of the year remained low, but male students were significantly more likely than female students to participate in this behavior.
- A small minority of students reported that they had used any drugs in their lifetime. Students, who did use, chose cigarettes, alcohol, inhalants and marijuana over other drugs.
- There were modest increases in the number of users of cigarettes, alcohol, and marijuana over time for youth in some grade levels, though the rates of use for SPIRIT youth are generally lower than those of other youth in Missouri. Much of the increase in the number of users is probably due to maturational development. As youth move into adolescence, many youth become more independent from their parents, look more to peers for support, and begin to experiment with drugs such as cigarettes, alcohol, and marijuana.
- The majority of those who did smoke cigarettes reported that they smoked less than one cigarette per day. Furthermore, the increases do not appear to occur at the same rate as those in the general population of students in these age ranges.
- More students reported using inhalants within the past 30-days than any other drug. There was an increase in inhalant use in the fourth year, though again, averages were lower than for those of the general population.
- When all youth in SPIRIT from Year 1 to Year 4 were pooled together, there was a significant increase in 30-day use of other illegal drugs. The largest increase was seen for 30-day use of prescription medication (an additional 19 students).
- Younger students in last year's sample perceived cigarettes to be a greater risk to their health by the end of the school year than they did at the beginning. This finding was not observed in the pooled analysis.
- Older students' attitudes toward drug use remained consistent. The majority of students thought that using any drug was "wrong" or "very wrong."
- Students also reported an increase in the risk of using ecstasy, methamphetamine, and LSD over time. Older students in the baseline/post sample, however, perceived that cigarettes, alcohol, and marijuana posed less risk to their health Spring 2005 than Fall 2005. These latter substances are also those that students reported using in higher frequency.

- The majority of students thought that participating in antisocial or aggressive activities was either "wrong" or "very wrong," but nearly half of the children admitted to participating in antisocial or aggressive behaviors. Depending on grade level, the most frequent behaviors reported were being pushed, shoving, harassing or bullying another student, spreading rumors, and fighting with another student. Males reported participating in antisocial or aggressive activities more often than females. Students' attitudes toward these types of behavior remained consistent over time. However, younger students admitted to spreading more rumors about other students at the end of Year 4 compared to the beginning of the year.
- Risk and protective factors did not change over time. Given that a majority of youth scored very highly on the scale, this finding suggests that SPIRIT is preventing the increase in risk and decrease in protection that naturally evolves as children move into adolescence. Similar to other large studies of risk and protection, males tended to have more risk factors and fewer protective factors than females.
- Females had a higher GPA than males and many students' GPAs increased from Year 3 to Year 4. Absences decreased over time depending on grade level.

In sum, schools and students are satisfied with SPIRIT and the program appears to be making some inroads into substance use and related risk and protective factors. Use rates for cigarettes and alcohol use are lower than those of the general population of Missouri youth. One area of concern is prescription drug use, which rose significantly last year. Overall, these findings suggest that SPIRIT continues to be a positive substance abuse prevention program for Missouri's youth.

CHAPTER ONE INTRODUCTION

Substance use is one of the nation's most pervasive, costly, and challenging health and social problems. The use of alcohol and drugs has resulted in tens of thousands of deaths annually with the estimated cost of alcohol and drug abuse over \$200 billion dollars annually for lost earnings alone [1]. Additionally, the use, and particularly the early use, of tobacco, alcohol, marijuana, and other illicit drugs is intricately entwined with serious personal and social problems, including school failure, crime, family violence and abuse. More and more research is showing that early use of substances, before age 14, leads to addiction in a majority of individuals, so prevention efforts are important, particularly in the lower grades. It is estimated that each prevention dollar saves as much as fifteen dollars in societal costs [2].

Over the past 30 years, prevention researchers have made significant strides in better understanding what factors have an effect on adolescent substance use. Research has revealed that factors such as aggression, self-control, low social competence, low school and family bonding, poor parental supervision, poor social skills, lack of adult support, and low academic achievement are related to adolescent substance use. (Sale, Sambrano, Springer & Turner, 2003; Kumpfer & Turner, 1990; Hawkins, Catalano, & Miller, 1992). Consequently, prevention programs have been developed to bolster these factors in the individual, family, school and community domains which have been shown to help adolescents resist substance use. In previous years, government agencies have reviewed the evaluations of these programs and designated the ones demonstrating the strongest prevention effects as model programs (see www.samhsa.gov, <http://ojjdp.ncjrs.org>, and www.ed.gov). In 2007, there will be a review of all programs seeking National Registry of Evidence-based Programs and Practices (NREPP) recognition. It is believed that if these programs are implemented with fidelity, strong prevention effects can be produced.

The Department of Mental Health (DMH) Division of Alcohol and Drug Abuse (ADA) in Missouri has responded to the challenge of adolescent substance abuse with an innovative program called SPIRIT. The **S**chool-based **P**revention **I**ntervention and **R**esources **I**niTiative (SPIRIT) is a multi-site substance abuse and violence prevention program initiated in five selected Missouri school districts. SPIRIT was in the fourth year of implementation in FY2006. **SPIRIT** proposes to delay onset of and decrease substance use, improve overall school performance, and reduce incidents of violence. To achieve these goals, evidence-based programming is taught in grades K-8 (grade 9 in one district and selected 10th-12th grade students in three districts). Additionally, each school district is paired with a prevention agency that provides technical assistance, or, in some instances, actually teaches the prevention program. The Missouri Institute of Mental Health's (MIMH) Child and Family Mental Health Services Research Division conducted the project evaluation.

I. SPIRIT PROGRAMS

Prevention programs were chosen by each district from a list of best practices recognized by federal agencies including the Department of Education, the OJJDP, and the Center for Substance Abuse Prevention (CSAP). The five school districts, involved in the SPIRIT project are Knox County R-I, Hickman Mills C-I, New Madrid Co. R-I, Carthage R-IX, and Jennings. These districts, in both urban and rural areas, are representative of those throughout Missouri and are located in each of the ADA regions. Programs selected by the districts are PeaceBuilders (www.peacebuilders.com); Positive Action (www.positiveaction.net); Life Skills Training (www.lifeskillstraining.com); Reconnecting Youth (<http://modelprograms.samhsa.gov/pdfs/FactSheets/Reconnecting.pdf>); and Second Step (www.cfchildren.org). Although the methods, components, targeted behaviors, and comprehensiveness of the programs differ, the goals of all of the selected model intervention programs are the same: to prevent, delay and reduce substance use, improve school performance (i.e., attendance and grades), and reduce incidents of violence. Two of the selected programs, PeaceBuilders and Positive Action, target the entire school community and, in addition to affecting change in the individual student, seek to change the climate in the larger domain. Life Skills Training, Reconnecting Youth, and Second Step are oriented toward improving the behaviors of youth; Reconnecting Youth is an intensive intervention that specifically targets youth who are already demonstrating behavioral or academic problems. Specific age groups or grade levels were not mandated to receive services, therefore some schools offer programming to all grades, and some restrict programming to selected grades.

This current report contains an evaluation of outcomes for the fourth year of the SPIRIT project. The results represent the four main goals of the project: 1) to reduce violence and aggressive behaviors; 2) to improve overall school performance; 3) to decrease the use of alcohol, tobacco, and other drugs (ATODs); and 4) to delay the onset of ATOD use. Evaluation methods include a combination of self-report questionnaires, interviews, and school performance data.

II. METHODOLOGY

Data were gathered on program implementation, student satisfaction with programs, principal perceptions of efficacy, and student change in risk, protection, and substance use over time. Information on program implementation was gathered through monthly reports, fidelity reports, and site visits. Information about program satisfaction and efficacy was gathered from year-end satisfaction surveys and interviews with providers and principals. Perceptions of change in risk, protection and substance use were gathered from teacher observations (K-3rd grade) and pre/post student self-report questionnaires (4th – 12th grade) administered at the beginning and end of each school year. All questionnaires were uniquely coded so that MIMH could collect data on students' responses during the entire time they remained in the evaluation. The SPIRIT initiative was originally approved for a three year period and students were consented into the study for that period. When the program was extended, all students had to be re-consented and a considerable number were lost to the long-term study. Table 1 displays the methods use to collect the various evaluation data.

Table 1. Evaluation Outcomes and Methods.

<i>Outcome</i>	<i>Method</i>
Program implementation	Monthly reports, site visits, fidelity forms
Principal perceptions of efficacy	Interviews
Student satisfaction	Self-report satisfaction survey
Change in school performance	School records (grades, attendance, disciplinary actions)
Change in risk factors	K-3 rd grade: Teacher observation, 4 th -12 th grade: Self-report student survey
Change in protective factors	K-3 rd grade: Teacher observation, 4 th -12 th grade: Self-report student survey
Change in substance use and substance use attitudes	4 th -12 th grade: Self-report student survey

Each questionnaire measured factors related to and appropriate for students’ grade and maturity level. For example:

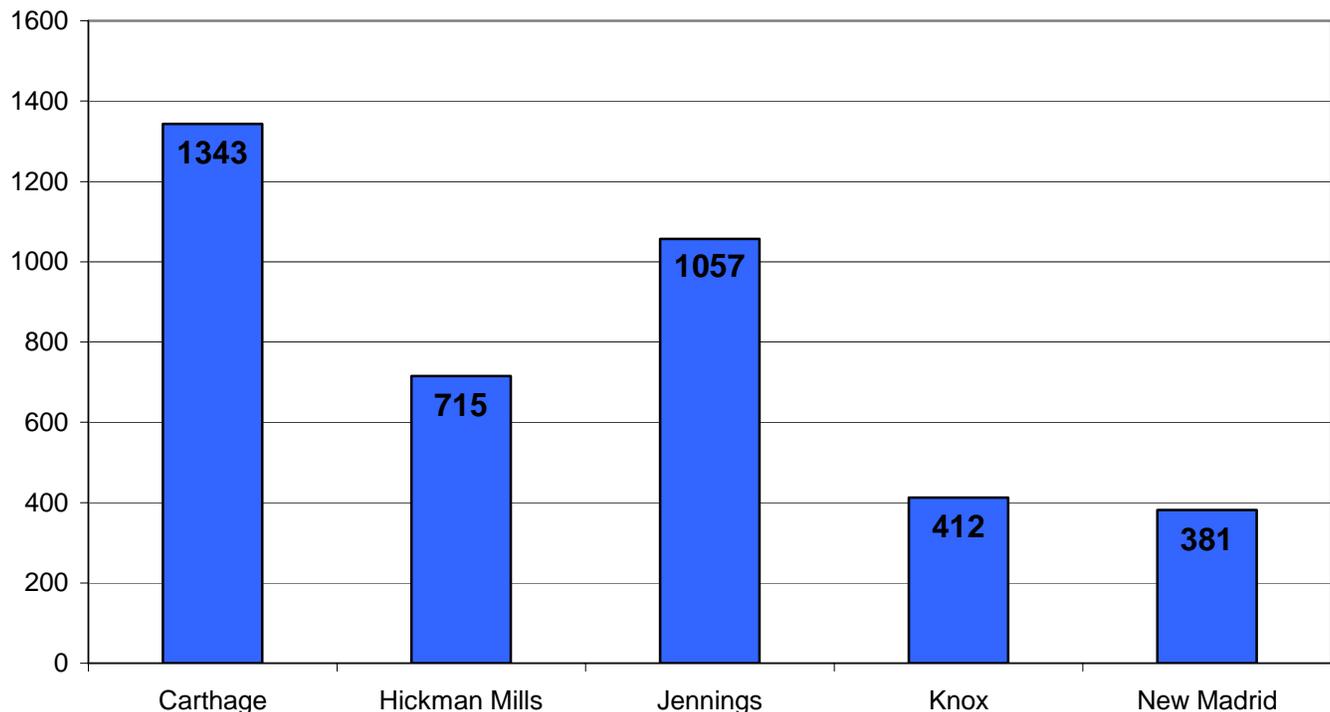
- For students in Kindergarten through 3rd grade, teachers completed the Teacher Observation Checklist which measures aggression (proactive and reactive) and social competence (emotional regulation and pro-social norms). Substance use was not assessed. School performance measures included attendance and disciplinary incidents. Grade information was not collected for the younger students because most schools do not record grade point averages for elementary school students.
- In Fourth and Fifth grades, students were evaluated using the Healthy Kids Survey, a self-report, modified version of the California Healthy Kids Survey (CHKS). This instrument was designed to measure risk and resilience factors within a student’s school, home, community, and peer environments. The Healthy Kids Survey also assesses a number of internal assets such as empathy and problem solving. In addition, there are a limited number of ATOD use questions included that provide information about the prevalence of use. School performance measures regarding attendance and disciplinary incidents were collected. Due to the lack of student grade point averages at the elementary school level, grade information was not collected for fourth and fifth graders.
- In Sixth through 12th grade students completed the SPIRIT survey, a self-report, modified version of the 2002 Missouri Student Survey. The SPIRIT survey measures risk and protective factors within the individual, peer, family, and school domains. It also contains extensive measures of current and lifetime ATOD use. School performance data were collected for students in the sixth through 12th grades for the majority of the school districts. However, due to lack of correspondence between grading scales, it was not possible for some grade information to be included in subsequent analyses.

- Kindergarten through twelfth grade students completed the Satisfaction Survey, an instrument assessing perceptions of program effectiveness. To account for differences in reading level and increase the understandability of the instrument, two separate questionnaires were designed: one for students in the kindergarten through third grades (8 items); and one for fourth through twelfth grades (10 items).
- Prevention program teachers were asked to provide fidelity forms to verify that the programs were implemented accurately according to prescribed methods. Fidelity forms included information on the content of the program being taught, changes made to the lesson, the number of students taught, and the duration of each session.
- Principals at participating schools and providers at all sites were interviewed. These interviews were developed to gain knowledge of attitudes toward SPIRIT in general, program effectiveness, and the quality of the relationship between districts and providers. Interviewees were able to provide perspectives on the strengths and weaknesses in each of these areas as well as present suggestions for program improvement. In addition, a visit was conducted at each site.

III. ENROLLMENT IN THE SPIRIT PROGRAM

Over the past four years, more than 5,500 children and youth have participated in the program, with the largest number of participants in Year 4 coming from Jennings (St. Louis area) and Carthage, Missouri. In Year 4, enrolled was approximately 4,000 (see Figure 1).

Figure 1. Total Enrollment in SPIRIT in Year 4 by District (n=3908).



The three subsequent charts present the number of children and youth participating in both the SPIRIT program and the evaluation. The only high school program approved for use in 2005-2006 was Reconnecting Youth (RY), a selective program with a small number of students participating. Participation in the evaluation was contingent upon obtaining consent from parents; consent rate varied considerably by district. The greatest number of youth participating in the evaluation was in elementary school, followed by middle, and then high school. The number of students consented into the evaluation by grade level and district are shown in Figure 2. Figure 3 represents the number of students enrolled in SPIRIT vs. the number of students consented into the evaluation. The number of participants displayed in Figures 4 represents those youth who completed a questionnaire at both Time 7 (Fall 2005) and Time 8 (Spring 2006) compared to the number of youth enrolled in SPIRIT and consented into the evaluation.

Figure 2. Total Number of Youth Consented into Evaluation by Grade Level and District, n = 1581.

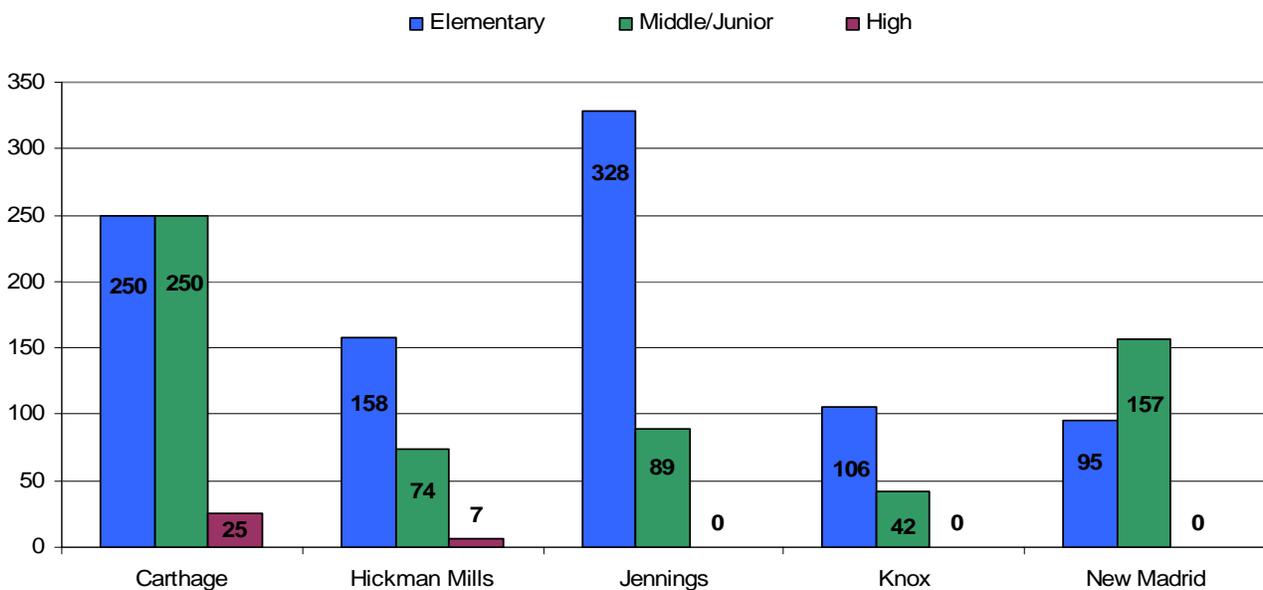


Figure 3. Total Number Youth Enrolled in SPIRIT vs. Number Consented in Evaluation in 2005-2006 by District n = 3908 vs. 1581.

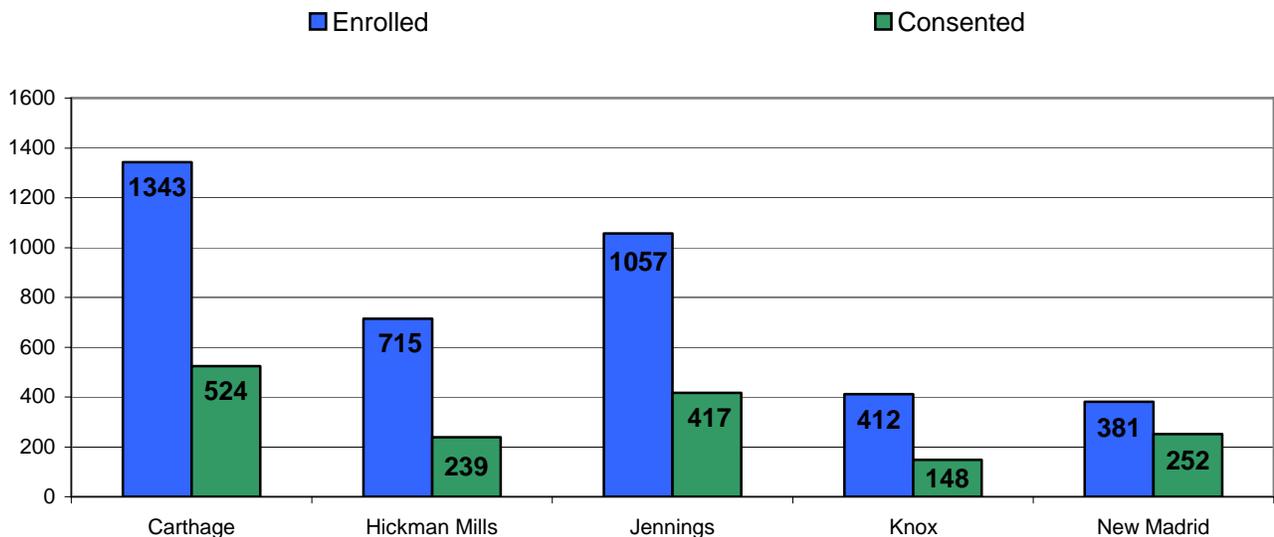
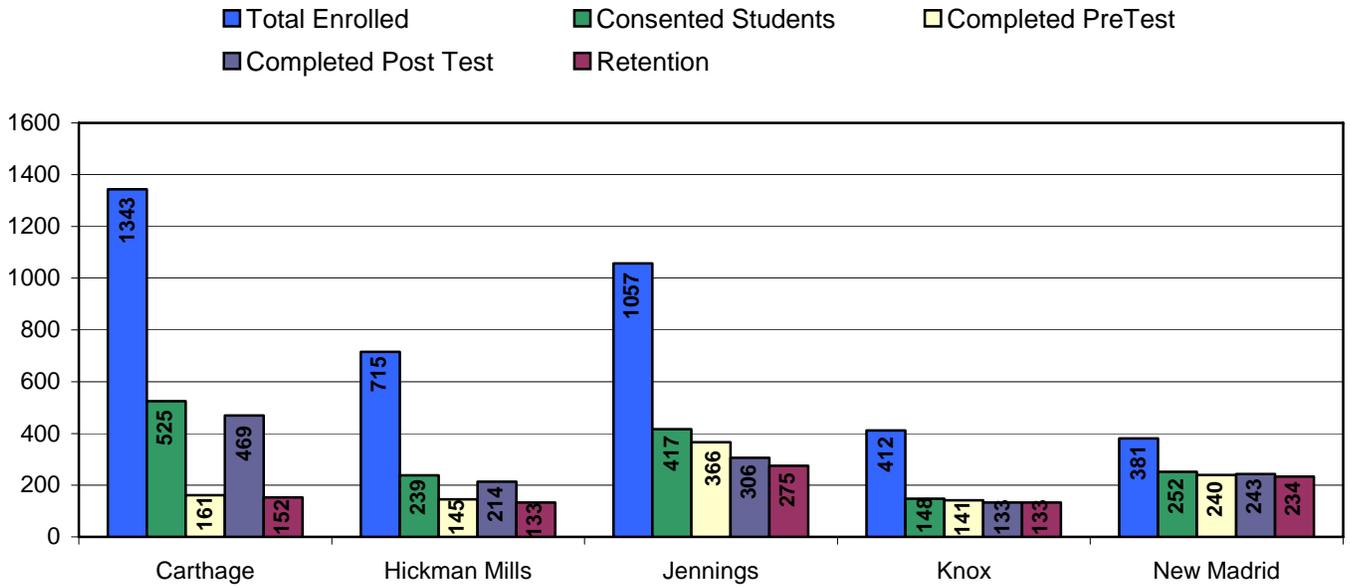


Figure 4. Percentage of Students Enrolled in SPIRIT, Consented into the Evaluation and Who Completed Pre and Post Test in 2005-2006 by District.



CHAPTER TWO PROGRAM DESCRIPTIONS AND FIDELITY

For the 2005-2006 school year, there were some changes in the overall prevention programming in one of the five districts. There were a total of five programs over the five districts. Districts with providers' assistance chose the interventions they wished to use. One middle school changed its programming from Positive Action to Second Step at the beginning of the second semester and Reconnecting Youth in modified form was added in the same district.

Without faithful adherence to the original model, programs can change so dramatically that they no longer represent the initial program upon which evidence was based and therefore no longer can stand as "evidence-based" programs. In this section, we document the degree to which the five school districts were able to implement their programs with fidelity.

Data on program implementation and fidelity were gathered from three sources; monthly reports from providers, site visits, and fidelity forms from providers and teachers.²

The quality of the lessons observed varied, in part because of the quality of the curriculum, the ability of the teacher, and the students' ages, each of which had an impact on maintaining student attention. Lessons taught in elementary schools were most successful in involving students in interactive learning. Both Positive Action and Second Step have lessons that are sequenced and clearly defined, whereas PeaceBuilders relies on integration of program principles into the regular curriculum and on a few specific lessons. In all of the elementary lessons observed students participated enthusiastically and teachers were clear in their presentations.

I. PEACEBUILDERS

PeaceBuilders is an elementary school violence prevention program that seeks to change school climate by reducing aggressive behaviors, increasing pro-social behaviors, and increasing academic performance. PeaceBuilders is designated as a "Best Practice" by the U.S. Center for Disease Control and Prevention and a "Promising Program" by the U.S. Department of Education and the U.S. Substance Abuse and Mental Health Services Administration (SAMHSA). Previous studies reveal that children who have received PeaceBuilders had fewer playground fights, fewer referrals to the principal's office and suspensions, and decreases in visits to the school nurse due to the direct result of a fight.

² Reporting of dosage data did not occur uniformly across the districts. Jennings and Carthage reported 100% of their effort and New Madrid had 100% reporting at the elementary level. At Knox, while there was dosage data for most classes, a few did not report at all. Dosage data from Hickman Mills were also incomplete. Because of this, these data are considered unreliable for many grades.

PeaceBuilders was implemented at two SPIRIT sites at the elementary level. Because the program curriculum and length are less structured than others, implementation fidelity is difficult to assess; nonetheless, the following differences in implementation were noted at the two districts:

- One site uses classroom teachers to implement the program; the other uses provider prevention specialists.
- Where teachers implement the curriculum, most of the program is conducted by integrating program themes throughout the regular school curriculum. In the other site, prevention specialists implement the curriculum with lessons they develop.
- PeaceBuilders lessons were conducted one time per week for 15-30 minutes with daily reinforcement at one site, and one time per week or one time every other week for 20-30 minutes at the second site. Classroom teachers at the second site also reinforce the principles of the program on a daily basis and give out PeaceBuilder awards.
- Kindergarten, grade 1 and 4-6 grade lessons were modified at each site so that they were age-appropriate.
- At one site, a single presenter in each elementary school develops and teaches lessons on a common principle to students at all grade levels. At the second site, teachers independently select the most applicable principle to address specific classroom or playground issues or to stress a theme.
- Observations of PeaceBuilders and data from fidelity forms confirm the program was implemented with fidelity at both sites in that all five principles were reinforced with the students.

II. POSITIVE ACTION

Positive Action is a school climate program which aims to reduce risk factors and increase school bonding, improve student performance, and positively affect behaviors including substance use, violence, and disruption at all grade levels. It is described as both a substance abuse and violence prevention program. Only the elementary school curriculum has been the subject of published research and is designated an “Effective Program” by the U.S. Department of Education, as a “Promising Program” by Safe and Drug Free Schools, and as a “Model Program” by the Substance Abuse and Mental Health Services Administration (SAMHSA). Research shows that proper implementation of Positive Action results in improved academic achievement and self-concept, and reductions in violence, substance use, suspensions, and truancy.

Positive Action was originally implemented in four school districts at different grade levels. Currently, two districts use Positive Action at the elementary level and one district uses it in the middle school. Numerous modifications have been made across sites, including the following:

- At one site, the program was taught only every other week for 20-30 minutes, equaling ten lessons, which is half of the number considered necessary for fidelity and effectiveness.
- At one site, a provider implemented the program at the elementary level and classroom teachers implemented at the middle school level; at the other site, classroom teachers provide instruction.
- At one site, the district changed from Positive Action to Second Step at the middle school level in the second semester of 2005-2006.
- Some middle school teachers found that program materials were outdated. Materials were added to lessons to address drugs that staff perceived to be more problematic for students than those addressed in the curriculum, for instance, they taught about methamphetamines rather than crack cocaine.
- During 2005-2006, one middle school, which had presented Positive Action only one to two times per week, switched programs and implemented the new program to all grades on a more intense basis so that dosage was about four times greater.

III. SECOND STEP: A VIOLENCE PREVENTION CURRICULUM

Second Step is a school-based social skills program for students in pre-school through junior high. The program has been designated as an “Exemplary Program” by the U.S. Dept. of Education, a “model program” by SAMHSA, and a Select Program by the Collaborative for Academic, Social, and Emotional Learning (CASEL). A multicultural perspective is incorporated throughout the program and it has demonstrated effectiveness with students of diverse racial and ethnic backgrounds.

Currently, one district uses Second Step at the elementary level and one district uses it in the middle school.

- At the elementary site, lessons were provided once a week for 30 minutes each for a total of 10-12 weeks. Lessons were taught second semester only in 2005-2006 because of the delayed contract renewal, thus they were unable to complete the full recommended curriculum.
- The middle school site changed from Positive Action to Second Step at the beginning of Semester II and it was taught in health classes. All teachers were trained in use of the program. Implementation occurred daily for approximately four weeks which met dosage and fidelity recommendations.

IV. LIFE SKILLS TRAINING

Life Skills Training (LST) is a social skills program designed to teach general social, self-management, and drug resistance skills. Implementation of the full program occurs over three years with fifteen lessons the first year (three of these are optional, violence prevention lessons), ten lessons the second (including two optional violence lessons), and five lessons (plus four optional violence prevention lessons) in the third year. For maximum effect, all of the core lessons, approximately 45 minutes in length, should be taught in sequence. Some of the lessons take two class periods. Interactive teaching methods are recommended in order to achieve the full benefit of the program.

LST has been designated as a “Best Practice” by CSAP, an “Exemplary Program” by the U.S. Department of Education-Safe Schools and the OJJDP, and a “Model Program” by the National Institute of Drug Abuse. Research on Life Skills Training has shown reductions in cigarette smoking of up to 61% (www.lifeskillstraining.com).

LST is being implemented at three sites at the middle school level, but as recommended, at only one site.

- At one of the sites, it appeared that the program was being taught didactically as the teacher presented two and sometimes three lessons in a 40 minute session. The total dosage of the program was less than a third of the dosage that students would get if implemented with fidelity.
- At another site, LST was modified significantly. Less than 60% of the 1st year was taught, and these lessons were greatly modified with 40% of the lessons being taught with an anger management focus. Lessons from the first year curriculum were substituted for the second year curriculum. Furthermore, the third year of the curriculum could not be taught because the program was implemented at a two-year junior high school.

V. RECONNECTING YOUTH

Reconnecting Youth (RY) is a program for high school students who demonstrate signs of problem behaviors that put them at risk for school dropout. RY is designated as a CSAP “Best Practice” and as an “Effective Program” by the National Institute of Drug Abuse and OJJDP. The program has demonstrated significant effects on alcohol and other drug use, and on suicidal risk behaviors. It has also been shown to improve school performance, decrease deviant peer bonding, and increase self-esteem, personal control, and mood management among participants.

Reconnecting Youth was implemented in three districts during 2005-2006, with only one site providing the program with fidelity.

- At two of the districts, fidelity was compromised because group sizes were less than optimal and too few lessons per week were taught to conform to the model. Results of dosage data show that at the site with fidelity, students received 45 hours of RY instruction; at another site, dosage was only 20.7 hours, and at the third, only 4.7 hours.

SUMMARY

The tables below summarize program implementation and changes at the sites throughout the four years of the SPIRIT project. Table 3, specifically, documents changes made to the curricula in all programs this past year. The most frequent change was adding material to the lessons. PeaceBuilders and Positive Action were the programs in which teachers added material or made the curricula more age appropriate most frequently. The Positive Action curriculum was changed to increase its cultural appropriateness. “Other” changes include such things as doing an exercise orally as opposed to written or breaking up into small groups.

The fidelity of Reconnecting Youth, Life Skills Training, Positive Action, and Second Step was compromised because of design modifications, although changes at some sites were more dramatic than others. Some changes were the result of scheduling restrictions due to full school schedules; others were the result of limitations of the program itself (e.g., age-appropriateness). These factors are extremely important in the interpretation of program outcomes. Programs with higher fidelity, in theory, should show more positive outcomes because they are being implemented as intended. Given that four of five programs had significant changes, we might anticipate less impact on proposed outcomes.

Table 2. Missouri SPIRIT programs provided by school and grade level.

	<i>Carthage</i>				<i>Hickman Mills</i>				<i>Jennings</i>				<i>Knox</i>				<i>New Madrid</i>							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
K	PB				PA				PA	SS				PB				PA						
1 st																								
2 nd																								
3 rd																								
4 th																								
5 th																								
6 th					PA			PA																
7 th	LST								LST				LST				PA							
8 th																								
9 th	LST/R ^Y ⁴				PA												PA							
10 ^h	R ^Y ⁸												PA ⁶ /R ^Y ⁷											
11 ^h																								
12 ^h																								

PB = PeaceBuilders
LST = Life Skills Training

PA = Positive Action
RY = Reconnecting Youth

SS = Second Step
TG = Too Good for Drugs

³ PA taught in semester I; SS taught in semester II.

⁴ RY only offered to 9th grade students in year 2 in the Carthage school district.

⁵ In year 1, RY was offered at the alternative school only in Jennings school district.

⁶ In years 1 through 3, PA was offered to high school students in Knox school district.

⁷ In years 2 through 3, RY was offered at the alternative school only in Knox school district.

⁸ In year 1, only three groups of RY were taught in to the 9th - 12th grades at Carthage High School and the alternative school. In years 2 through 4, 6 groups were offered to 10th-12th grades.

Table 3. Fidelity documentation of changes to curricula during Year 4.

	<i>Frequency</i>	<i>Percent</i>
Any change	1188	39.7
Shortened lesson	112	3.7
Lengthened lesson	110	3.7
Combined lessons	231	7.7
Added material	402	13.4
Age appropriateness	428	14.3
Cultural appropriateness	74	2.5
Other	296	9.9

Table 4. Summary of fidelity and adaptation issues in SPIRIT programs.

<i>Program</i>	<i>Program as Planned</i>	<i>Program as Implemented</i>
Reconnecting Youth	<ul style="list-style-type: none"> • Daily implementation • Small heterogeneous groups 	<ul style="list-style-type: none"> • Implemented one hour per week • Group size too small and homogeneous
PeaceBuilders	<ul style="list-style-type: none"> • Some specific lessons • Loosely defined lessons on program principles 	<ul style="list-style-type: none"> • Same lessons taught to all students at school vs. different lessons to all students • Supplied lessons were altered for K-1st grade and for grades 4-6 to be more age-appropriate
Second Step	<ul style="list-style-type: none"> • 12-15 lessons at elementary level • 15-20 lessons at middle school level 	<ul style="list-style-type: none"> • 10-12 lessons taught at elementary level • Taught daily for four weeks at middle school level
Life Skills Training	<ul style="list-style-type: none"> • Three year program • Lessons to be taught interactively 	<ul style="list-style-type: none"> • Two year program at one site • Fewer than 60% of program components taught at one school; curriculum modified to concentrate on specific curriculum components • Lessons taught didactically
Positive Action	<ul style="list-style-type: none"> • Daily 15 minutes intended for elementary • Two-three times per week for 30-45 minutes to middle school/junior high students • School climate program to be taught to all students 	<ul style="list-style-type: none"> • Implemented every two weeks for 20-30 minutes • Significant addition of positive enrichment activities and small special groups • Implemented once or twice per week to a limited number of middle school students

CHAPTER THREE

PRINCIPALS' AND PROVIDERS' PERCEPTIONS OF PROGRAM EFFECTIVENESS

To gain impressions of program satisfaction and efficacy, the evaluation team gathered information from key professionals involved in SPIRIT. Interviews were held with principals of each participating school and prevention providers.

I. PRINCIPAL INTERVIEWS

Six elementary, four middle school, two high school principals and one superintendent were interviewed to determine the level of administrative support and to gain their perspective on SPIRIT. Principals of all participating schools were represented except for the middle school principal in Carthage.

While all principals expressed support for SPIRIT, their level of involvement varied. Elementary principals tended to be more directly involved than those in middle school. This may have resulted because of the type of interventions being offered in the elementary schools, which emphasized school climate. One interview was with the principal at an alternative high school where Reconnecting Youth is taught. She was very involved as it is a small, intimate school and Reconnecting Youth makes an impact on school climate.

PROGRAM SATISFACTION

All principals expressed appreciation for the program, and in particular, valued being linked with a provider agency. One principal said, *“I’d hate to think who would be available to them [students] if it wasn’t for SPIRIT.”* A superintendent said, *“The program has a lot of preventative stuff, so you can’t prove what a child doesn’t do. If you took all the programming away, you would notice the difference.”* Another admitted some ignorance, but was supportive anyway, saying *“I’m not sure I have a good grasp of what the program is, but the people taking care of it have an excellent grasp.”*

Principals at the elementary school level, in particular, valued the flexibility allowed by having a choice between classroom teachers or the provider agency implementing the program. In three districts, providers implement the program thereby reducing the burden on teachers.

Principals were quite positive about the way things worked this year, except for confusion caused by the funding delay, difficulties with the process of reconsenting students, and scheduling the late fall surveys.

Principals in schools with Positive Action and PeaceBuilders all spoke about the beneficial influence of having programs that provided everyone with a “common language.” In the PeaceBuilder schools, students begin the day by reciting the PeaceBuilder pledge. All persons are involved; even the custodians and bus drivers have become involved in reinforcing the program.

The principals in the three districts using Life Skills Training believed the program was a good choice although they do not believe that it affects the school climate. Instead, a principal in one school where providers delivered the program believed that it was the providers’ involvement that affected school climate. Two districts used Positive Action with mixed results. Teachers in the district where it has worked well implemented the program once every two weeks. In the other district, a change was made to Second Step at the beginning of Semester II.

Reconnecting Youth was the only high school program used in 2005-2006. Reconnecting Youth was taught as a semester long class in one of the districts and worked out exceptionally well. The principal believed that

“Kids are learning to make better choices. Did it work every time? No. But, a majority of the time, yes. They have a conscience now about things they’ve done wrong. They still do it, but they feel bad about it after. They have been introduced to a world where there is some morality.”

She stated that

”This program has changed the lives of kids—visibly we can see it.”

Because of the recognition that students needed more than one semester to change bad habits and to turn their lives around, the provider assisted in developing a follow-up program, entitled Youth Reconnected, for students who wanted to continue their progress.

In the other two districts, RY was not implemented with fidelity because insufficient time was allotted for implementation. Both districts are working to have the program offered for credit as a part of the curriculum, and the principals are supportive of this effort.

■ **SCHOOL/PROVIDER RELATIONSHIP.**

Providers were appreciated in all districts. One principal said, commenting on the strength of the provider specialist, *“The program is only as good as the facilitator.”* Many of the principals commented on the rapport the providers had established with children and youth, particularly those who were hard to reach. There were several ways that providers took it upon themselves to help schools provide additional needs for students including creating one-on-one work and small group discussions at both the elementary and middle school levels and hiring a counselor to work with those in elementary and high school. Principals mentioned the small group work that the providers have done. In one district, the principal noted that the students had been asked to draw pictures of anger. All of the student pictures included violence. It was surprising to them to learn that it was possible to be angry without resorting to violence. That principal credited the small group work for a change in the school climate.

A principal noted the extra work of one provider:

“She does everything on her own time. She took the kids pictures who couldn’t afford to have senior pictures taken. She takes them to conferences. They need someone to model the character that is not modeled at home.”

Another commented about the mutuality of the relationship;

“I haven’t ever asked for anything from the providers that they didn’t bend over backwards to accomplish, or they haven’t asked for anything where I haven’t done the same for them.”

One principal particularly commented on how helpful it is to have the provider implementing:

“Right now there’s a lot of pressure on teachers to perform. Having an outside agency is not only allowing a person to be there for support, but also that person has time for planning.”

Schools have rarely called on providers for screening and referral even though these services are available. Principals cited several reasons for this, the most prevalent of which was that schools had been working with other agencies prior to SPIRIT and continued to do so. Additionally, their need for drug/alcohol screening has been low to non-existent. Principals in some districts have begun to refer individual students who need specific assistance, primarily non-drug related counseling, to SPIRIT providers, helping to relieve school counselors.

“[The provider] is a resource for the teachers. They trust her and they see her as someone to go to for intervention.”

In one district, the provider agency has hired a counselor to work one-on-one with students who need this service.

TEACHER ATTITUDES AND TRAINING

Principals said that teachers’ responses to prevention programming were, for the most part, positive. In the two districts where classroom teachers are supposed to implement the program, there are some teachers who do not teach it at all or very rarely do so, but they are in the minority. In the other districts, teachers sit in on the lessons as they are taught by the providers, and they reinforce the program throughout the day: *“The teachers definitely reinforce the program in the classroom. It’s part of our day and at our monthly assembly, we recognize whole groups of students.”*

Principals stated professional development has focused on MAP skills and curriculum issues in most districts. In one district, the providers have given in-service programs to the teachers on sexual harassment and bullying. In another district, the principal at the middle school acknowledged that it would be helpful to have some teacher programming given by the providers on violence prevention. Most of the principals mentioned that bullying was a problem at their schools.

■ **BEHAVIORAL CHANGES IN STUDENTS**

Most principals attributed positive changes to the program: less physical fighting, a more respectful atmosphere, more positive attitudes among students and, at the elementary level, a common language that helped to resolve problems. One elementary principal said that referrals to the office for misbehavior had decreased considerably. One example of a behavioral change was in this comment;

“One of the students said that she had used some PeaceBuilder strategies to get along with a student and the problem had been resolved. Not that she won’t make a mistake ever again, but she now has the PeaceBuilder skills.”

■ **PREVALENT OBSTACLES**

Three principals thought parents’ behavior and attitudes were one of the problems affecting student behavior thus inhibiting program success. They felt that parents did not teach their children to be accountable and attitudes at home impacted student behavior in school. All principals wished that parents were more involved and that there was a parent component to the programs. Parent involvement was greater at the elementary level because of special parent programs like Donuts for Dads and Muffins for Moms, involvement of the PTO and parent newsletters. Principals in the middle and high schools were not even certain whether most parents had more than a vague awareness of SPIRIT.

Other problems cited by the principals reflected student behavior and attitudes, including physical and relational aggression, drug use, lack of acceptance of individual differences and rules, attendance, cursing and other disrespectful behavior. Lack of social skills for relationship building and conflict resolution was also mentioned. Low academic performance and lack of motivation was mentioned by another principal.

■ **SUGGESTED IMPROVEMENTS**

Most principals were quite satisfied with SPIRIT and did not have suggestions for improvements other than those mentioned above.

One principal said,

“I wouldn’t make any changes to SPIRIT. The providers are excellent about anything we request. They make presentations, help with lessons, help with activity nights, and they organize Muffins for Moms, Donuts for Dads, and the principal referral lunch. We discuss kids we have problems with and determine solutions to those problems.”

Another said that if he didn’t have such a good provider, he might have suggestions for changes.

II. PROVIDER INTERVIEWS

Providers were interviewed to gain their perspective on working with the schools. In some districts such as Carthage, New Madrid and Jennings, providers taught prevention programs at the elementary level. In other districts, they serve as a resource and referral system.

■ *PROGRAM SATISFACTION*

Providers expressed satisfaction with all of the elementary programs but were dissatisfied with Positive Action at the middle school in one district. They changed the program to Second Step at the start of the second semester, as noted above. LST was seen as a strong program by two of the districts, although one asked providers for supplemental materials to expand lessons and to address specific drugs that are used by students in the district. One provider said, *“You’ve got to make the students feel like they are going to use the lessons taught in LST in real life.”* Another said, *“I like the LST curriculum, but walking around, you don’t see it working. It seems to follow their health curriculum very quickly and easily. I don’t think kids even realize that it is LST.”*

In another district, providers described LST as not having “much meat.” In that district, there will be a program change in Year 5. Reconnecting Youth was considered to be highly effective, although in two districts only pieces of the program have been implemented. Both of those districts are working to implement RY as a for-credit class.

■ *SCHOOL/PROVIDER RELATIONSHIP*

While it took time to develop trust, all providers described their relationships with the districts as having improved over time as evidenced by increasing requests from teachers for assistance with special projects or lesson modeling.

■ *TRAINING*

Providers all believed that it was important to revitalize program training each year and to train new teachers. New teachers have been trained each year, but it was agreed that after four years, a refresher with all teachers would be important if it is possible to get the support of the schools.

■ *BEHAVIORAL CHANGES IN STUDENTS*

For those providers in three districts who have offices at schools, changes, such as fewer physical fights in the elementary school were noted. In one school, however, bullying was mentioned as a continuing problem. Students seem eager to report their “positive actions” and their PeaceBuilder behaviors to the providers. In middle schools, changes were less obvious and relational aggression continued to be a problem. One teacher said, *“I haven’t necessarily seen any behavioral changes that I could attribute to the program. But when kids are having problems, I can bring up Life Skills—here’s a situation where you can actually use this information.”* Reconnecting Youth was seen as effective for a majority of students, particularly in decreasing student drug use and with increasing motivation and positive behaviors. Students are also more able to develop trusting relationships with staff and with each other. One provider

said, *“Being here for the kids and making sure they have a positive adult to learn to work with is my most significant role. It’s amazing the transformations since I first met them. They are transforming from teenagers to adults.”*

■ **CHALLENGES**

Parental involvement was identified as the greatest need, but providers recognized how difficult it is to involve the parents of students who are in the most need. They have used creative means for involvement, with two of the districts holding special parent events and sending home periodic newsletters. One provider commented, *“There is not always a positive response from parents who are naïve to the fact that things can happen here because it is such a small school.”* Providers in some districts make themselves available at parent-teacher conferences.

■ **SUGGESTED IMPROVEMENTS**

More parental involvement was mentioned by several of the providers: *“I don’t think I would want anything to change. Well, I might put in a family/parental involvement component. Unless we get families to change, we aren’t doing any good.”* Another suggestion was for more teacher training. The need for more communication with the state was mentioned by one provider who wished that ADA would contact the schools in her district to support SPIRIT. She believed that press releases would be an effective way of highlighting SPIRIT. Providers in one district believed that the initiative ought to be directed by the schools rather than by the agencies in order to maximize resources.

SUMMARY

Principals and providers were enthusiastic about the SPIRIT program and felt that it had made a positive impact upon the school environment and upon the students being served. Most believed that problems with drugs and alcohol were minimal, but that bullying and relational violence were continuing problems with which SPIRIT helps.

A major area where all involved felt there was room for improvement was in the area of parent involvement. Many of the principals and providers felt that the lack of parental involvement in their children’s lives was a major cause of the negative behaviors they were seeing in school and that SPIRIT could expand programs to include more parental involvement. This finding concurs with the more recent prevention literature regarding best practices in drug and alcohol prevention. Prevention programming that focuses upon multiple domains and includes the individual, family and school has a better chance of making a long-term impact on a child’s life than an intervention that is individually or school-focused only. Future policy may want to consider expanding SPIRIT to include parental involvement activities on a more significant scale. Other recommendations include additional training for providers and teachers on the specific curricula, ADA working with the schools on a continuous basis to assure school district buy-in to allow adequate time for program implementation and evaluation in the school schedule.

CHAPTER FOUR YOUTH SATISFACTION AND PERCEPTION OF PROGRAM EFFECTIVENESS

Kindergarten through twelfth grade students completed the Satisfaction Survey, an instrument assessing their satisfaction and perceptions of program effectiveness. The following chapter summarizes the findings of youth who completed the survey in Spring 2006, and also assesses change in satisfaction and perceived program effect among a small group of youth who completed both a Year 3 and Year 4 satisfaction survey. For all analyses, the effects of time of administration, school level and gender of student were assessed. To account for differences in reading level and increase the understandability of the instrument, two separate questionnaires were designed: one for students in the kindergarten through third grades (8 items); and one for fourth through twelfth grades (10 items). Questionnaires included items assessing general program satisfaction, anger management, antisocial behavior, self-esteem/self-worth, resistance skills, peer relations, and school climate. A four-point scale was used (1 = no, not at all; 4 = yes, a lot).

I. DEMOGRAPHICS OF YEAR 4 SAMPLE

There were 1,326 students at all levels who completed at least part of the satisfaction survey in Year 4. Of this sample, the majority were elementary students (60.0%), with a little more than one-third middle/junior high students (38.4%), and a small percentage of high/alternative high school students (1.7%). Students in PeaceBuilders (24.8%), Second Step (22.1%), Positive Action (29.1%) and Life Skills Training (22.7%) were fairly equally represented with RY students comprising only 1.2% of the sample. The sample was White (54.6%), African American (36.4%) and Hispanic (7.8%). There were more females (54.1%) than males (45.9%). The average age at the end of Year 4 was 11.18 (range: 5.58 - 19.83).

Table 5. Number of students completing the satisfaction questionnaire in each program by district and school level in Year 4 only.

	Carthage			Hickman Mills		Jennings		Knox		New Madrid		TOTAL
	ES	MS	HS	ES	MS	ES	MS	ES	MS	ES	MS	
Reconnecting Youth	0	0	16	0	0	0	0	0	0	0	0	16
PeaceBuilders	228	0	0	0	0	0	0	102	0	0	0	330
Second Step	0	0	0	0	139 [†]	226	0	0	0	0	0	289
Positive Action	0	0	0	69	0	0	0	0	0	95	148	388
LifeSkills Training	0	220	0	0	0	0	54	0	29	0	0	303
Subtotal	228	220	16	69	139	226	54	102	29	95	148	1326
Total	464			208		280		131		243		

ES = Elementary School MS = Middle School HS = High School

[†] These students participated in Positive Action in the Fall of 2005 and Second Step in the Spring of 2006.

Table 6. Number of students completing the satisfaction questionnaire in each district by grade level in Year 4 only.

	<i>Kdg. - 3rd</i>	<i>4th - 5th</i>	<i>6th - 12th</i>	<i>TOTAL</i>
Carthage	133	57	274	464
Hickman Mills	81	58	69	208
Jennings	86	99	95	280
Knox	79	23	29	131
New Madrid	65	27	151	243
Total	444	264	618	1326

II. PERCEPTION OF PROGRAM EFFECTIVENESS

Table 7 represents the responses of all students in the fourth year sample. General program satisfaction and the ability of the programs to improve behavior and peer relationships were slightly lower in the total fourth year sample and satisfaction with the programs' effects on anger management and self-esteem was slightly higher.

Table 7. Pattern of responses by survey level of questions concerning program effectiveness (Year 4 total sample excluding Reconnecting Youth).

	Year 4											
	Kdg. - 3rd (n = 444)				4th - 5th (n = 264)				6th - 9th (n = 602)			
	No, not at all	No, not much	Yes, a little	Yes, a lot	No, not at all	No, not much	Yes, a little	Yes, a lot	No, not at all	No, not much	Yes, a little	Yes, a lot
General Program Satisfaction	0.5%	2.3%	11.8%	85.5%	2.3%	6.1%	35.2%	56.3%	7.3%	16.4%	50.2%	26.0%
Anger Management	4.5%	7.5%	19.0%	68.9%	3.8%	7.7%	29.1%	59.4%	7.4%	16.5%	42.1%	34.0%
Antisocial Behavior (get along with others)	1.6%	5.0%	21.4%	72.0%	5.8%	18.5%	38.1%	37.7%	10.0%	21.0%	39.3%	29.6%
Antisocial Behavior (behave better)	2.0%	6.6%	22.0%	69.4%	8.1%	17.4%	39.0%	35.5%	16.2%	26.6%	38.4%	18.8%
Self-esteem/Self-worth	1.8%	5.5%	25.7%	67.0%	7.8%	9.4%	32.4%	50.4%	12.1%	21.1%	38.0%	28.7%
Resistance Skills	3.9%	4.5%	17.7%	73.9%	6.2%	5.8%	17.1%	70.8%	7.0%	13.0%	30.3%	49.7%
Peer Relations	9.6%	12.3%	27.8%	50.3%	24.0%	28.3%	25.6%	22.1%	32.5%	29.4%	24.3%	13.7%
School Climate (K-3: school's nice)	2.5%	3.2%	23.4%	71.0%	---	---	---	---	---	---	---	---
School Climate (4-12: school better)	---	---	---	---	16.2%	15.8%	32.0%	35.9%	19.1%	27.9%	32.1%	21.0%

The table illustrates the following:

- Program satisfaction and perception of effectiveness among K-3rd graders was very high. Almost all children like the program and felt that it had helped with anger, behaviors, self-esteem, resistance skills and school

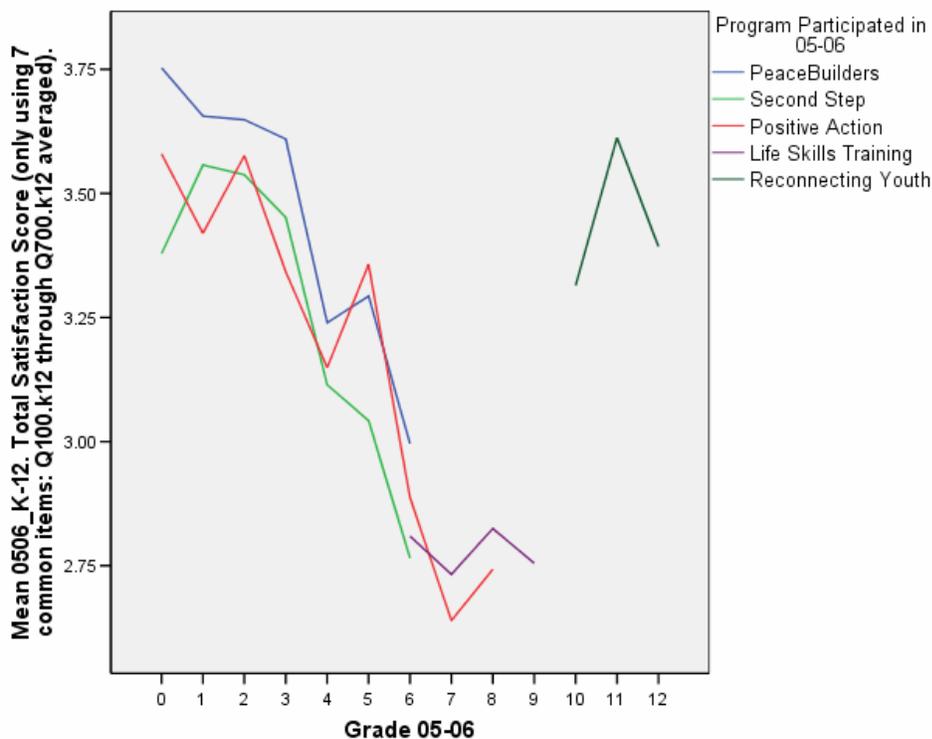
climate. Children reported the least change in peer relationship, an area dependent more upon change in other youth than the youth themselves.

- Satisfaction begins to drop around 4th grade regardless of program and continues through 9th grade. Youth were most likely to say that the program helped develop resistance skills and least likely to say it helped with peer relations, followed by anti-social behaviors.

Satisfaction by Program Type

Analyses were conducted to assess whether there were differences between programs. An overall satisfaction score, ranging from 1 to 4, collapsed the responses from seven of the common questions into one indicator. This year for the first time, there were a sufficient number of students in Reconnecting Youth to include in the analysis. It is a small sample: just 16 students, so results should be interpreted with caution.

Figure 5.
Satisfaction by Program by Grade in School



Reconnecting Youth

- Youth in Reconnecting Youth were on the whole very satisfied with the program and felt that the program had brought about considerable positive change (see Table 8). This is an important finding in that the general trend is for program satisfaction to diminish with age.

Table 8. Pattern of student responses of their perception of program effectiveness (Year 4, Reconnecting Youth participants *only*, n = 16).

Year 4 - RY only				
	No, not at all	No, not much	Yes, a little	Yes, a lot
General Program Satisfaction	0.0%	0.0%	12.5%	87.5%
Anger Management	0.0%	0.0%	37.5%	62.5%
Antisocial Behavior (get along with others)	0.0%	0.0%	37.5%	62.5%
Antisocial Behavior (behave better)	0.0%	6.3%	43.8%	50.0%
Self-esteem/Self-worth	0.0%	12.5%	25.0%	62.5%
Resistance Skills	6.3%	6.3%	12.5%	75.0%
Peer Relations	12.5%	43.8%	12.5%	31.3%
School Climate (4-12: school better)	0.0%	6.3%	12.5%	81.3%

RESISTANCE SKILLS

- Youth responses suggest that all of the programs are fairly strong in helping with resistance skills, across all grade levels, although Life Skills Training was the least helpful. It is recommended that more emphasis be put on this element of the program as it relates directly to the goals of SPIRIT and is especially important for this age group.

Table 9. Percentage of students, by program and grade level, who responded "yes, a lot" when asked if the program helped them with their resistance skills (Year 4 *total* sample).

	Year 4				Total
	Kdg. - 3rd (n =444)	4th - 5th (n =264)	6th - 9th (n = 602)	10th - 12th (n=16)	
PeaceBuilders	79.6%	74.4%	52.6%	---	75.2%
Second Step	64.0%	64.9%	60.6%	---	63.0%
Positive Action	71.5%	74.4%	44.2%	---	61.2%
Life Skills Training	---	---	46.6%	---	46.6%
Reconnecting Youth	---	---	---	75.0%	75.0%

ANTI-SOCIAL BEHAVIOR

- PeaceBuilders and Second Step were most successful at helping K-3 students to act better, and Positive Action was most helpful to 4th and 5th grade students (see Table 9).
- None of the middle school programs were thought to help much with behavior.

Table 10. Percentage of students, by program and grade level, who responded "yes, a lot" when asked if the program helped them act/ behave better (Year 4 total sample).

	Year 4				Total
	Kdg. - 3rd (n =444)	4th - 5th (n =264)	6th - 9th (n =602)	10th - 12th (n=16)	
PeaceBuilders	78.7%	37.7%	18.4%	---	62.0%
Second Step	73.3%	27.8%	17.6%	---	37.5%
Positive Action	53.5%	42.4%	17.3%	---	36.4%
Life Skills Training	---	---	18.4%	---	18.4%
Reconnecting Youth	---	---	---	50.0%	50.0%

SCHOOL CLIMATE

- Not surprising was the finding that at the elementary level, PeaceBuilders and Positive Action and Reconnecting Youth at the high school level were perceived to be the strongest programs for improving school climate.

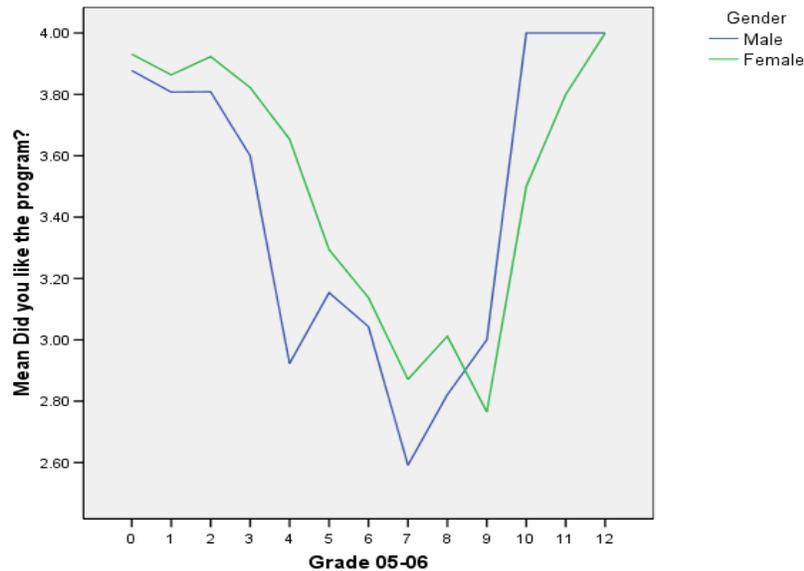
Table 11. Percentage of students, by program and grade level, who responded "yes, a lot" when asked if the program has made their school better (Year 4 total sample).

	Year 4			Total
	4th - 5th (n =264)	6th - 9th (n =602)	10th - 12th (n=16)	
PeaceBuilders	43.6%	31.6%	---	39.7%
Second Step	22.7%	9.8%	---	18.8%
Positive Action	44.0%	21.8%	---	28.0%
Life Skills Training	---	17.2%	---	17.2%
Reconnecting Youth	---	---	81.3%	81.3%

In addition,

- All programs were considered least helpful in changing peer behaviors.
- There was no significant difference in satisfaction levels between boys and girls. For both groups, satisfaction declines steadily from Kindergarten to 9th grade, and then increases dramatically among the youth participating in Reconnecting Youth.

Figure 6.
Satisfaction Levels by Grade and Gender
(N=1326)



SUMMARY OF YEAR 4 SAMPLE

As shown by the tables above, overall satisfaction with the SPIRIT programs is high in elementary school, much lower in middle school and high again in high school. There were no gender differences in responses.

Children and youth were most satisfied with the programs' ability to help them with resistance skills and least satisfied with their effect on peer relationships. Life Skills Training was thought to be the least effective program in relation to resistance skills, though only slightly less effective than the other programs offered to similar age groups. Given the low satisfaction with programming in general in middle schools, the age where most substance abuse is initiated, it is recommended that sites review current programming to truly assess whether the programs meet the needs of the youth served.

THIRD/FOURTH YEAR ANALYSIS OF CHANGE

III. DEMOGRAPHICS

A total of 209 students completed at least a portion of the satisfaction questionnaire in both Year 3 and Year 4. The Hickman Mills school district is not represented in the sample because there were no matching responses for the two years. Knox represented the highest percentage of respondents with 38.8% of the sample, followed by New Madrid (26.3%), Carthage (18.7%), and Jennings (18.7%). Elementary school students comprised 70.8% of the sample, with middle school/junior high students representing 29.2%. The highest percentage of children participated in PeaceBuilders (51.2%), followed by Positive Action (26.3%), Second Step (12.0%), and Life Skills Training (10.5%). The majority of the sample was either White (68.4%) or African-American (30.5%). Females (56.0%) represented a larger proportion of the sample than males. Average age of students at the end of Year 4 was 10.82 years.

Table 12. Number of students completing the satisfaction questionnaire in each program by district and school level both Year 3 and Year 4.

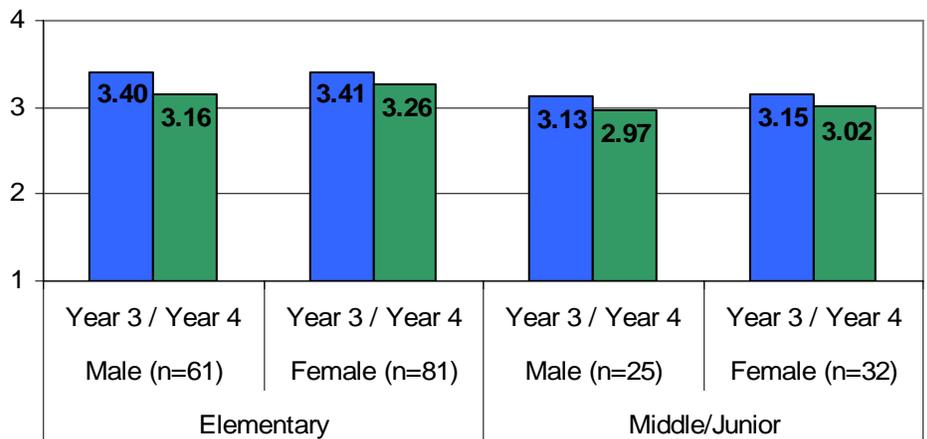
	<i>Carthage</i>		<i>Hickman Mills</i>		<i>Jennings</i>		<i>Knox</i>		<i>New Madrid</i>		TOTAL
	<i>ES</i>	<i>MS</i>	<i>ES</i>	<i>MS</i>	<i>ES</i>	<i>MS</i>	<i>ES</i>	<i>MS</i>	<i>ES</i>	<i>MS</i>	
PeaceBuilders	39	0	0	0	0	0	68	0	0	0	107
Second Step	0	0	0	0	25	0	0	0	0	0	25
Positive Action	0	0	0	0	0	0	0	0	16	39	55
LifeSkills Training	0	0	0	0	0	9	0	13	0	0	22
Subtotal	39	0	0	0	25	9	68	13	16	39	209
Total	39		0		34		81		55		

ES = Elementary School MS = Middle School HS = High School

IV. PERCEPTION OF PROGRAM EFFECTIVENESS

The composite scores for overall satisfaction with the program for Year 3 and Year 4 were compared. A “4” indicates high satisfaction and a “1” indicates low satisfaction. There were no significant differences from Year 3 to Year 4 with students indicating a relatively high level of satisfaction in both years. The slight declines in satisfaction were not

Figure 7. Students' overall satisfaction with their prevention program.

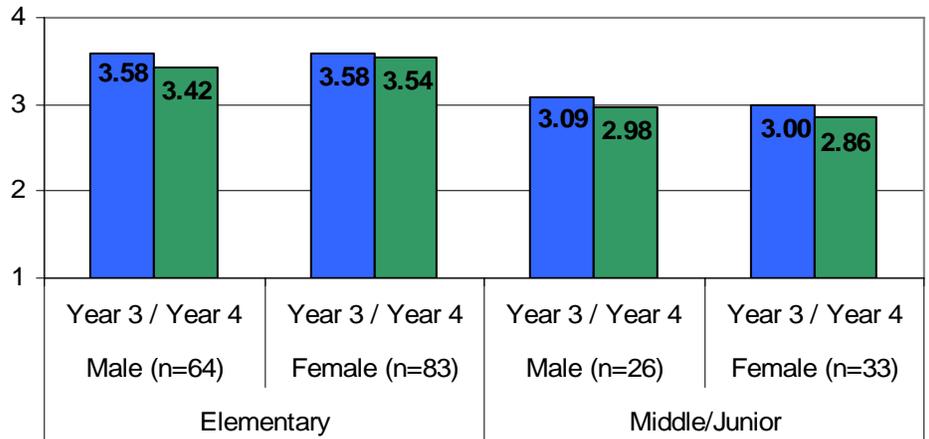


significant and expected given that that satisfaction decreases and children move into adolescents, and most of the sample was an elementary school sample. Male and female students reported a similar level of satisfaction. Middle school students had a significantly lower level of satisfaction than elementary school students regardless of time point.

■ GENERAL PROGRAM SATISFACTION

When asked how much they liked the program, students' satisfaction levels remained consistent from Year 3 to Year 4. Elementary students liked the program better than middle school students in both years. Males and females did not differ in their general program satisfaction.

Figure 8. Extent to which students liked their program.



■ ANGER MANAGEMENT

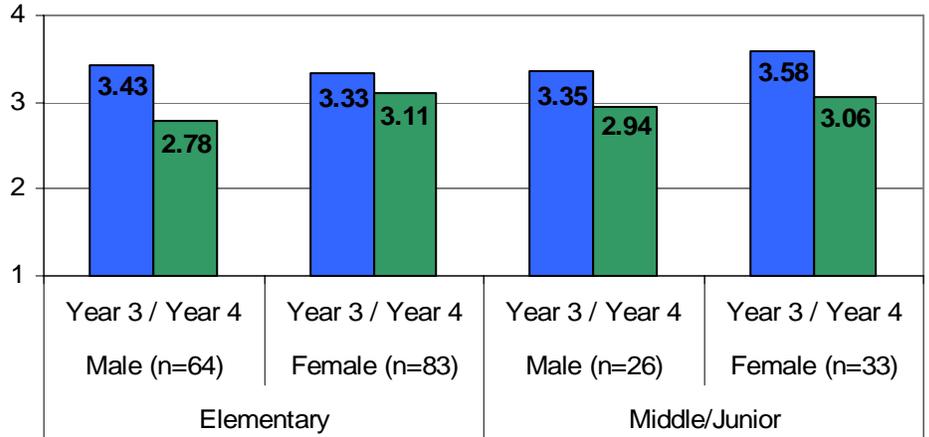
Students reported no change in levels of anger management from Year 3 to Year 4. In addition, elementary and middle school students and males and females did not differ in their perception of gaining anger management skills from the program.

■ ANTISOCIAL BEHAVIOR

Youth were asked the extent to which the program helped the student to get along better with others and the extent to which the program encouraged better behavior. Students indicated that the ability of the program to help them get along with others did not change from Year 3 to Year 4. In addition, elementary and middle school students and males and females did not differ in their perception of the programs ability to help them get along with others.

The second antisocial behavior question asked the extent to which the program encouraged better behavior. Students reported that the program affected their behavior similarly in Year 3 and Year 4. Elementary students thought the program fostered better behavior to a significantly greater extent than did middle school students in both years. While differences were not significant, the Year 4 data suggest that males found the programs to be less effective than females did in this important aspect.

Figure 9. Extent to which students perceived the program to encourage better behavior.



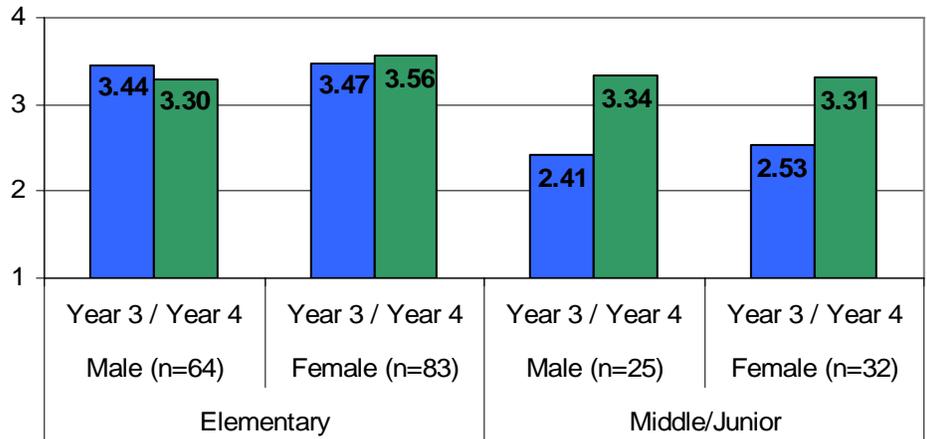
SELF-ESTEEM/SELF-WORTH

Students indicated that the program did not affect their self-esteem differently in Year 3 than in Year 4. Elementary and middle school students and males and females did not differ in their perception of the programs ability to affect self-esteem.

RESISTANCE SKILLS

Elementary school students did not think the program affected their resistance skills differently in Year 3 than in Year 4. However, differences in resistance skills among middle school youth were significant, with better resistance skills in Year 4 than Year 3. Furthermore, in Year 3, elementary school students thought the program affected resistance skills to a greater extent than middle school students did. By Year 4, however, students' perceptions did not differ by school level. Males and females did not differ in their perception of the programs ability to affect resistance skills.

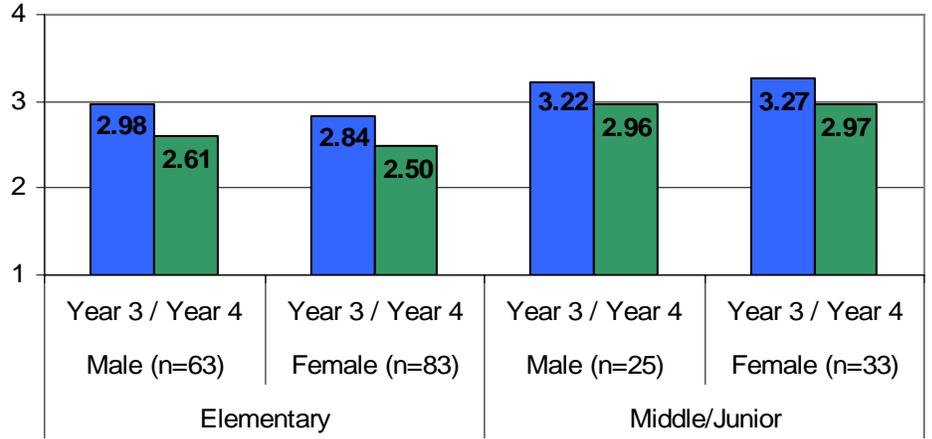
Figure 10. Students' perception of the extent to which the program encouraged them to "say no" to their peers.



PEER RELATIONS

Students were asked the extent to which the program caused others to be nicer to them. Students reported similar levels of peer relations in Year 3 and Year 4. Elementary students indicated more positive peer relations in association with the program than middle school students in both years. Males and females did not differ in their perception of the programs' effect on peer relations.

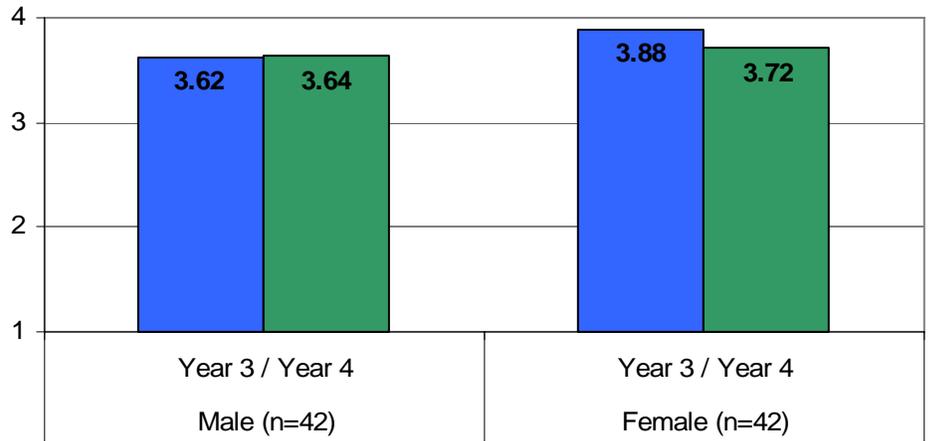
Figure 11. Students' perception of the extent to which the program caused others to be nicer to them.



SCHOOL CLIMATE

Kindergartners through 3rd graders were asked, "Does your school feel like a nice place to be?" These young students thought the program had a more positive effect on school climate in Year 3 than in Year 4. Figure 12 shows that males and females did not differ in their perceptions of school climate.

Figure 12. The extent to which kindergarten - 3rd grade students' thought school felt like a nice place to be by gender.



The fourth through eighth graders were asked, "Do you think the program made your school better?" There was no significant difference in response from Year 3 to Year 4. In addition, elementary and middle school students and males and females thought the program had a similar effect on school climate.

SUMMARY OF THIRD/FOURTH YEAR ANALYSIS OF CHANGE SAMPLE

Among youth who completed both a Year 3 and Year 4 survey, overall satisfaction with their programs and perceived program effectiveness was very high. The average score for all students, regardless of gender, school level, or time of survey administration, was above the scale midpoint (2.50).

Consistent with the full Year 4 sample, elementary students are generally more satisfied with the programs than middle schools students. Specifically, the younger students reported that they liked their programs, thought the programs encouraged better behavior, and encouraged more positive peer relationships than older students. Students' regardless of gender, school level, or time of survey administration, thought the programs affected their level of anger management, the extent to which they got along with others or their self-esteem/self-worth positively in both Year 3 and Year 4.

An encouraging finding was that middle school students thought the program had a more positive effect on their ability to "say no" to their peers to a greater extent in Year 4 than in Year 3. In fact, in Year 3, middle school students reported a significantly lower score than elementary school students, but by the time of the Year 4 assessment they perceived the program to affect resistance skills to an equal extent as the younger students.

Table 13. Pattern of student responses of their perception of program effectiveness (Year 3 and Year 4 matched pairs only; n = 209).

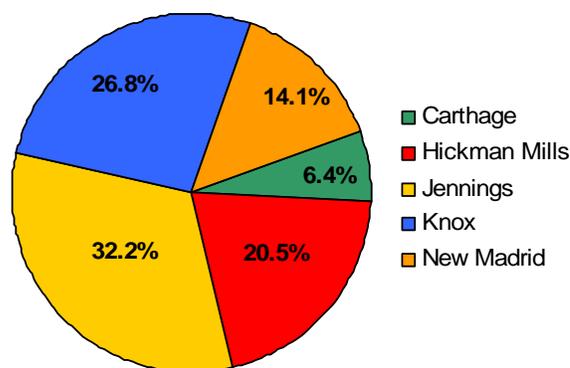
	Year 3				Year 4			
	No, not at all	No, not much	Yes, a little	Yes, a lot	No, not at all	No, not much	Yes, a little	Yes, a lot
General Program Satisfaction	3.8%	9.6%	27.8%	58.9%	6.3%	13.0%	24.0%	56.7%
Anger Management	5.3%	7.2%	22.5%	65.1%	6.3%	14.4%	30.8%	48.6%
Antisocial Behavior (get along with others)	8.6%	11.0%	25.4%	55.0%	5.8%	15.4%	33.7%	45.2%
Antisocial Behavior (behave better)	5.7%	10.0%	23.0%	61.2%	11.1%	16.3%	30.8%	41.8%
Self-esteem/Self-worth	3.8%	10.0%	19.1%	67.0%	9.7%	13.6%	31.6%	45.1%
Resistance Skills	13.4%	14.8%	13.9%	57.9%	6.3%	7.8%	25.7%	60.2%
Peer Relations	13.9%	16.3%	27.8%	42.1%	23.3%	19.4%	24.3%	33.0%
School Climate (K-3: school's nice)	4.0%	2.0%	14.9%	79.2%	2.4%	1.2%	22.6%	73.8%
School Climate (4-12: school better)	13.1%	16.8%	40.2%	29.9%	23.6%	24.4%	30.1%	22.0%

CHAPTER FIVE KINDERGARTEN – 3RD GRADE OUTCOMES

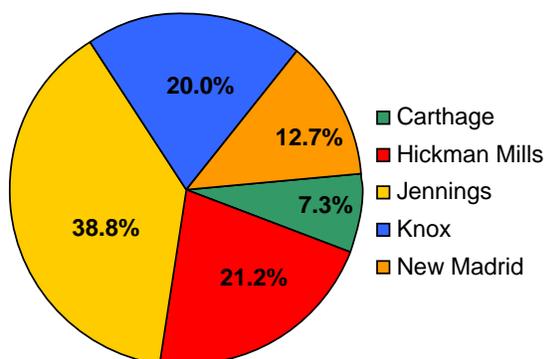
Protective factors linked to the use of substances in children’s later years were assessed through the Teacher Observation Checklist (TOC) for the Kindergarten through third grade students. The TOC measures aggression and social competence, and more specifically within these two domains, pro-active and reactive aggression, and pro-social norms and emotional regulation. Teachers were asked to indicate the frequency with which students exhibited certain aggressive behaviors and engaged in displays of social competence. The following chapter presents both the results of the fourth year (Fall 2005 – Spring 2006) of the SPIRIT project as well as for any students who has completed the survey at least two times (baseline/post analysis). The fourth year results are presented first under each heading, followed by the results of the baseline/post analysis.

I. DEMOGRAPHICS

FOURTH YEAR SAMPLE. Between 294 and 299 students were observed using the TOC at both Time 7 and Time 8 depending on the questions being analyzed. Students represented the Jennings school district (32.2%) most often, followed by Knox (26.8%), Hickman Mills (20.5%), New Madrid (14.1%), and Carthage (6.4%). Females (51.0%) and males (49.0%) were equally represented in the sample. Most students were either White (50.3%) or African American (45.3%). The kindergarten through third grades were represented relatively equally with each grade representing 23.2% to 27.9% of the sample. The average age of the students was 7.22 years (range: 5.08 to 10.42; in the Fall of 2005).



BASELINE/POST SAMPLE. THE BASELINE/POST SAMPLE REPRESENTS A LARGE SAMPLE OF SPIRIT YOUTH WHO HAVE PARTICIPATED IN THE PROGRAM SINCE ITS INCEPTION. ALL YOUTH WHO COMPLETED BOTH A PRETEST AND POSTTEST AT ANY TIME DURING THE FOUR YEARS WERE INCLUDED IN THIS ANALYSIS. Between 922 and 983 students were used in the analysis dependent on which questions were being analyzed. Jennings school district had the largest number of respondents (38.8%); followed



by Hickman Mills (21.2%) and Knox (20.0%). New Madrid and Carthage represented 12.7% and 7.3% of the sample, respectively. Male (50.3%) and Female (49.7%) students were represented relatively equally. Most students were either African American (53.5%) or White (42.8%). The average age of the students at post-test was 7.75 years (range: 5 to 12).

**Table 14. Pattern of baseline and post-test assessments
Kindergarten through 3rd Grade**

Baseline	Post	# of students	Average distance between baseline and post data = 2.11 time points
Time 1 (Fall '02)	Time 2 (Spr. '03)	92	
Time 1 (Fall '02)	Time 3 (Fall '03)	35	
Time 1 (Fall '02)	Time 4 (Spr. '04)	61	
Time 1 (Fall '02)	Time 5 (Fall '04)	14	
Time 1 (Fall '02)	Time 6 (Spr. '05)	71	
Time 1 (Fall '02)	Time 7 (Fall '05)	3	
Time 1 (Fall '02)	Time 8 (Spr. '06)	24	
Time 2 (Spr. '03)	Time 5 (Fall '04)	2	
Time 2 (Spr. '03)	Time 6 (Spr. '05)	1	
Time 3 (Fall '03)	Time 4 (Spr. '04)	52	
Time 3 (Fall '03)	Time 5 (Fall '04)	12	
Time 3 (Fall '03)	Time 6 (Spr. '05)	79	
Time 3 (Fall '03)	Time 7 (Fall '05)	4	
Time 3 (Fall '03)	Time 8 (Spr. '06)	6	
Time 4 (Spr. '04)	Time 5 (Fall '04)	1	
Time 4 (Spr. '04)	Time 6 (Spr. '05)	8	
Time 4 (Spr. '04)	Time 8 (Spr. '06)	6	
Time 5 (Fall '04)	Time 6 (Spr. '05)	92	
Time 5 (Fall '04)	Time 7 (Fall '05)	2	
Time 5 (Fall '04)	Time 8 (Spr. '06)	85	
Time 6 (Spr. '05)	Time 8 (Spr. '06)	2	
Time 7 (Fall '05)	Time 8 (Spr. '06)	299	
TOTAL		983	

II. RISK AND PROTECTIVE FACTORS

The TOC assessed social competence (emotion regulation and pro-social norms) and aggression (pro-active and reactive); all of which have been shown to be related to future use of substances and violent behavior in prior studies (Dodge & Coie, 1987; Elliott, Huizinga, Ageton, 1985).

SOCIAL COMPETENCE

The measure of social competence consisted of 19 questions with two sub-scales: pro-social behavior and emotion regulation. Teachers were asked to give their perceptions of social competence by assessing how well a student engages in certain pro-social behaviors and how well a child controls his or her emotions (1 = not at all; 5 = very well).

PRO-SOCIAL BEHAVIOR

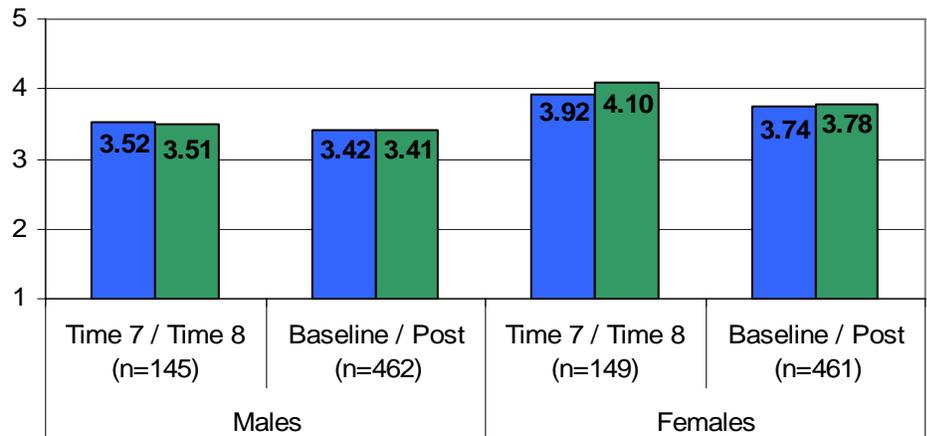
FOURTH YEAR. There was significant improvement in pro-social behavior among females over the course of the 2005-2006 year according to teachers. Females began the year with higher levels of pro-social behavior than males and these behaviors improved significantly by the end of the year. Males' pro-social behaviors, which were significantly lower than females' at both Time 7 and Time 8, remained consistent over time.

In both samples, females' pro-social behavior improved significantly over time.

BASELINE/POST.

Consistent with the fourth year analysis, there was significant improvement in pro-social behaviors among the females in this sample.

Figure 13. Teachers' perception of students' pro-social behavior.



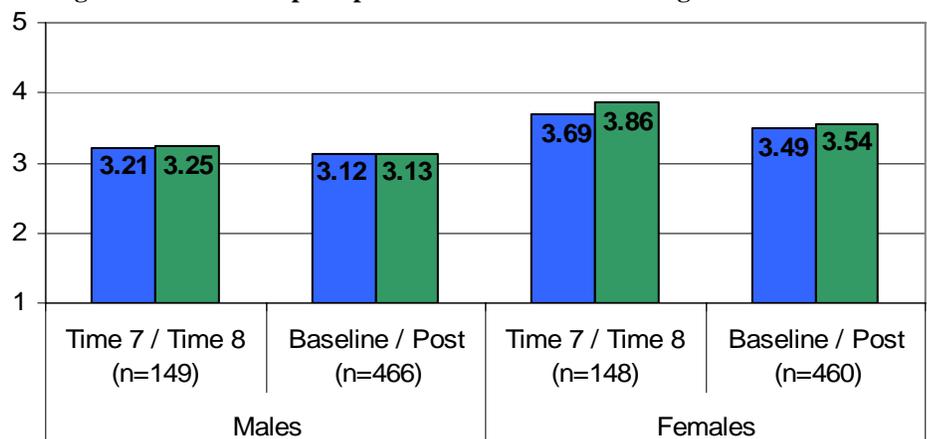
EMOTION REGULATION

FOURTH YEAR. There was a statistically significant improvement in emotional regulation, from time 7 to time 8, particularly among females.

BASELINE/POST.

Consistent with the fourth year analysis, teachers' perceptions of their students' level of emotion regulation increased significantly from the baseline to post-test assessment, particularly among females.

Figure 14. Teachers' perception of students' emotion regulation.



AGGRESSION

The measure of aggression consisted of six questions with two sub-scales: proactive aggression (e.g., using or threatening to use force and bullying), and reactive aggression (e.g., blaming others, overreacting, easily angered when threatened or perceived to be threatened by others). Teachers were asked to report the extent to which particular behaviors were descriptive of a student's behavior (1 = never true; 5 = almost always true).

PROACTIVE AGGRESSION.

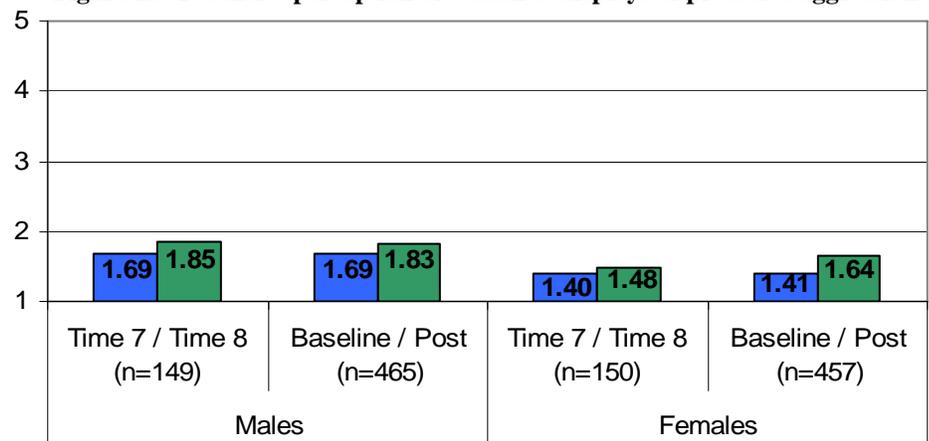
FOURTH YEAR. Teachers' perceptions indicated that proactive aggression levels were relatively low at baseline and did not change significantly from the beginning to the end of the 2005 – 2006 school year. Teachers' did think, however, that males were significantly more proactively aggressive than females.

In both samples, students' had low levels of proactive aggression. Aggression levels did not change over time.

BASELINE/POST.

The baseline/post-test analysis revealed a similar pattern to the fourth year results in that levels of aggression were relatively low and remained so over time. Males were judged more overtly aggressive than females.

Figure 15. Teachers' perception of students' displays of proactive aggression.

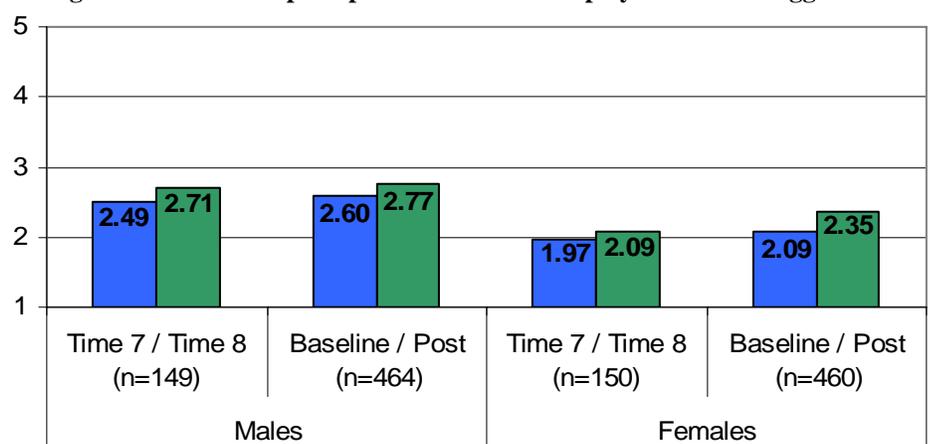


REACTIVE AGGRESSION.

FOURTH YEAR.

Teachers perceived students to display higher levels of reactive aggression than proactive aggression. There was no difference in their ratings across time, but as with proactive aggression ratings, males were perceived to demonstrate a significantly higher level of reactive aggression than females.

Figure 16. Teachers' perception of students' displays of reactive aggression.



BASELINE/POST. The results of the baseline/post analysis replicated the findings from the fourth year analysis. There was no difference in reactive aggression scores over time; however, teachers indicated that males had higher levels of reactive aggression than females.

SUMMARY

Teachers perceived that both male and female children's social competence increased over time. Not only did they engage in pro-social behaviors to a greater extent they also demonstrated a greater ability to control their emotions.

Children's propensity to display aggression, both proactively and reactively, was perceived to remain consistent over time, with most teachers indicating that children were aggressive rarely or sometimes. Teachers did, however, report that they perceived males to be more aggressive than females.

These findings were consistent both in the fourth year evaluation as well as in the baseline/post analysis indicating a high likelihood of accuracy. It is unknown whether the differences found are due to program effects or some other artifact. Considering this, further analyses will be explored in the future to provide evidence toward the meaningfulness of these findings.

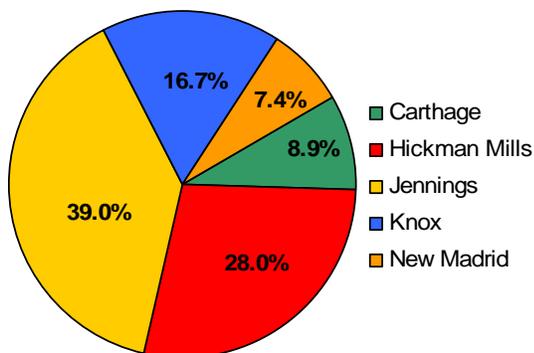
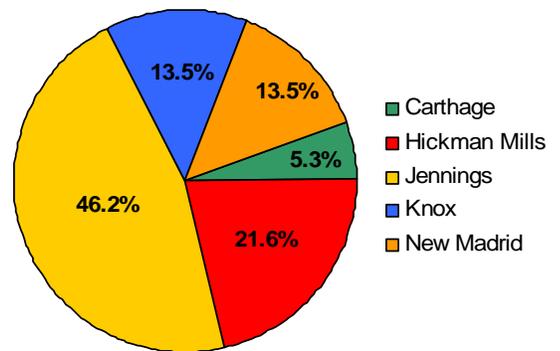
CHAPTER SIX

4TH – 5TH GRADE OUTCOMES

Fourth and fifth grade students completed the Healthy Kids (HKS) survey, an instrument that assesses substance use and related risk and protective factors. The following chapter presents both the results of the fourth year (Fall 2005 – Spring 2006) of the SPIRIT project and those for any student who completed the survey at least two times (baseline/post analysis). It should be noted that the baseline/post is not longitudinal data so increase in use represents the number of students throughout the course of SPIRIT who began to use substances. The fourth year results are presented first under each heading, followed by the results of the baseline/post analysis. For all scale analyses, the effects of time of administration and gender of participant were assessed. The age of the student was used as a covariate in the fourth year analysis. The age of the student as well as the time between baseline and post-test assessments were used as covariates in the baseline/post analysis.

I. DEMOGRAPHICS

FOURTH YEAR SAMPLE. Between 165 and 175⁹ students were analyzed (Time 7: Fall 2005; Time 8: Spring 2006), depending on the question. Jennings school district had the largest percentage of respondents (46.2%); Hickman Mills, Knox, and New Madrid represented between 13.5% and 21.6%; and Carthage represented 5.3% of the sample. Female students represented a slight majority of the sample (59.1%). Most students were either African-American (62.0%) or White (35.7%). Students were relatively equally distributed between the fourth (n = 91, 53.2%) and fifth (n = 80, 46.8%) grades. The average age of the students was 10.01 years (range: 7 to 13 in the Fall of 2005).



BASELINE/POST SAMPLE. Responses of between 600 and 682 students were used in the baseline/post analysis depending on the question. Jennings school district had the largest percentage of respondents (39.0%); followed by Hickman Mills (28.0%) and Knox (16.7%). Carthage and New Madrid represented less than 10% of the sample (7.4% and 8.9%, respectively). Female students represented a slight majority (52.5%), and most

⁹ Note that sample size variations were due to dropping students from the analysis who had inconsistent reporting, (e.g., indicating lifetime drug use at Time 7 and not at Time 8; 30-day drug usage and not lifetime drug use).

students were either African-American (56.2%) or White (40.5%). The average age of students at post test was 11.15 years (range: 7.67 to 14.58).

Table 15. Pattern of baseline and post-test assessments.

Baseline	Post	# of students	Average distance between baseline and post data = 1.83 time points
Time 1 (Fall '02)	Time 2 (Spr. '03)	110	
Time 1 (Fall '02)	Time 3 (Fall '03)	9	
Time 1 (Fall '02)	Time 4 (Spr. '04)	168	
Time 2 (Spr. '03)	Time 3 (Fall '03)	1	
Time 3 (Fall '03)	Time 4 (Spr. '04)	61	
Time 3 (Fall '03)	Time 5 (Fall '04)	10	
Time 3 (Fall '03)	Time 6 (Spr. '05)	55	
Time 4 (Spr. '04)	Time 6 (Spr. '05)	7	
Time 5 (Fall '04)	Time 6 (Spr. '05)	76	
Time 5 (Fall '04)	Time 7 (Fall '05)	1	
Time 5 (Fall '04)	Time 8 (Spr. '06)	37	
Time 6 (Spr. '05)	Time 8 (Spr. '06)	1	
Time 7 (Fall '05)	Time 8 (Spr. '06)	146	
TOTAL		682	

II. SUBSTANCE USE

CIGARETTES

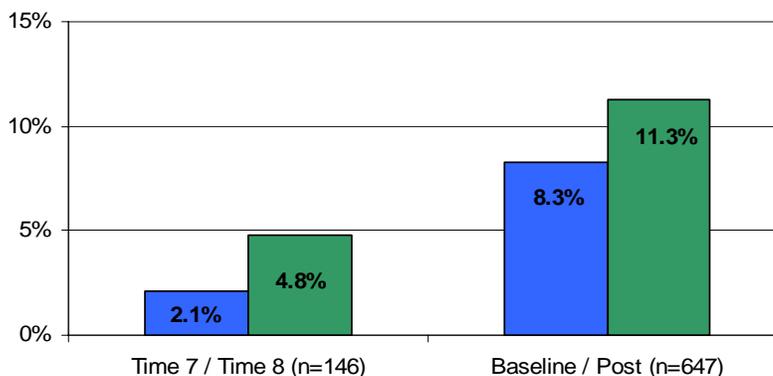
Students were asked to indicate whether they had ever used cigarettes in their lifetime as well as within the last 30-days.

FOURTH YEAR. There was a significant increase in lifetime use reported (from 2.1% to 4.8%; 4 students had a cigarette for the first time over the course of the 05-06 school year). However, these overall percentages are low. No students reported that they had smoked cigarettes within the past 30 days at both Time 7 and Time 8.

In Year 4, no 4th or 5th grade students reported smoking cigarettes within the past 30 days.

BASELINE/POST. There was a significant increase in lifetime reported use (from 8.3% to 11.3%; 19 students started using between their first and last assessment). Eleven students reported that they had smoked cigarettes within the past 30 days at baseline. By post test 24 students (3.7%) indicated that they had smoked at least part of a cigarette within the past 30 days, a significant increase).

Figure 17. Percentage of students reporting having used cigarettes in their lifetime.



ALCOHOL

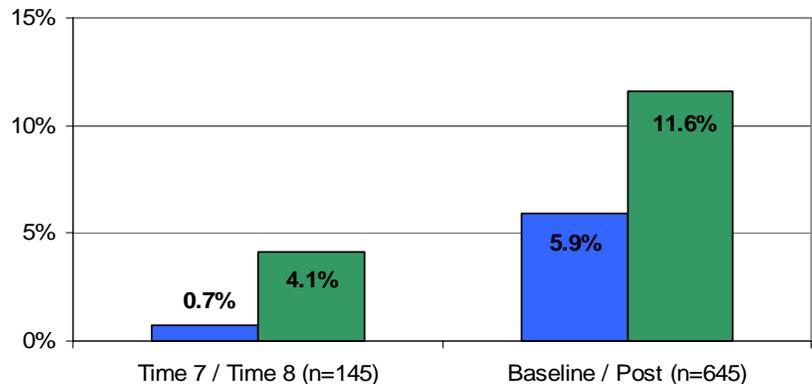
Students were asked if they had ever drunk a full glass of alcohol (beer, wine, or other) in their lifetime as well as within the past 30-days.

FOURTH YEAR. Five additional students reported lifetime use of alcohol from the Fall of 2005 to the Spring of 2006 (0.7% to 4.1%; a significant increase). Only one student (0.7%) indicated use of alcohol within the past 30 days at both Time 7 and Time 8.

In Year 4, only one 4th or 5th grade student reported drinking alcohol within the past 30 days.

BASELINE/POST. From the baseline to post assessment an additional 37 students reported having drunk a full glass of alcohol at some point in their lifetime (a significant increase). There was not a significant increase in 30-day use, however, from 5.3% at baseline to 6.2% at post-test (representing an increase of six students).

Figure 18. Percentage of students reporting having used alcohol in their lifetime.



CHEWING TOBACCO/SNUFF

Students were asked to indicate whether they had used chewing tobacco or snuff in their lifetime as well as within the past 30-days.

FOURTH YEAR. No students reported using chewing tobacco or snuff.

In Year 4 of SPIRIT, no 4th or 5th grade students used chewing tobacco or snuff.

BASELINE/POST. Three students reported having used chewing tobacco at their baseline assessment. No additional students reported starting to use chewing tobacco at post-test.

MARIJUANA

Students were asked to report whether they had ever used marijuana (yes or no) or if they knew what marijuana was. Surprisingly, 4.3% to 13.7% students, depending on the time point indicated that they didn't know what marijuana was. (Note: Marijuana was also referred to as pot, grass, or weed in the question).

FOURTH YEAR. At Time 7 and Time 8 no students indicated that they had smoked marijuana (pot, grass, and weed) in their lifetime.

In Year 4 of SPIRIT, no 4th or 5th grade students used marijuana.

BASELINE/POST. Six students reported having used marijuana at their baseline assessment. No additional students reported that they started to use marijuana at post-test.

INHALANTS

Students were asked if they had ever sniffed something through their nose to get high.

FOURTH YEAR. Encouragingly, lifetime inhalant use did not increase from Time 7 to Time 8. At Time 7, a very low percentage (0.7%) of the students reported sniffing something through their nose to get high, whereas at Time 8, 2.1% of the students reported doing so (an increase of 2 students).

By the end of Year 4 **only 2** additional students in **4th or 5th grade** reported using inhalants.

BASELINE/POST. Fifteen (2.5%) students reported having used inhalants at their baseline assessment. No additional students reported that they started to use inhalants at post-test.

SUMMARY

A small minority of students reported that they had used any drugs in their lifetime. Students who did use chose cigarettes and alcohol over other drugs. There was a significant increase in the number of users of cigarettes and alcohol over time. There was also an increase in the number of 30-day users of cigarettes. However, there was not an increase in the number of frequent users (30-day) of alcohol. Considering a primary goal of the programs is to prevent the use of drugs, a meaningful finding lies within the lack of change in use of chewing tobacco, marijuana, and inhalants. However, a focus should be made on preventing and discouraging the use of cigarettes and alcohol.

III. RISK AND PROTECTIVE FACTORS

The HKS also measured several risk and protective factors related to substance use including perceived risk of use, antisocial/aggressive behavior, goals and aspirations, empathy and problem solving skills, and perceptions of the risk of using substances and of their home, school, and peer environment. For certain scale analyses, the effects of gender and time are assessed. Students' age is controlled for to account for any maturational effects that may be occurring. In baseline/post analyses, the time between baseline and post-test assessments is also controlled.

A. INDIVIDUAL FACTORS

■ *RISK OF SUBSTANCE USE*

Students' perceived risk of substance use was assessed by asking questions about how bad they thought smoking cigarettes and marijuana and drinking alcohol were for a person's health (1 = no, not bad; 2 = yes, a little bad; 3 = yes, very bad).

FOURTH YEAR. At Time 7, most students reported that they thought all of these activities were "very bad" for a person's health (90.6% to 94.7%). Interestingly students thought that smoking cigarettes was more risky than smoking marijuana. By Time 8, students' perceptions did not change significantly with 86% to 96% indicating that these behaviors were "very bad" for one's health. While students' perceptions of risk regarding cigarettes was in the appropriate direction (i.e., they thought that they were more risky at Time 8) their perceptions of the health risk of alcohol and marijuana decreased, although not significantly.

BASELINE/POST. The baseline/post analysis was similar to fourth year results in that at baseline the majority of 4th and 5th grade students thought that using cigarettes, alcohol, and marijuana was "very bad" for a person's health (88.5% to 95.1%). Students thought that marijuana was the worst, followed by cigarettes, and then alcohol. At post-test students' perception of the health risk of cigarettes and marijuana did not change significantly. However, the number of students perceiving alcohol to be "very bad" for a person's health dropped significantly. The order of perceived health risk remained the same: marijuana (worst), cigarettes, alcohol.

The majority of students felt that cigarettes, alcohol and marijuana were "very bad" for their health. Cigarette smoking was perceived to be most risky.

Figure 19. Percentage of students perceiving drugs to be "very bad" for a person's health in the fourth year evaluation.

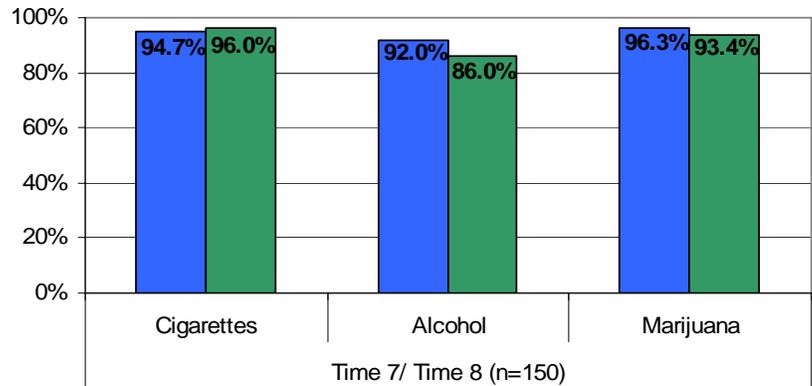
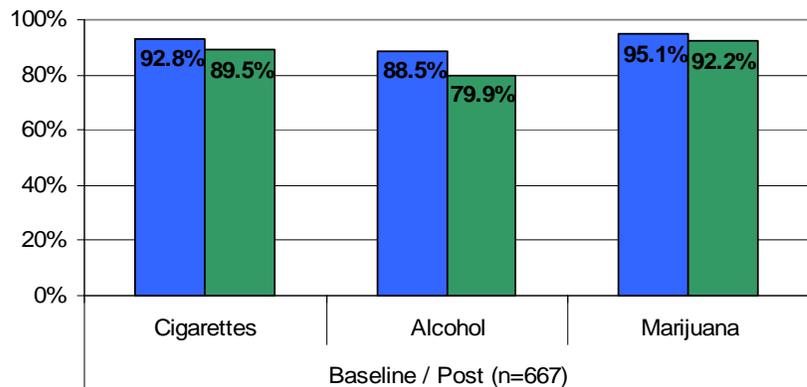


Figure 20. Percentage of students perceiving drugs to be "very bad" for a person's health in baseline/post-test analysis.



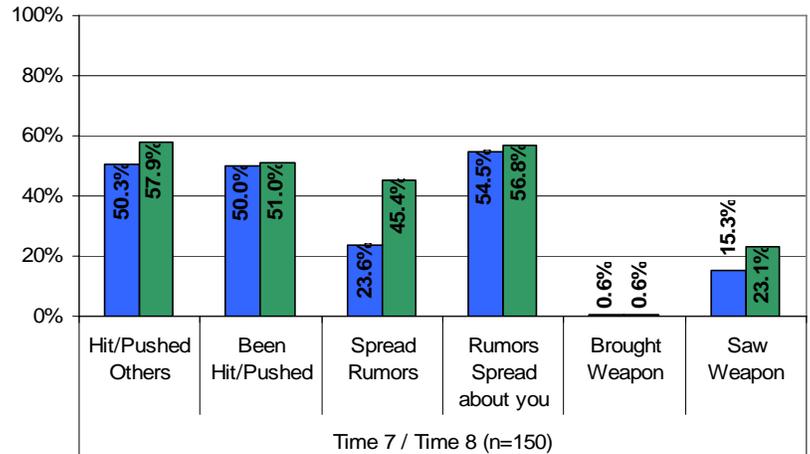
■ ANTISOCIAL/AGGRESSIVE BEHAVIOR

Students were asked to indicate the frequency with which they participated in certain antisocial or aggressive behaviors.

Spreading rumors and hitting or pushing others were the most common anti-social behaviors.

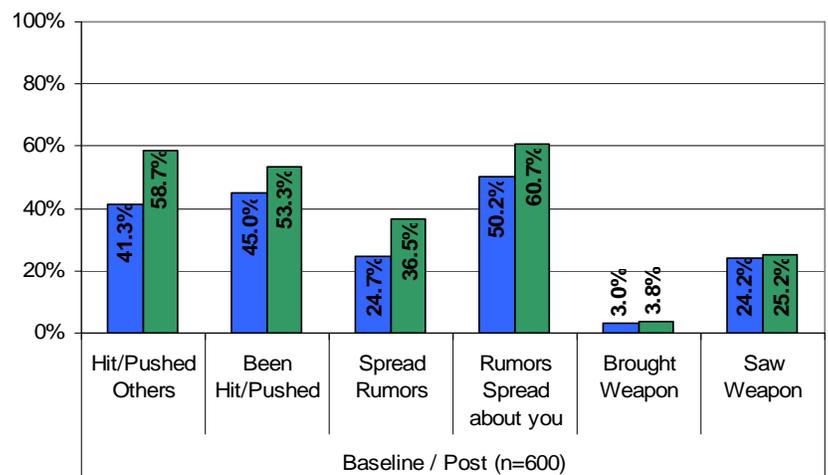
FOURTH YEAR. There were slight increases in antisocial/aggressive behavior across the school year, however only the admission of spreading rumors about other students showed a significant change. The most prevalent behavior reported was *having rumors spread about them*. Students reported having hit or pushed another kid at school or being hit or pushed or hit by another kid quite often. Encouragingly, only one student indicated that he had brought a gun or a knife to school at both Time 7 and Time 8. However, 23 students (15.3%) reported having seen another kid with a weapon at school at Time 7 with an additional 11 students reporting having witnessed this at Time 8.

Figure 21. Percentage of students reporting participation in or being subject to antisocial or aggressive behavior in the fourth year evaluation.



BASELINE/POST. There were few significant increases in antisocial behaviors in this sample. Hitting and pushing others significantly increased from 41.3% to 58.7%. The percentage of students reporting that they had been pushed or hit by another kid (45.0% to 53.3%) also increased, though not significantly. More encouragingly only 24.7% of the students reported that they had spread mean rumors or lies about other kids at school, however 50.2% of the students indicated that rumors had been spread about them. Rumor spreading increased significantly from baseline to posttest. The percentage of students reporting that they had brought a gun or a knife to school was very low and did not significantly change (3.0% to 3.8%), nor did the percentage of students reporting having seen another kid with a weapon at school (24.2% to 25.2%). However, it should be noted that there is a significant difference in the number of students who claim to have carried a weapon versus the number who saw someone else carrying one.

Figure 22. Percentage of students reporting participation in or being subject to antisocial or aggressive behavior in the baseline/post-test analysis.



GOALS & ASPIRATIONS

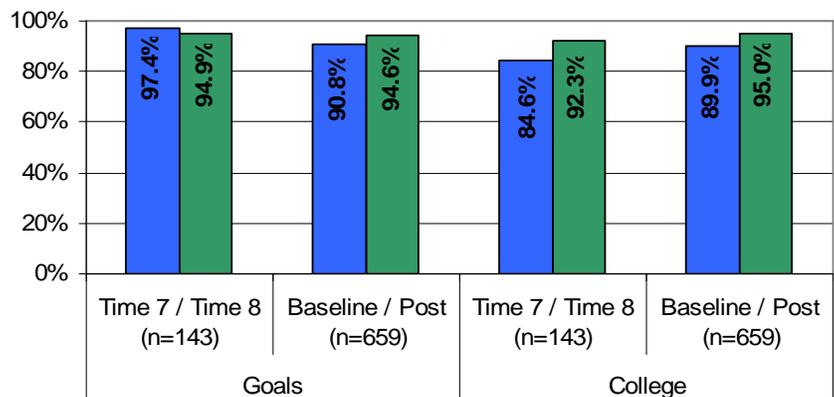
The goals and aspirations scale consists of two items assessing whether students planned on going to college and whether they had plans for the future (yes or no).

FOURTH YEAR. Almost all students reported that they had goals and plans for the future (97.4% to 94.9%) and intended to go to college (84.6% to 92.3%). These scores indicate that students have positive goals and aspirations. These percentages did not change significantly in Year Four.

BASELINE/POST. There was a significant positive change from baseline to post-test assessment in student goals and aspirations in that a greater number of students reported having goals and plans for the future (90.8% to 95.0%) as well as an intention to go to college (89.9% to 95.0%).

From baseline to post-test, **more** students reported having **goals and plans** for the future, and intentions to go to college.

Figure 23. Percentage of students indicating positive goals and aspirations.



EMPATHY & PROBLEM SOLVING

The empathy and problem solving scale consists of five items assessing students' ability to understand how others feel, be compassionate when others are hurt, know where to go for help, to try to work out their problems, and do their best (1 = no, never; 4 = yes, all the time).

FOURTH YEAR. Change in scores between Time 7 and Time 8 was not significant, although there was a slight decrease. Males and females did respond differently, however, with females showing a greater capacity for empathy and problem solving than males (female average = 3.40; male average = 3.10).

Females display a greater capacity for empathy and problem solving than males.

BASELINE/POST. Students did not display a change in empathy and problem solving from the baseline to post-test. Consistent with fourth year results, however, females displayed higher levels of empathy and problem solving than males (female average = 3.36; male average = 3.09).

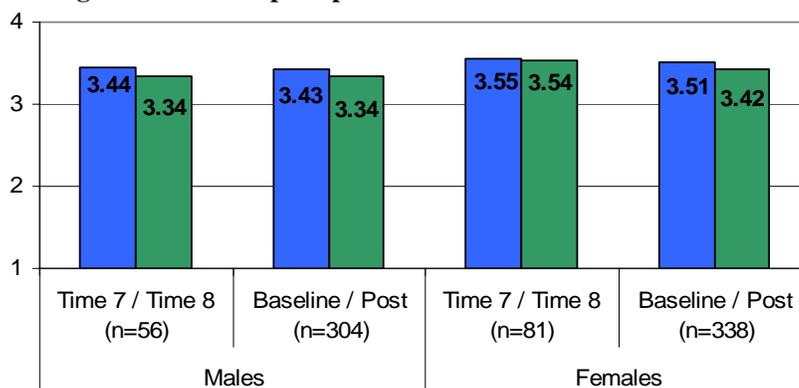
B. FAMILY FACTORS

HOME ENVIRONMENT

The home environment scale consists of six items assessing students' perceptions of their relationship with their parents and/or guardian (1 = no, never; 4 = yes, all the time).

FOURTH YEAR. Students' perceptions of their home environment over the course of the 2005 – 2006 school year did not change significantly over time for the population as a whole. However, male and female students responded differently. Females had a more positive perception of their relationship with their parents/guardians.

Figure 24. Student perception of home environment.



BASELINE/POST.

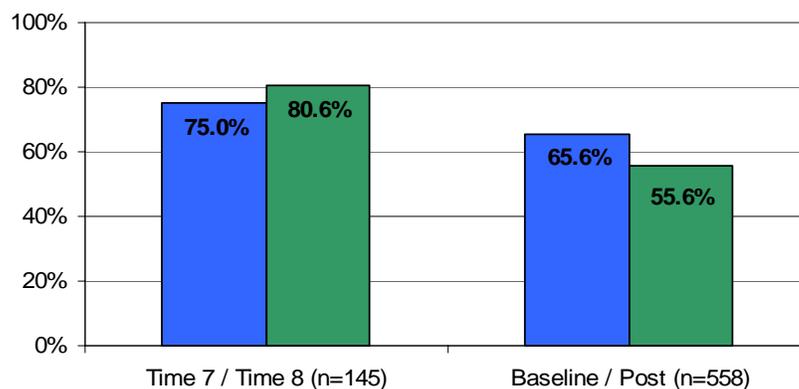
Over time, there was a significant decline in students' perception of their home environment. Females thought more positively of their home environment than did males.

FAMILY SUPERVISION

Students were asked to indicate the extent to which they were home alone after school (1 = never; 4 = yes, all the time).

FOURTH YEAR. There was a slight increase in family supervision, although not significant, with the majority of students indicated at both Time 7 and Time 8 that they were never home alone after school. This change was not statistically significant.

Figure 25. Percentage of students reporting that they were never home alone after school.



BASELINE/POST.

Over time, significantly fewer students indicated that they were *never* home alone after school at both the baseline and post-test.

C. PEER FACTORS

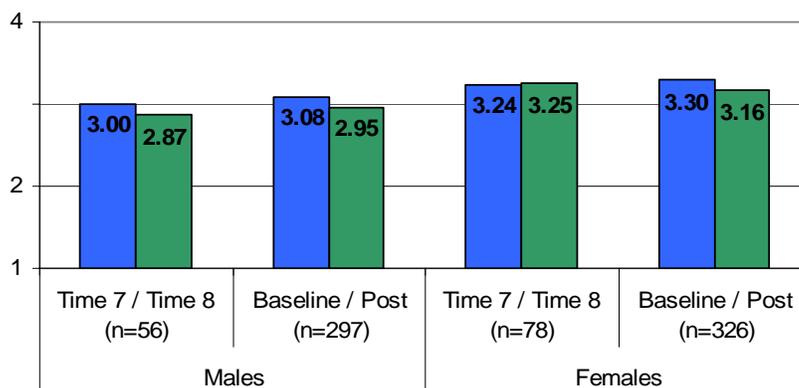
PEER ENVIRONMENT

The peer environment scale is comprised of two items. Students are asked to indicate whether they thought their friends try to do the right thing and whether they tend to get in trouble (1 = no, never; 4 = yes, all the time).

FOURTH YEAR. Students' perceptions of their friends did not significantly change over the course of the 2005 – 2006 school year. Males indicated a more negative perception of their peer environment than females.

BASELINE/POST. Similarly to the fourth year results, there was no change from the baseline to the post-test assessment in students' perceptions of their peer environment. However, consistent with previous findings, females reported a more positive peer environment in that they were more likely than males to claim that their friends try to do the right thing and tend not to get into trouble.

Figure 26. Student perception of peer environment.

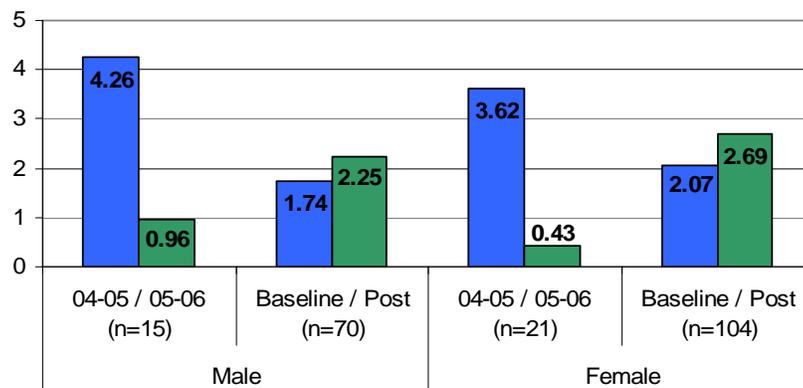


D. SCHOOL FACTORS

SCHOOL PERFORMANCE

School performance data including the number of absences, disciplinary incidents, and suspensions was collected to assess whether students changed in school performance from the 2004 – 2005 school year to the 2005 – 2006 school year. Schools did not provide information about for a large enough number of students to be able to include an analysis comparing student suspensions for Year 3 and Year 4.

Figure 27. Average number of student absences.

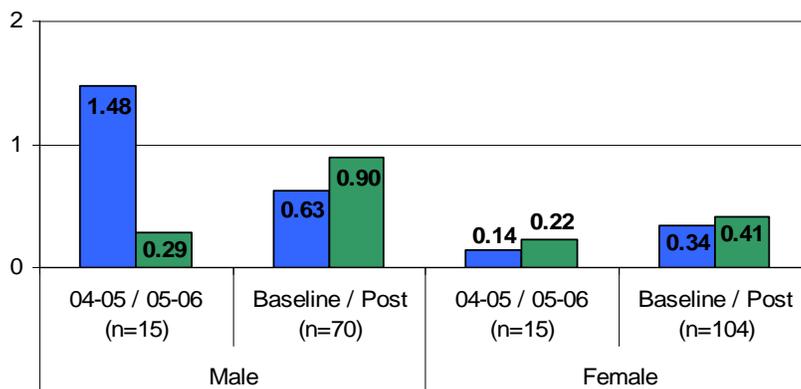


FOURTH YEAR. In the 04 – 05 school year the average number of absences was 3.94. This number significantly decreased in the fourth year of the SPIRIT project with the average number of absences falling below one day. Males and females did not differ in their average number of absences from year three to year four. The average number of disciplinary incidents did not significantly change between the third and fourth year of the project. Schools provided the number of disciplinary incidents that were related to substance use. Out of all the disciplinary incidents reported, very few (an average of 0.40) were related to substance use (no school

reported more than one incident). In the 05 – 06 school year, schools were also asked to provide data regarding whether these suspensions were characterized as in or out-of-school. Again, these numbers were very low; the average number of in-school suspensions (0.18) was slightly higher than out-of-school suspensions (0.11).

BASELINE/POST. The average number of student absences significantly increased from the baseline to the post-test assessment. Note that this is the opposite of what occurred in the fourth year analysis. Similar to the fourth year analysis, no gender differences were present. The average number of disciplinary incidents, consistent with previous findings, did not significantly differ from baseline to post-test, however a gender difference did present itself. As might be expected, males had a significantly higher number of reported disciplinary incidents than females.

Figure 28. Average number of student disciplinary incidents.

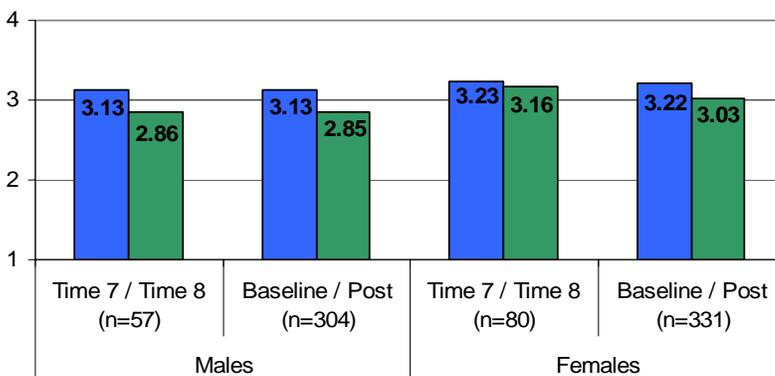


SCHOOL ENVIRONMENT

The school environment scale consists of six items assessing whether the students felt that their teachers cared about them, told them they do well, believed in them, and listened to them. They were also asked whether they were helpful in the classroom and if they feel they are involved in classroom decisions (1 = no, never; 4 = yes, all the time).

FOURTH YEAR. Students' perceptions of their school environment did not change significantly over time for the population as a whole. However, male and female students responded differently. In addition, male and female students responded differently to these questions over the course of the year in that females' perceptions of their school environment remained relatively consistent over the course of the year; however male students perceived school more negatively as the year progressed.

Figure 29. Student perception of school environment.



BASELINE/POST. Student perceptions of their school environment in the baseline/post analysis did not follow the same patterns as the fourth year assessment. There was no change over time. However, the gender difference was maintained in that females had a significantly more positive perception of their school environment than did males.

SCHOOL SAFETY

Students were asked whether they felt safe in school never, some of the time, most of the time, or all of the time.

FOURTH YEAR. At Times 7 and 8, the majority of students indicated that they felt safe at school either all of the time or most of the time.

BASELINE/POST. Similar to the fourth year assessment students felt safe at school most or all of the time at both the baseline and post-test assessment. However, there was a significant decrease in perceptions of safety from baseline to post-test.

E. COMMUNITY FACTORS

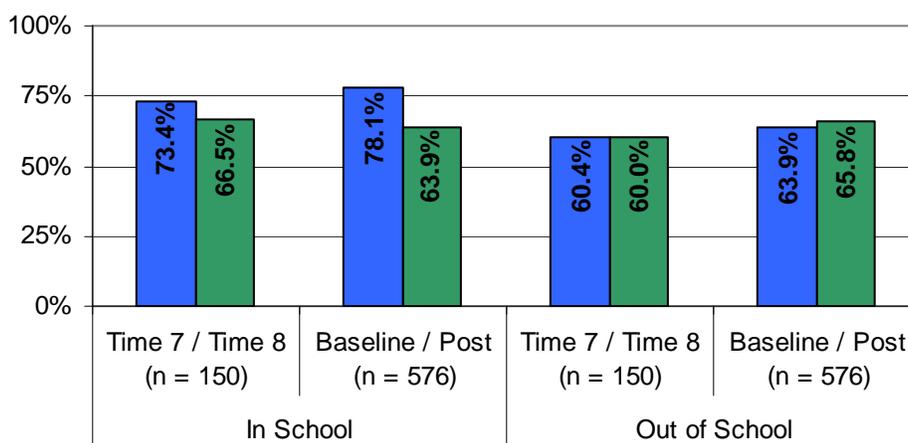
SAFETY OUTSIDE OF SCHOOL

Students were asked whether they felt safe outside of school never, some of the time, most of the time, or all of the time.

FOURTH YEAR. Students indicated that they did not feel as safe outside of school as they did in school. A majority, however, still indicated they felt safe all or most of the time at both Time 7 and Time 8.

BASELINE/POST. The majority of students felt safe outside of school all or most of the time at both the baseline and the post-test assessment.

Figure 30. Student perception of safety in and outside of school.



SUMMARY

Substance Use. In the Year 4 sample, children perceived cigarettes to be a greater risk to their health by the end of the school year; however this result was not replicated in the baseline/posttest analysis. Given the increase in cigarette users in the sample this suggests that while it seems the programs are focusing on relaying the dangers of cigarette use to their students, these effects do not last longer than the school year. The majority of children thought the health risk of using alcohol and marijuana were high. The baseline/posttest analysis reveals, however, that over time, students begin to think that using alcohol is less risky.

Anti-social Behaviors. Nearly half of the children admitted to participating or being victim of antisocial or aggressive behaviors: having rumors spread about them, hitting or pushing other students, being hit or pushed by another student, and spreading rumors about others. Over the course of the school year children admitted to spreading more rumors about other students. It is possible that this is due to nothing other than increased contact with other children. The longitudinal analysis revealed that there was also an increase in hitting or pushing other students as well as noticing that rumors were being spread about them. What is of particular interest is that although there was not change over time in the number of children reporting that they had brought a gun or knife to school or witnessed another kid with a gun or a knife at school, there was a large discrepancy between the two variables in that more students were seen with weapons than admitted having them. This could mean one of two things: 1) one of the questions is a more accurate way to ask the questions (e.g., children are more willing to admit that they had seen others with a weapon than report that they had done so themselves) or 2) children misinterpreted the question and they aren't reporting about weapons they've seen by a student at school but on weapons they've seen in general. A more accurate way of asking these questions should be explored.

Goals and Aspirations. The majority of children (84.6% to 97.4%) indicated that they had plans for the future and intended to go to college. And although there wasn't a change over the course of the school year, the baseline/posttest analysis revealed that over time students positively increase their goals and aspirations for the future.

Empathy and Problem Solving. There was no change over time in children's' ability to empathize and problem solve, with females reporting a greater ability than males. Considering the majority of children answered these questions positively and thus scored very highly on the scale, the lack of change could be considered a positive finding. The programs are maintaining children's' ability to empathize and problem solve.

Perceptions of Child's Environment. Children's perceptions of their environments varied dependent on which domain was being referred to. A consistent finding is that males think less positively of their environments as do females. In fact, although there was no change over time in children's' perception of the peer or school environment, males' perception of their school environment decreased over the course of the school year. Children reported that they felt safer inside of the school than out in Year 4, however, the baseline/posttest analysis reveals over time children actually feel safer outside of school. Over the course of the school year most children did not change their opinion of their home environment, however the baseline/posttest analysis reveals that they feel less positively over time. Children also report that they are home alone after

school more often as time progresses. It should be noted, however, that although differences were found between the perceptions of males and females, males still felt positively, just less so than did females.

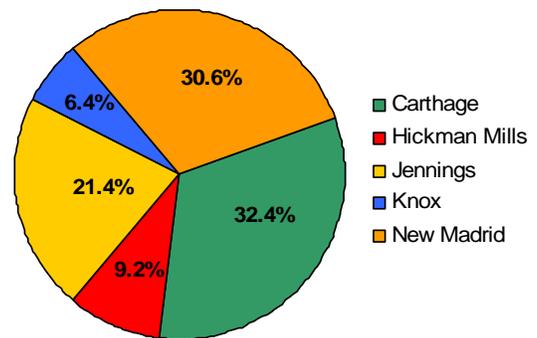
Interestingly, while there was a decrease in the number of student absences over the course of the school year, absences increased in the large baseline/post analysis. It is most likely that the more accurate finding is in the baseline/posttest analysis, considering it spans longer than one year.

CHAPTER 7 6TH – 12TH GRADE OUTCOMES

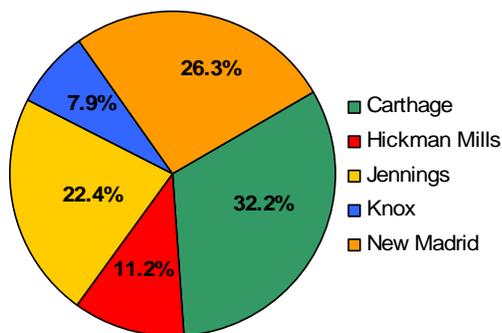
Sixth through twelfth grade students completed the SPIRIT survey, an instrument assessing substance use and related risk and protective factors. The following chapter presents both the results of the fourth year (Fall 2005 – Spring 2006) of the SPIRIT project and for any student who completed the survey at least two times at any time during the implementation of SPIRIT (2002-2006) (baseline/post analysis). Fourth year results are presented first under each heading, followed by the results of the baseline/post analysis. *Importantly, the age of youth in the baseline/posttest sample (15.2) is considerably higher than the youth in the fourth year sample (12.62) because programs were implemented in the high schools in all years except last year. Therefore comparisons of the fourth year and baseline/posttest sample need to consider these differences in age.* For all scale analyses, the effects of time and gender of participant were assessed. The age of the student was controlled for in the fourth year analysis. The age of the student and the time between baseline and post-test assessments were controlled for in the baseline/post analysis.

I. DEMOGRAPHICS

FOURTH YEAR. Between 158 and 321¹¹ students completed the survey at both Time 7 (Fall 2005) and Time 8 (Spring 2006), depending on the questions. Carthage school district had the largest percentage of respondents (32.4%), followed by New Madrid with 30.6% and Jennings representing 21.4% of the sample. Hickman Mills (9.2%) and Knox (6.4%) students made up the rest of the sample. Female students represented a majority of the sample (60.0%). Most students were either White (53.2%) or African-American (37.6%). Only a small number of students were in the 10th – 12th grades (3.5%), no students represented the 9th grade, and the 6th (27.7%), 7th (57.2%), and 8th grades (37.6%) represented the majority. The average age of the students was 12.62 years (range: 11 to 19; in the Fall of 2005).



¹¹ Note that sample size variations were due to dropping students from the analysis who had inconsistent reporting, (e.g., indicating lifetime drug use at Time 7 and not at Time 8; 30-day drug usage and not lifetime drug use) or because of complications in collecting school performance data.



BASELINE/POST. Between 457 and 2307 students completed the survey at a minimum of two administrations, depending on the items. Carthage school district had the largest percentage of respondents (32.2%), followed by New Madrid (26.3%), Jennings (22.4%), Hickman Mills (11.2%), and Knox (7.9%). A majority of students were female (54.8%). Most students were either White (53.6%) or African-American (39.6%). The average age of the students at the post-test assessment was 15.2 years (range: 11.4 to 20.6).

Notice that the average age for the post/baseline analysis is close to two and a half years older than the average age of the students analyzed in the fourth year evaluation.

Table 16. Pattern of baseline and post-test assessments; Sixth through Twelfth Graders.

Baseline	Post	# of students	Average distance between baseline and post data = 3.51 time points
Time 1 (Fall '02)	Time 2 (Spr. '03)	100	
Time 1 (Fall '02)	Time 3 (Fall '03)	49	
Time 1 (Fall '02)	Time 4 (Spr. '04)	125	
Time 1 (Fall '02)	Time 5 (Fall '04)	2	
Time 1 (Fall '02)	Time 6 (Spr. '05)	20	
Time 1 (Fall '02)	Time 8 (Spr. '06)	355	
Time 2 (Spr. '03)	Time 3 (Fall '03)	1	
Time 2 (Spr. '03)	Time 8 (Spr. '06)	3	
Time 3 (Fall '03)	Time 4 (Spr. '04)	243	
Time 3 (Fall '03)	Time 5 (Fall '04)	1	
Time 3 (Fall '03)	Time 6 (Spr. '05)	62	
Time 3 (Fall '03)	Time 7 (Fall '05)	1	
Time 3 (Fall '03)	Time 8 (Spr. '06)	505	
Time 4 (Spr. '04)	Time 6 (Spr. '05)	10	
Time 4 (Spr. '04)	Time 8 (Spr. '06)	37	
Time 5 (Fall '04)	Time 6 (Spr. '05)	1	
Time 5 (Fall '04)	Time 8 (Spr. '06)	483	
Time 6 (Spr. '05)	Time 7 (Fall '05)	2	
Time 6 (Spr. '05)	Time 8 (Spr. '06)	21	
Time 7 (Fall '05)	Time 8 (Spr. '06)	286	
TOTAL		2307	

II. SUBSTANCE USE

■ CIGARETTES

Students were asked to report how old they were when they first smoked a cigarette (even just a puff) as well as how frequently they had smoked cigarettes during the past 30 days.

There was an increase in the number of smokers between Time 7 and Time 8; however, use rates compared to the general population are much lower, and 30-day use rates did not increase.

FOURTH YEAR. Lifetime use (whether a student had ever smoked in his/her lifetime) of cigarettes increased for the Year 4 sample, although the amount that students smoked was minimal. At Time 7, 10.3% of the respondents indicated that they had smoked at least a puff of a cigarette. By Time 8 the percentage significantly increased to 20.9% (an increase of 34 students). However, comparisons with the 2006 Missouri Student Survey, a survey administered to middle and high school students throughout Missouri, indicate that the number of SPIRIT youth who smoke cigarettes is increasing at a slower rate than the general population of students. Statewide, 20.2% of all 12 year olds and 31.9% of all 13 year olds, reported smoking cigarettes in their lifetime, compared to less than 20.9% of SPIRIT youth. The average age of initiation among SPIRIT youth at Time 7 was 10.64, whereas at Time 8 it was 10.93 years of age. (The increase in age of initiation occurred because additional students started smoking between Time 7 and Time 8).

Students were also asked to indicate how frequently they had smoked cigarettes during the past 30 days. Only 3.1% and 4.4% indicated smoking within the past 30-days at Time 7 and Time 8, respectively and the majority of those reported smoking less than one cigarette per day. The increase in 30-day use of cigarettes was not significant. These rates are also lower than the general statewide student population which shows 7.1% of all 12 year olds and 13.7% of all 13 year olds (or an average of 10.4%) had used cigarettes in the past 30 days.

These data suggest that while a certain number of students started smoking during the 2005-2006 school year, on the whole, SPIRIT students have not initiated smoking or are not smoking regularly at the same rates as the average Missouri student.

BASELINE/POST. At baseline assessment, 32.1% of the students reported having smoked at least a puff of a cigarette. This number increased significantly to 40.9% by post-test (an increase of 71 students). The average age of initiation at baseline was 11.10 years of age which increased to 11.28 by post-test. A smaller number of students reported having smoked cigarettes within the past 30 days (baseline: 14.6%; post-test: 18.2%). This was a significant increase in 30-day use. This increase is not surprising given that among youth of this age in the general population, use rates are increasing.

■ **ALCOHOL**

Students were asked to report how old they were when they had more than a sip or two of alcohol and when they began drinking alcohol regularly (at least once or twice a month). They were also asked to indicate on how many occasions they drank alcohol during the past 30 days and how many times they had five or more alcoholic drinks in a row over the past two weeks (binge drinking).

● **MORE THAN A SIP.**

FOURTH YEAR. At Time 7, 11.1% of the students reported having more than a sip of alcohol in their lifetime (average age of initiation = 10.93). By Time 8 this percentage had significantly increased to 26.2% (an increase of 41 students; average age of initiation = 11.00).

The average age of the SPIRIT youth at Time 7 was 12.6. SPIRIT youth drink less than either the average 12- or 13-year-old living in Missouri.

BASELINE/POST. At baseline 39.7% of the students revealed that they had consumed more than a sip of alcohol at some point in their lifetime (average age of initiation = 11.38). There was a significant increase in lifetime users by post-test with 53.1% reporting having drunk more than a sip of alcohol (an increase of 111 students; average age of initiation = 11.75).

● **REGULAR USE.**

FOURTH YEAR. The number of students who indicated that they drink regularly was significantly lower than those who reported they had has more than a sip of alcohol. At Time 7, 1.8% of the students reported that they drink regularly, while at Time 8, 4.8% indicated such (an increase of 8 students). While these percentages are still relatively low, the increase from Time 7 to Time 8 was significant. The average age of initiation at Time 7 was 10.4, whereas at Time 8 it was 10.92 years of age, again due to the additional youth who began drinking between time points.

Comparisons with the Missouri Student Survey indicate that SPIRIT youth use less alcohol than the general population of students. Statewide, 6.2% of all 12 year olds and 14.2% of all 13 year olds, reported drinking regularly, compared to less than 5% for SPIRIT youth.

BASELINE/POST. At baseline 17.4% of the students reported that they drink regularly, while at post-test 22.8% indicated such (a significant increase of 43 students). The average age of initiation at baseline was 11.24, whereas at post-test it was 11.79 years of age.

● **30-DAY USE.**

FOURTH YEAR. At Time 7, only 1.1% of the students reported that they drank alcohol within the past thirty days. By Time 8, 6.6% reported having done so, a significant increase. The majority of the students indicated, at both time points, that while they drank within the past thirty days, it was only one or two times (Time 7 = 0.7%; Time 8 = 4.8%).

Comparisons with statewide data again indicate lower use rates among SPIRIT youth. Statewide, 11.1% of 12 year olds, and 22% of 13 year olds reported use in the past 30 days, compared to less than 7% of SPIRIT youth.

There were increases in alcohol use in Year 4 and in the longitudinal sample. However, most of these youth are right at the age when alcohol use begins to escalate sharply (PRIDE National Surveys), and use rates for SPIRIT youth are lower than the general population of youth their age.

BASELINE/POST. At baseline only 8.3% of the students reported that they drank alcohol within the past thirty days. By post-test there was a significant increase such that 19.0% of the sample reported at least one incidence of drinking alcoholic beverages within the past 30 days. Again, these percentages are lower than statewide averages.

BINGE DRINKING.

FOURTH YEAR. At both Time 7 and Time 8, only 1.1% of the sample reported binge drinking.

Binge drinking rates were low in Year 4 (1.1%) and did not increase by the end of the year.

BASELINE/POST. In contrast to the fourth year analysis, there was a significant increase in binge drinking from baseline (3.5%) to post-test (8.7%) with an additional 49 students reporting at least one incident of binge drinking within the past two weeks. These binge drinking rates are lower than binge drinking rates in the statewide sample. The higher incidence of binge drinking in the baseline/post sample, (a large percentage of whom began the program before last year), suggests that the programs are having a positive effect on students' decision to binge drink.

MARIJUANA

Students were asked to report how old they were when they first smoked marijuana and on how many occasions they had used marijuana during the past 30 days.

FOURTH YEAR. At Time 7, 1.6% of the sample reported smoking marijuana at some point in their lifetime (average age of initiation = 11.71). By Time 8, the number of students reporting such had increased to 4.6%, a significant increase (an increase of 11 students; average age of initiation = 11.24). Lifetime use in the statewide sample was 2.2% for 12-year-olds and 3.7% for 13-year-olds.

The number of students reporting that they had used marijuana within the past thirty days also significantly increased from Time 7 to Time 8. At Time 7, 1.1% of the students indicated using marijuana anywhere from one to five times within the past month, whereas at Time 8, 3.2% of the students indicated using marijuana anywhere from one to 40 or more times. In the statewide sample, 1.5% of 12-year-olds, and 2.3% of 13-year-olds had used marijuana in the past 30 days.

Unlike cigarette and alcohol use, marijuana use in the SPIRIT sample was slightly higher than the statewide sample. Use also increased over time. Additional emphasis on the effects of marijuana on the teenage brain is recommended.

BASELINE/POST. At baseline, 18.0% of the sample reported smoking marijuana at some point in their lifetime (average age of initiation = 11.29). By post-test the number of students reporting such had significantly increased to 21.5% (an increase of 29 students; average age of initiation = 11.95). The number of students reporting that they had used marijuana within the past thirty days also significantly increased from baseline to post-test. At baseline, 1.7% of the students indicated using marijuana within the past month and at post-test 6.0% of the students reported having done so. It is important to note that this sample includes a higher percentage of high school students and that the average age at post test is 15.2.

CHEWING TOBACCO/SNUFF

Students were asked to report how frequently they had used smokeless tobacco during the past 30 days.

FOURTH YEAR. The rate of using chewing tobacco within the past thirty days did not significantly increase from Time 7 (2.7%) to Time 8 (3.9%). The pattern of responses did not vary with students reporting that they used chewing tobacco only once or twice within the past thirty days, once in a while, or regularly with equal frequency. In the statewide sample, 3.6% of 12-year-olds and 5.7% of 13-year-olds had used in the past thirty days. Chewing tobacco use is thus less prevalent among the SPIRIT students, and did not significantly increase from Time 7 to Time 8.

Chewing tobacco use did not increase significantly from Time 7 to Time 8.

BASELINE/POST. The rate of chewing tobacco use within the past thirty days significantly increased from baseline (11.9%) to post-test (14.5%).

■ ***INHALANTS***

Students were asked to report on how many occasions they had sniffed glue, breathed the contents of an aerosol spray can, or inhaled other gases or sprays in order to get high during the past 30 days.

In Year 4, there was no significant increase in inhalant use.

FOURTH YEAR. There was no significant change in use of inhalants within the past thirty days, from Time 7 (8.4%) to Time 8 (7.2%). It is interesting to note, however, that among the variety of types of drugs measured, inhalants were the most frequently used within the past thirty days except for alcohol use. Most students reported only using it one or two times during that time. In the statewide sample 6.5% of 12-year-olds and 9.1% of 13-year-olds had used in the past 30 days.

BASELINE/POST. Contrary to the fourth year findings, there was a significant increase in reported 30-day inhalant use with 2.4% of the students reporting use at baseline compared to 7.5% at post-test.

■ ***OTHER ILLEGAL DRUGS***

Students were asked to report on how many occasions they had used psychedelics/LSD, cocaine/crack, amphetamines/speed/methamphetamine, methamphetamine, ecstasy/other club drugs, prescription medication, and any other illegal drugs during the past 30 days.

FOURTH YEAR. There was no significant change in thirty day use of any of these drugs from Time 7 to Time 8. The tables below the summary list the drugs in order of their frequency of use, as indicated by students' report of their use within the past thirty days.

In Year 4, there was no significant increase in use of any of the other illegal drugs.

BASELINE/POST. A significant increase was found in 30-day drug use for all other illegal drugs, most likely due to a greater amount of analyzable data, however, these increases should be interpreted with caution considering the relatively small number of new 30-day users. For example, the largest increase from baseline to post-test assessments was for prescription drug use which increased by 2.9% (19 students).

SUMMARY

A small minority of students reported that they had used any drugs in their lifetime. Students, who did use, chose cigarettes, alcohol, inhalants and marijuana over other drugs. There was a significant increase in the number of users of cigarettes, alcohol, and marijuana over time. There was also a significant increase in the number of 30-day users of alcohol and marijuana. The majority of those who did smoke cigarettes reported that they smoked less than one cigarette per day. While there was not an increase in inhalant use in the fourth year, more students reported using this drug within the past 30-days than any other with the exception of alcohol. The baseline/post analysis did show a significant increase in 30-day use of other illegal drugs, with the largest increase being of 30-day users of prescription medication (an additional 19 students). Some of the significance in this drug use may be due to the larger sample size in the analysis and to the older age of the baseline/post sample. Therefore, it is doubtful that these increases are meaningful. However, a focus should be made on preventing and discouraging the use of cigarettes, alcohol, and marijuana. Not only is use increasing, but the findings in the next section identify that students are decreasing their assessment of the risk that they perceive these drugs to pose.

FOURTH YEAR.

Table 17. The percentage of students who reported using the drug at least once during the past thirty days at Time 7, in order of frequency. n=153-160

		Time 7
1	Alcohol	18.8%
2	Inhalants	8.4%
3	Prescription Medication	3.6%
4	Cigarettes	3.1%
5	Smokeless Tobacco	2.7%
6	Other Illegal Drugs	2.1%
7	Ecstasy	1.8%
8	Marijuana	1.1%
9	Cocaine	1.1%
10	Psychedelics	0.9%
11	Amphetamines	0.9%
12	Methamphetamine	0.9%

Table 18. The percentage of students who reported using the drug at least once during the past thirty days at Time 8, in order of frequency. n=153-160

		Time 8
1	Alcohol	18.8%
2	Inhalants	7.2%
3	Cigarettes	4.4%
4	Smokeless Tobacco	3.9%
5	Marijuana	3.2%
6	Prescription Medication	2.1%
7	Other Illegal Drugs	2.0%
8	Cocaine	1.2%
9	Amphetamines	1.2%
10	Methamphetamine	0.8%
11	Ecstasy	0.8%
12	Psychedelics	0.7%

BASELINE/POST.

Table 19. The percentage of students who reported using the drug at least once during the past thirty days at Baseline assessment, in order of frequency. n=655-949

		Baseline
1	Cigarettes	14.6%
2	Smokeless Tobacco	11.9%
3	Alcohol	8.3%
4	Inhalants	2.4%
5	Marijuana	1.7%
6	Other Illegal Drugs	0.9%
7	Prescription Medication	0.2%
8	Ecstasy	0.2%
9	Cocaine	0.2%
10	Psychedelics	0.2%
11	Amphetamines	0.0%
12	Methamphetamine	0.0%

Table 20. The percentage of students who reported using the drug at least once during the past thirty days at Post-test assessment, in order of frequency. n=655-949

		Post-test
1	Alcohol	19.0%
2	Cigarettes	18.2%
3	Smokeless Tobacco	14.5%
4	Inhalants	7.5%
5	Marijuana	6.0%
6	Prescription Medication	3.1%
7	Other Illegal Drugs	2.9%
8	Cocaine	2.1%
9	Psychedelics	1.8%
10	Methamphetamine	1.7%
11	Amphetamines	1.5%
12	Ecstasy	1.5%

III. RISK AND PROTECTIVE FACTORS

The prevention research field has shown a strong link between risk and protective factors and substance use. Risk factors can include individual characteristics that put individuals at risk, including aggressive behavior and involvement in risky, illegal, or dangerous activities. Family factors can include family conflict, lack of parental supervision, and favorable attitudes of parents toward drug use. School factors can include a lack of connection to school, lack of teacher support, and poor academic performance. Community and societal risk factors can include neighborhoods with visible substance use on the streets, easy access to drugs, media/advertising enticing youth to use, and a lack of enforcements of laws prohibiting substance use.

Protective factors are those influences that protect youth from substance use and the risk factors related to use. They include such qualities as self-worth, self-control, family and school bonding, positive outlook on life, and parent, school, peer and community norms that oppose substance use. While not all of those were available in the SPIRIT survey, several important factors were explored.

A. INDIVIDUAL FACTORS

ILLEGAL AND VIOLENT BEHAVIORS

Students were asked to indicate the frequency, within the past year, of performing particular behaviors that were either illegal or violent in nature. The illegal behaviors included being arrested, being suspended from school, selling illegal drugs, stealing a motor vehicle (or trying to), being drunk or high at school, and taking a gun to school. The violent behaviors included

being in a physical fight, using a weapon to threaten someone, being pushed or shoved by someone, being threatened or with a weapon, seeing someone carrying a weapon, and being bullied. Notice that these behaviors include being both the aggressor and the victim of violence.

ILLEGAL BEHAVIORS

FOURTH YEAR. The number of illegal behaviors did not increase from Time 7 to Time 8. Additionally, males and females did not differ in the number of illegal behaviors reported.

In Year 4, there was no significant increase in any illegal behaviors. **Males** reported participating in more violent behaviors than females.

POST/BASELINE. The number of illegal behaviors reported did not vary depending on time of assessment. Unlike results in the fourth year evaluation, however, males reported participation in a greater number of illegal behaviors than females.

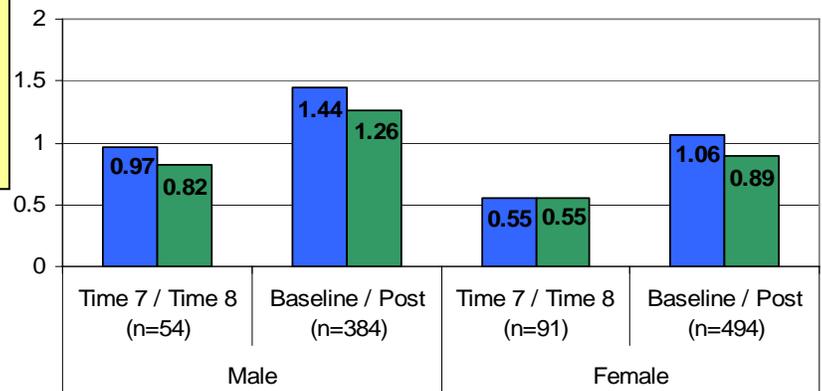
VIOLENT BEHAVIORS

The patterns for violent behavior, while not statistically significant, suggest positive change across a number of behaviors both for the Fourth Year sample and the Baseline/posttest sample. Furthermore, and perhaps more importantly, none of the behaviors got worse in Year Four, contrary to general maturational trends in this population.

FOURTH YEAR. While there was no difference in the reported number of violent behaviors from the beginning to the end of Year 4, males did report a significantly higher number than females.

There were no increases in violent behaviors in Year Four. Fighting was the most frequent violent behavior; being pushed or shoved and seeing someone with a weapon were the two most frequent bullying behaviors.

Figure 31. Average number of violent behaviors reported by males and females.



- Physical fighting was by far the most frequent behavior at both Time 7 and Time 8 with close to 50% of SPIRIT youth in the evaluation reporting this behavior. There was no change in fighting from Time 7 to Time 8.
- Suspensions were the second most frequent behavior, with a little more than one-fifth of the sample reporting being suspended (within the past year) at Time 7. Although not significant, this percentage declined slightly between Time 7 and Time 8.

- Very few students reported being drunk or high at school, selling illegal drugs, stealing a car or bringing a weapon to school at Time 7 or Time 8.
- A high percentage of youth reported being bullied, either by being pushed or shoved, threatened with a weapon, or harassed or bullied, with no change over time. There was a slight, but not significant drop in the number of youth who saw another student with a weapon and who reported being bullied.
- While a large percentage of youth had seen other youth with weapons, a much lower percentage had been threatened with a weapon themselves. Nevertheless, around 10% of youth had been threatened by a weapon.

BASELINE/POST. Consistent with the fourth year sample, there was no difference between the number of violent behaviors reported at the baseline and post-test assessment. There were also patterns to suggest reductions in some behaviors, including seeing someone with a weapon, and being bullied. Males reported participating in a greater number of violent behaviors than females.

Figure 32. Percentage of students reporting illegal and violent behaviors at Time 7 and Time 8.

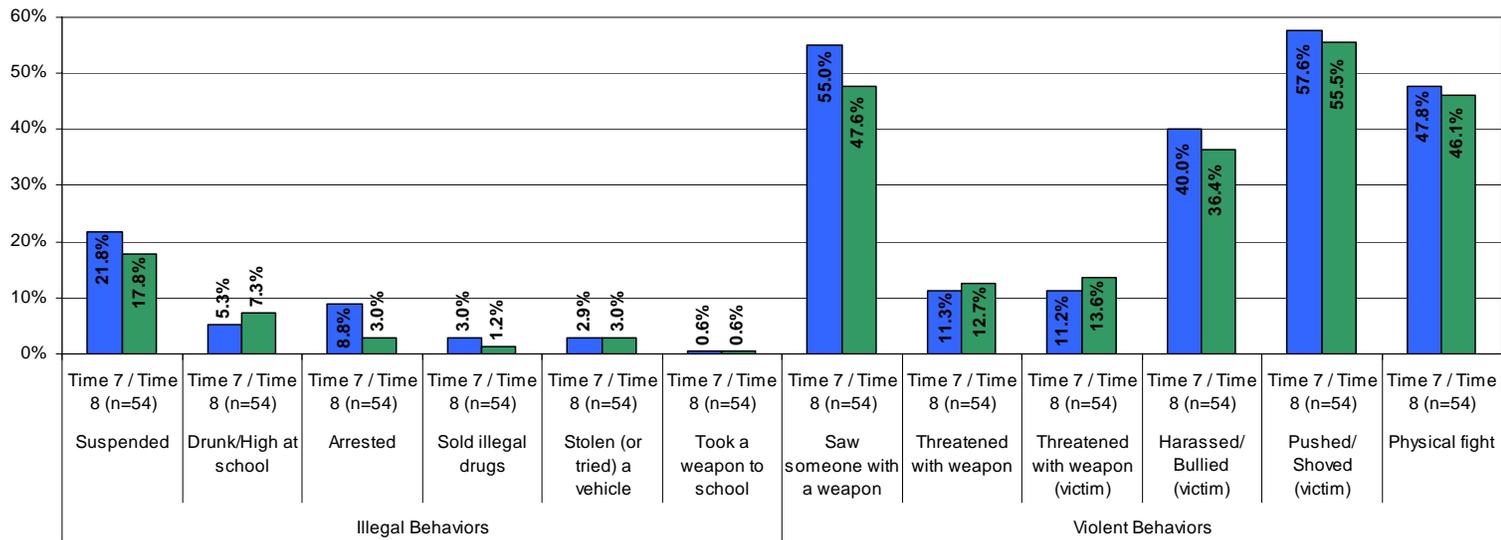


Figure 33. Percentage of students reporting illegal and violent behaviors at baseline and post-test assessments.

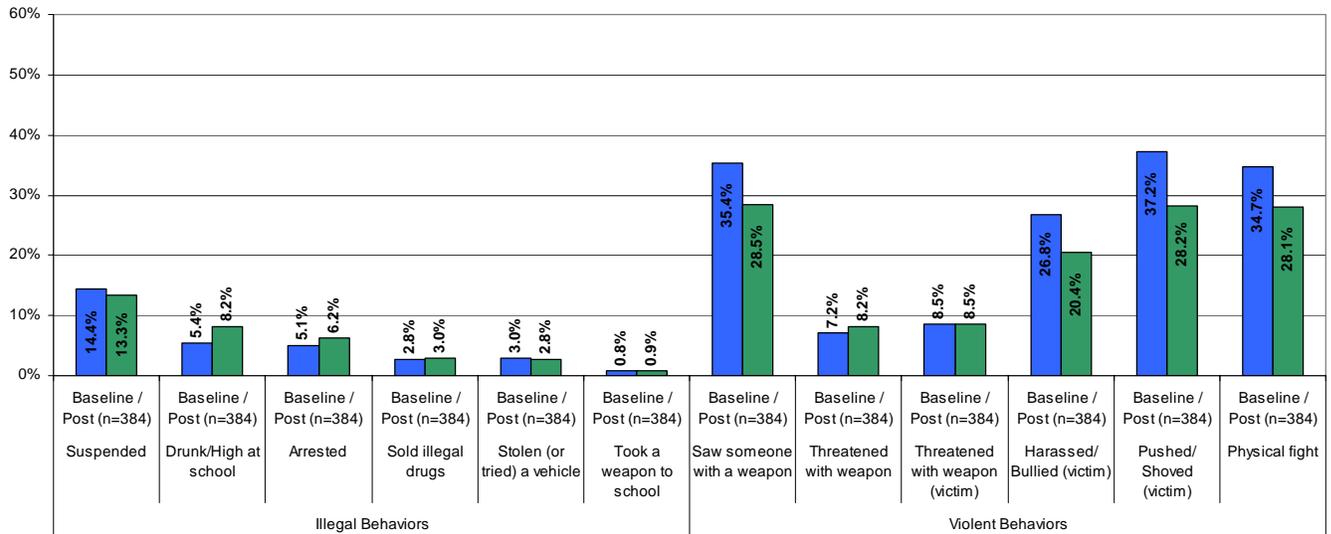


Table 21. The percentage of students who reported illegal or violent behaviors or being a victim of antisocial behaviors at least once within the past year at Time 7, in order of frequency. n=162-170

	Time 7
1	Pushed/Shoved (victim) 57.6%
2	Saw someone with weapon 55.0%
3	Been in a physical fight 47.9%
4	Harassed/Bullied (victim) 40.0%
5	Suspended 21.8%
6	Used weapon to threaten/bully 11.3%
7	Threatened with weapon (victim) 11.2%
8	Arrested 8.8%
9	Drunk/High at school 5.3%
10	Sold illegal drugs 3.0%
11	Stolen (or tried) a vehicle 2.9%
12	Took a weapon to school 0.6%

Table 22. The percentage of students who reported illegal or violent behaviors or being a victim of antisocial behaviors at least once within the past year at Time 8, in order of frequency. n=162-170

	Time 8
1	Pushed/Shoved (victim) 55.5%
2	Been in a physical fight 47.6%
3	Saw someone with weapon 46.1%
4	Harassed/Bullied (victim) 36.4%
5	Suspended 17.8%
6	Used weapon to threaten/bully 13.6%
7	Threatened with weapon (victim) 12.7%
8	Arrested 7.3%
9	Drunk/High at school 3.0%
10	Stolen (or tried) a vehicle 3.0%
11	Sold illegal drugs 1.2%
12	Took a weapon to school 0.6%

Table 23. The percentage of students who reported illegal or violent behaviors or being a victim of antisocial behaviors at least once within the past year at Baseline assessment, in order of frequency. n=2222-2249

		Baseline
1	Pushed/Shoved (victim)	37.2%
2	Saw someone with weapon	35.4%
3	Been in a physical fight	34.7%
4	Harassed/Bullied (victim)	26.8%
5	Suspended	14.4%
6	Threatened with weapon (victim)	8.5%
7	Used weapon to threaten/bully	7.2%
8	Drunk/High at school	5.4%
9	Arrested	5.1%
10	Stolen (or tried) a vehicle	3.0%
11	Sold illegal drugs	2.8%
12	Took a weapon to school	0.8%

Table 24. The percentage of students who reported illegal or violent behaviors or being a victim of antisocial behaviors at least once within the past year at Post-test assessment, in order of frequency. n=2222-2249

		Post-test
1	Saw someone with weapon	28.5%
2	Pushed/Shoved (victim)	28.2%
3	Been in a physical fight	28.1%
4	Harassed/Bullied (victim)	20.4%
5	Suspended	13.3%
6	Threatened with weapon (victim)	8.5%
7	Used weapon to threaten/bully	8.2%
8	Drunk/High at school	6.3%
9	Arrested	6.2%
10	Sold illegal drugs	3.0%
11	Stolen (or tried) a vehicle	2.8%
12	Took a weapon to school	0.9%

RISK OF SUBSTANCE USE

Students were asked to indicate the extent to which they thought people risked harming themselves if they used cigarettes, marijuana, alcohol, ecstasy, methamphetamines, and LSD. Students' responses to these questions, measured from zero (no risk) to three (great risk), were combined to form scores for total risk, minor drug risk (cigarettes, marijuana, and alcohol), and major drug risk (ecstasy, methamphetamines, and LSD).

FOURTH YEAR. There were no significant differences from Time 7 to Time 8 on any of these measures. The average drug use risk (total) score did not vary from Time 7 to Time 8. There were no differences according to gender.

BASELINE/POST.

A comparison of the baseline and post-test assessment scores revealed a significant difference in that, in general, students perceived drugs to be more risky at baseline than at post-test.

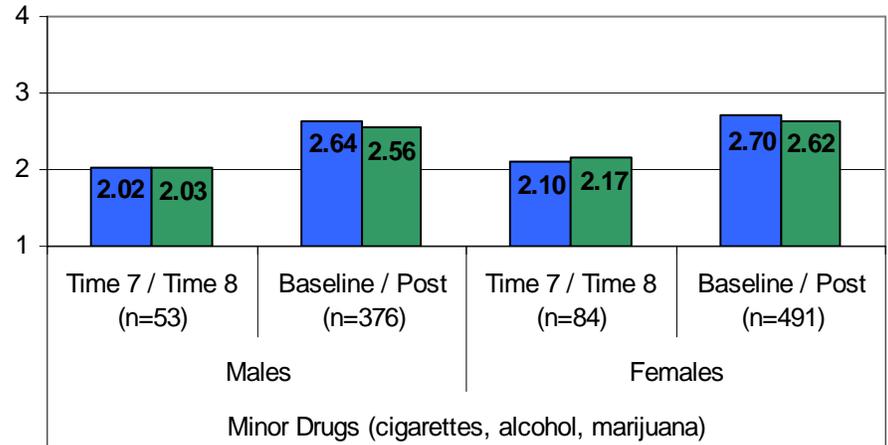
Youth perceived use of major drugs to be very risky, with the average youth stating that it was "great risk". Minor drugs were perceived to be less harmful over time.

MINOR DRUG RISK (CIGARETTES, ALCOHOL, AND MARIJUANA)

FOURTH YEAR. The average minor drug use risk score did not significantly change from 2.06 (Time 7) to 2.10 (Time 8). Males and females did not differ in perception of drug use risk.

BASELINE/POST. In contrast to the fourth year evaluation, students perceived minor drug use to be more risky at baseline than at post-test. This result is in a negative direction. There were no gender differences found.

Figure 34. Perceived risk of using minor drugs.



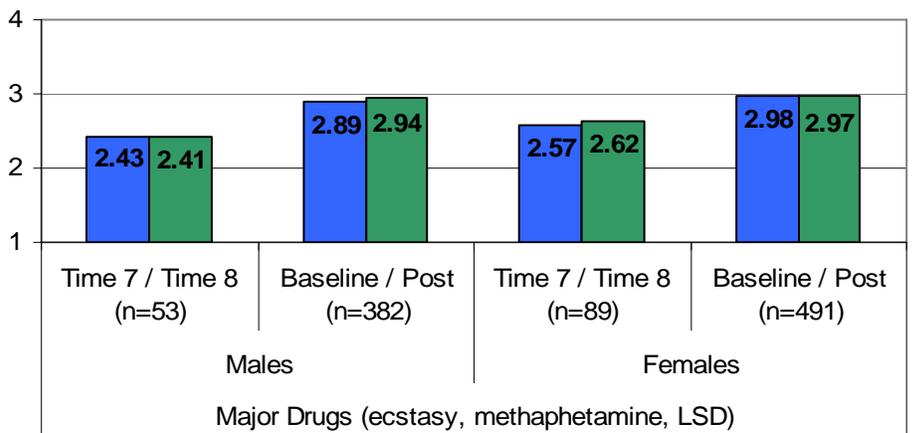
MAJOR DRUG RISK (ECSTASY, METHAMPHETAMINES, AND LSD)

FOURTH YEAR. Most youth perceived use of major drugs to be very risky, and this did not change over time. Males and females did not differ in perception of drug use risk.

BASELINE/POST. Students perceived the use of major drugs to be more risky at post-test than at baseline. Recall that students were asked to report their perceived risk of using all drugs, regardless of the type (minor or major). Though students revealed a decrease in perceived risk of drug use, the effect is largely contained within students' perceptions of the risk of using minor drugs.

With respect to major drugs, those that are more dangerous in nature, students did perceive a greater risk of harm of using overtime. There was no gender difference in perceived risk of using major drugs.

Figure 35. Perceived risk of using major drugs.

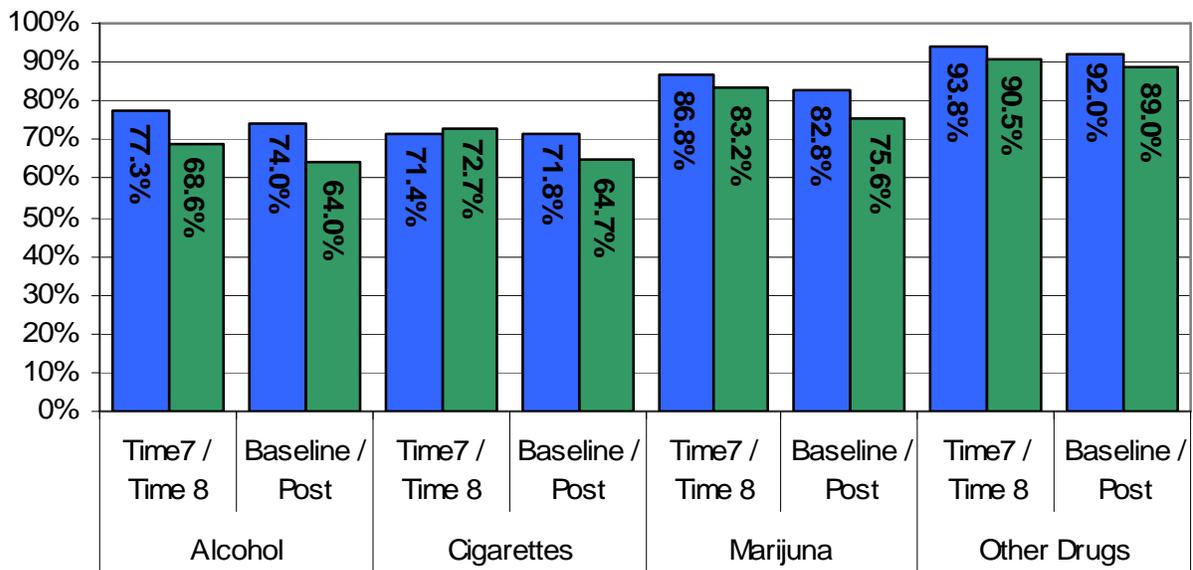


WRONGFULNESS OF DRUG USE

Students' attitudes toward drug use were assessed by asking how wrong they thought it was for someone their age to use alcohol, cigarettes, marijuana, and other illegal drugs (1 = very wrong; 4 = not wrong at all).

FOURTH YEAR. Most youth considered drug use to be wrong, particularly other illegal drug use. Student responses were similar at both Time 7 and Time 8, although there are patterns suggesting that alcohol, marijuana and other illegal drugs are becoming less "wrong" as youth grow older. The most accepted drugs were alcohol and marijuana. There was no difference in attitudes by gender.

Figure 36. Perceived wrongfulness of using cigarettes, alcohol, and other drugs



BASELINE/POST. Consistent with the fourth year evaluation, there were no statistically significant responses; however, data suggest that youth perceive drug use to be less wrong over time. While this is similar to trends found nationally, it is nonetheless an area of concern because wrongfulness has been shown to be highly correlated with substance use.

ATTITUDES TOWARD ANTISOCIAL/AGGRESSIVE BEHAVIORS

Students' attitudes toward antisocial and aggressive behavior were measured by asking them how wrong they thought it was to take a gun to school, steal more than \$5.00, pick a fight, attack someone, and to skip school (1 = not wrong at all; 4 = very wrong).

FOURTH YEAR. There were no significant differences in student attitudes from Time 7 to Time 8. However, males and females differed in their attitudes, with males being more accepting of antisocial/aggressive behavior (average = 1.76; female average = 1.62).

Males reported being more accepting of antisocial/aggressive behaviors than females in the **fourth year** evaluation.

BASELINE/POST. No differences were found between the antisocial/aggressive behaviors at the baseline and post-test assessments. Variant from the fourth year evaluation, males and females reported similar attitudes toward these behaviors.

■ **STRESS MANAGEMENT**

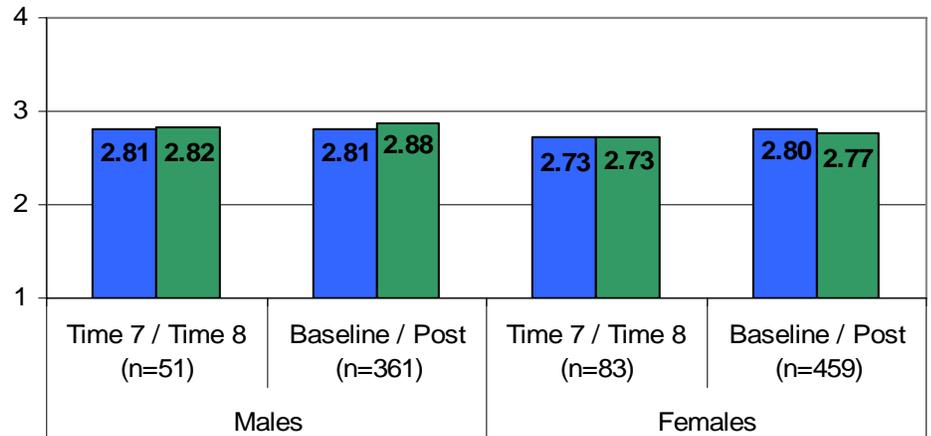
The students were asked to respond to four items assessing their ability to handle stress: (1) I handle stress very well; (2) Stressful situations are very difficult for me to deal with (reverse coded); (3) I know how to relax when I feel too much pressure; (4) I know what to do to handle a stressful situation (1 = strongly disagree; 4 = strongly agree).

FOURTH YEAR. Student responses did not change over the course of the year. Males and females reported a similar ability to deal with stress.

BASELINE/POST.

Consistent with the fourth year evaluation there were no differences found over time. At baseline males and females reported the same ability to handle stress, however, by post-test the ability of males to handle stress increased, while female ability decreased.

Figure 37. Male and female students' ability to manage stress (higher score indicates greater ability to handle stress).



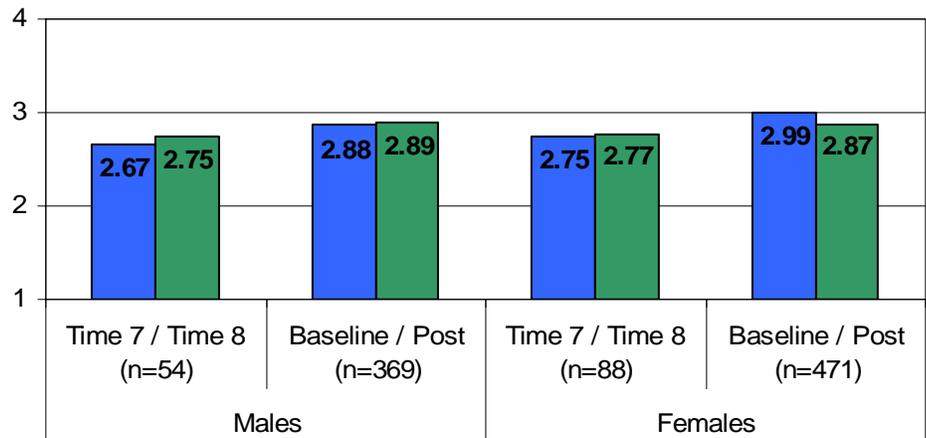
■ **DECISION MAKING SKILLS**

The ability for students to make good decisions was assessed through four items. The questions ask, for example, if the student thinks of the options and considers the consequences before a decision is made (1 = strongly disagree; 4 = strongly agree).

FOURTH YEAR. Responses were similar across the 2005 – 2006 school year for both males and females regardless of time of assessment.

BASELINE/POST. The baseline/post-test analysis did not produce any apparent time or gender effects. However, females reported better decision-making skills at pretest than males, but by post-test females' ability to make decisions declined to be about equal with males.

Figure 38. Male and female students' ability to make decisions.



■ **SELF-ESTEEM**

Students responded to the Rosenberg Self-Esteem scale, a ten item measure assessing their perception of themselves. The students' responses to these questions, measured from one (strongly disagree) to four (strongly agree), were combined to form a total self-esteem, positive self-esteem (comprised of positively worded items), and negative self-esteem score (comprised of negatively worded items reverse scored).

FOURTH YEAR. In general, youth reported high self-esteem at both Time 7 and Time 8, with no significant differences between time points. Nor were any differences found between males' and females' self-esteem.

The average self-esteem score was above 3.00 regardless of time of assessment or gender of participant indicating that, in general, students reported having **HIGH self-esteem**.

BASELINE/POST. Consistent with previous findings there were no significant differences in self-esteem. Male and female students reported a similar level of self-esteem at both baseline and post-test assessments.

B. FAMILY

■ *FAMILY RESPONSE TO DEVIANT BEHAVIORS*

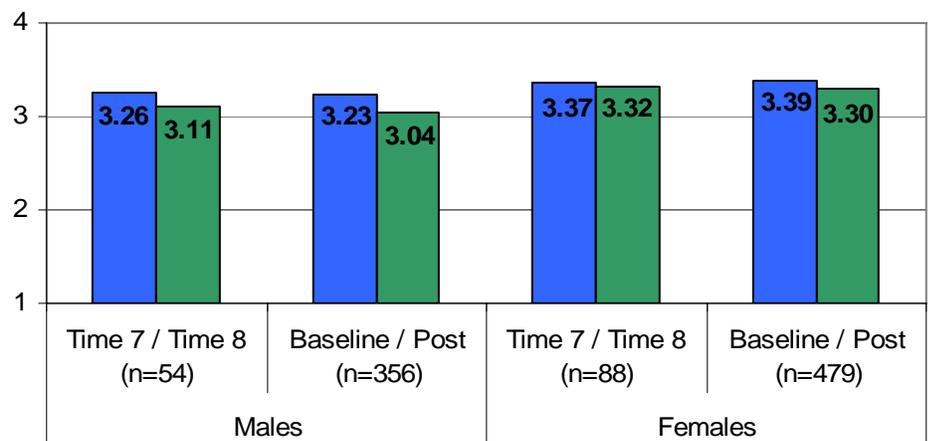
Students were asked to indicate the likelihood of their parents catching them using alcohol, carrying a gun, or skipping school (1 = NO!; 4 = YES!).

FOURTH YEAR. Students indicated a similar perception of their parents' behavior at both Time 7 and Time 8, with slight, though not statistically significant, reductions in parental action during the year, particularly among males. This finding suggests that programming include messages to parents regarding the importance of their responses to their children's behaviors to their child's future well-being.

BASELINE/POST.

There was no difference in reported parental response from baseline to post-test administrations. However, contrary to the fourth year results, females indicated that their parents were more likely to catch them in deviant acts than males.

Figure 39. Male and female students' perceived family response to deviant behavior.



■ *FAMILY MANAGEMENT*

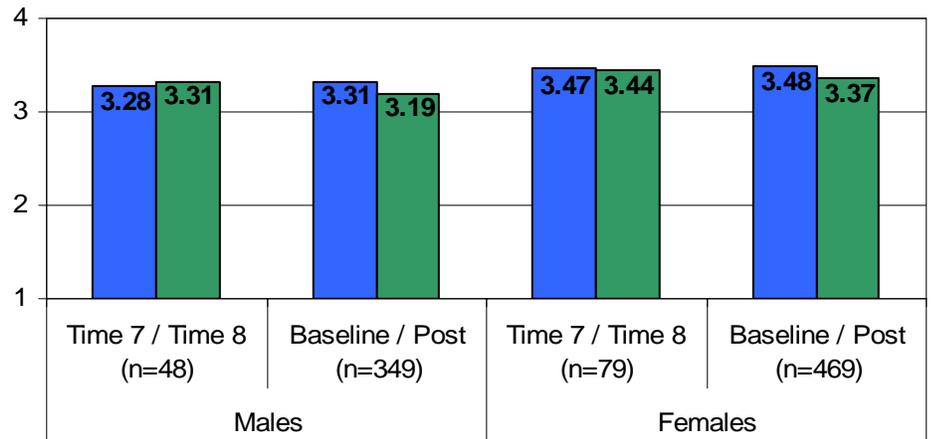
The family management scale consists of six items to which students were asked about their perceptions of their family as having clear rules and the involvement of their parents regarding school, behavior, and drug use (1 = NO!; 4 = YES!).

FOURTH YEAR. While there was no difference across the school year in perceptions of family management (Time 7 average = 3.38; Time 8 average = 3.37), females (average = 3.46) reported a significantly stronger level of family management than males (average = 3.30).

BASELINE/POST.

Consistent with the findings of the fourth year evaluation, there was no difference found in students' perception of family management from the baseline to the post-test analysis. Females, again, reported a significantly higher level of perceived family management than males.

Figure 40. Male and female students' perceived family management.



C. SCHOOL

SCHOOL PERFORMANCE

School performance data including the number of absences, disciplinary incidents, and suspensions were collected to assess whether students changed in school performance from the 2004–2005 school year to 2005 – 2006 school year. For the baseline/post analysis, student performance data was compared from the first point to the last point of assessment. For example, if a student's first assessment was in the Fall of 2003 (Time 3) and their last assessment was in the Spring of 2005 (Time 6) their baseline school performance data would be from the 2003 – 2004 school year and their post-test school performance data would be from the 2004 – 2005 school year.

ABSENCES

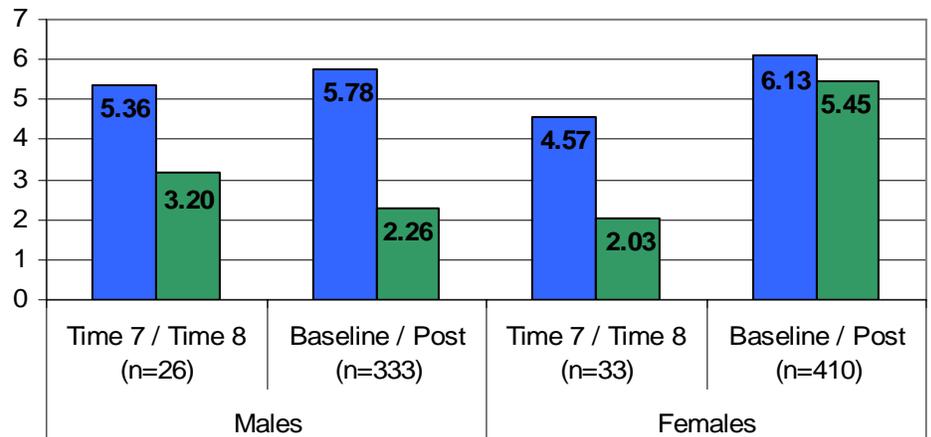
FOURTH YEAR. The number of absences in the fourth year of the SPIRIT project were significantly lower than in the year previous (Year 3). No gender differences were observed.

The number of student absences declined between the 2004-2005 and 2005-2006 school years.

BASELINE/POST.

Consistent with the fourth year evaluation, the number of absences at the post-test assessment was significantly lower than the number at the baseline assessment.

Figure 41. Average number of absences per student.



DISCIPLINARY INCIDENTS

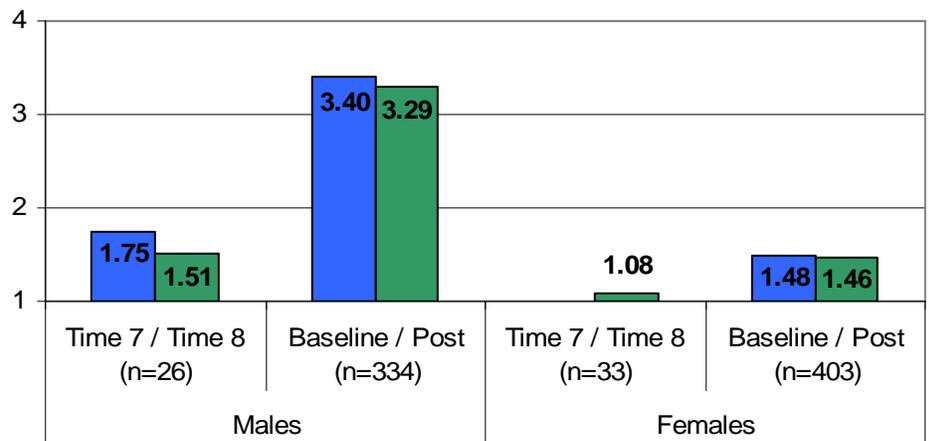
FOURTH YEAR. The average number of disciplinary incidents did not significantly change between the third and fourth year of the project, nor were any gender differences evident. In the 05 – 06 school year, schools provided the number of disciplinary incidents that were related to substance use. Out of all the disciplinary incidents, very few reported substance use related disciplinary incidents (0.16).

The average number of student disciplinary incidents remained unchanged from the 2004-2005 to the 2005-2006 school year.

BASELINE/POST.

The average number of disciplinary incidents did not change significantly over time. However, variant from the fourth year evaluation, a gender difference was found in that it was reported that males had a significantly greater number of disciplinary incidents than females.

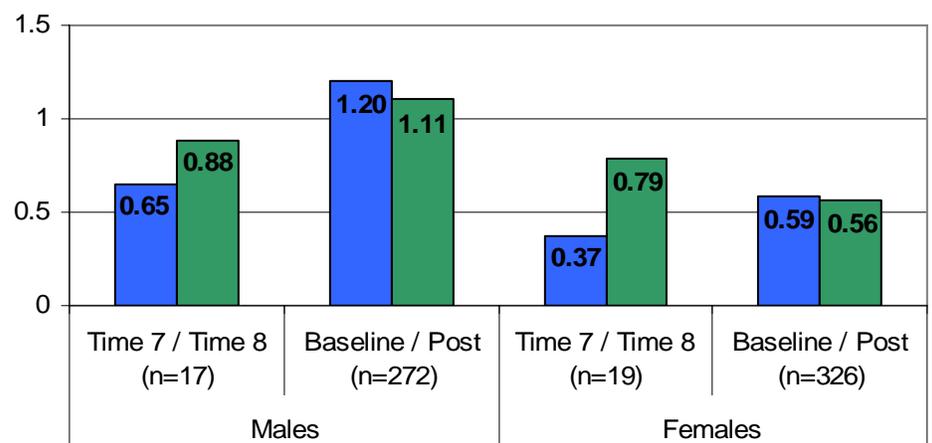
Figure 42. Average number of disciplinary incidents per student.



SUSPENSIONS

FOURTH YEAR. The number of suspensions also did not change significantly from year to year with the average number in the 04-05 school year being 0.50 and the average in the 05-06 school year being 0.83. No gender differences were present. In 05-06, schools were also asked to provide data regarding whether these suspensions were characterized as in or out-of-school. The average number of in-school suspensions (0.74) was slightly higher than out-of-school suspensions (0.31).

Figure 43. Average number of suspensions per student.



BASELINE/POST. The average number of student suspensions did not significantly change from the baseline to the post-test assessment. However, there was a slight, but not

significant decrease in suspension among males, and males had more incidents of suspension than females at both time points.

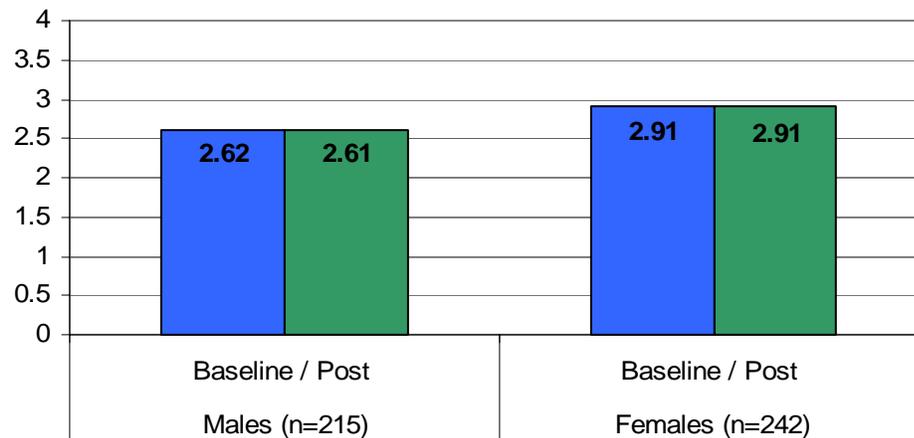
● GRADE POINT AVERAGE

FOURTH YEAR. The differences in grade point averages (GPA) from the third to the fourth year of the SPIRIT project can not be accurately reported due to difficulty in data collection and inconsistent reporting. Although there are not enough matched pairs (students for which data was received for both years), the average cumulative GPA for 04 – 05 school year was 2.59 whereas the fourth year produced an average of 2.84. This is a significant increase in GPA. It should be noted that these means are based on the scores of different students at each time point, whose individual characteristics may be the cause of the variance.

The average GPA for SPIRIT participants in the 2004-2005 program was 2.59. The average GPA for the 2005-2006 sample was 2.85. Grade point averages were higher for females than males.

BASELINE/POST. No difference was found between the baseline and post-test assessment in students' cumulative GPA. Females had a significantly higher GPA than males at both baseline and post-test.

Figure 44. Average grade point average at baseline and post-test assessment.



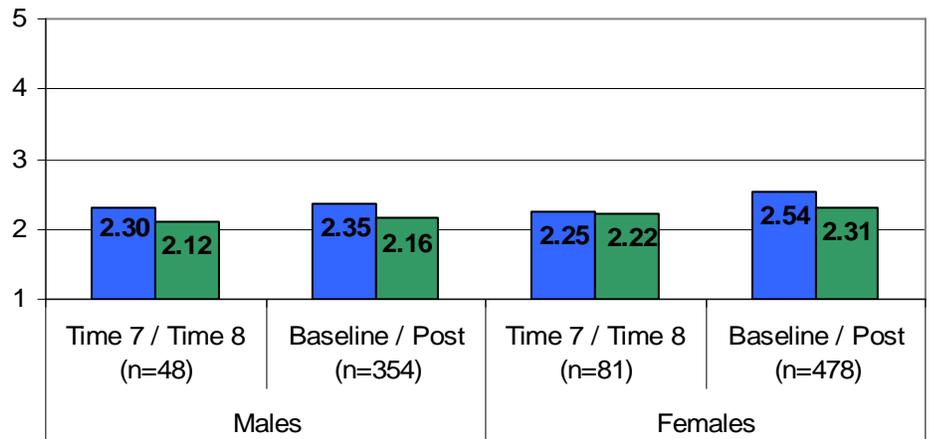
■ INTEREST IN SCHOOL

Students were asked to respond to a series of five questions assessing students' interest in school, including their level of interest in their courses, the importance and meaningfulness they ascribed to school, and the amount of enjoyment they derived from it (1 = never; 5 = almost always).

FOURTH YEAR. Students' interest in school did not significantly change from Time 7 to Time 8, nor did it differ by gender.

BASELINE/POST. There was no change in students' interest in school from the baseline to the post-test assessment. Females reported a significantly greater interest in school than did males.

Figure 45. Students' reported interest in school.

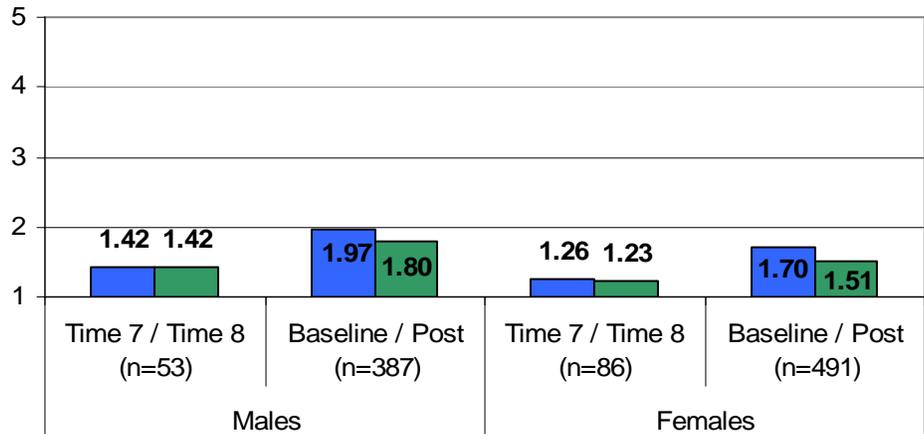


■ GETTING INTO TROUBLE AT SCHOOL

The propensity for students to get into trouble at school was measured by three items: the extent to which they fooled around in class, failed to complete or turn in assignments, and getting sent to the office or had to stay after school because of bad behavior (1 = never; 5 = almost always).

FOURTH YEAR. Students' rate of getting into trouble at school did not significantly change from Time 7 (average = 1.34) to Time 8 (average = 1.32). Additionally, while males reported a slightly higher rate of getting into trouble (average = 1.42) than females (average = 1.24) the difference was not significant.

Figure 46. Students' reported rate of getting into trouble at school.



BASELINE/POST. Students did not change their rate of getting into trouble at school across time, although males reported that they got into trouble more often than females. It should be noted that the rate of self-reported "getting into trouble" was very low, indicating that regardless of differences found, not many students were getting into trouble at all.

■ *SCHOOL PARTICIPATION*

Students were asked to respond to four questions assessing the extent to which students participated in class discussions, activities, sports, clubs, and after school activities, asked the teacher for help, and tried their best at school (1 = never; 5 = almost always).

FOURTH YEAR. There was no significant change in scores from Time 7 to Time 8, nor was there a difference in response by gender.

BASELINE/POST. No differences were found across time or by gender for school participation in the baseline/post-test analysis.

SUMMARY

Results from the sixth through 12th grade survey are mixed.

- Cigarette and alcohol use increased significantly during the school year, but the amount used was minimal and use rates were below the state average.
- Marijuana use increased and was higher than the state average. Greater focus on marijuana and its effects on the brain are recommended.
- Illegal drug use (other than marijuana) did not increase over time, and reported use was extremely low.
- Students' attitudes toward drug use remained consistent over time. The majority of students thought that using any drug was "wrong" or "very wrong". Encouragingly and consistent with this finding, students' reported an increased assessment of health risk for ecstasy, methamphetamine, and LSD. However, students perceived that cigarettes, alcohol, and marijuana posed less risk to their health over time. These drugs were also the drugs that students reported using in higher frequency. Again, programs should focus on discouraging the use of cigarettes, alcohol and marijuana and persuading students of the significant health risks posed by their use.
- Students' attitudes toward antisocial behavior remained consistent over time. The majority of students thought that participating in activities such as fighting, stealing, and skipping school were either "wrong" or "very wrong". Consistent with this finding, students reported participating in a very small number of these activities as well. For most of these activities, males reported participating more often than females. The most frequent behaviors reported were being pushed, shoved, harassed or bullied by another student, fighting with another student, or seeing someone else with a weapon.
- A very encouraging finding was that all students reported a very high level of self-esteem and stress management. In fact, male students showed an increase in their ability to manage stress by the end of the school year. While most students

reported having adequate decision making skills, throughout the course of the year females showed a decrease in their ability. Considering the high occurrence of reported bullying, programs should focus on reducing the incidence of bullying and consistently encouraging empathy and decision making skills within the students.

- Students reported that their parents were very likely to catch them if they were caught using alcohol, carrying a gun, or skipping school. They also indicated that their parents were very involved in decisions regarding school, behavior, and drug use. While both males and females reported very high levels of family involvement, females indicated a higher level than males.
- Encouragingly, student absences decreased over time, and although females had a higher GPA than males, all students' GPAs increased from Year 3 to Year 4. There was no change in students' interest in school, school participation, or incidents of getting into trouble at school over time, including disciplinary actions and suspensions. However males did get in trouble more than females.

INDEX OF TABLES AND FIGURES

TABLES

1. Evaluation outcomes and methods	7
2. Missouri SPIRIT programs provided by school and grade level.....	15
3. Fidelity documentation of changes to curricula during Year 4	16
4. Summary of fidelity and adaptation issues in SPIRIT programs	16
5. Number of students completing the satisfaction questionnaire in each program by district and school level in Year 4 only	23
6. Number of students completing the satisfaction questionnaire in each district by grade level in Year 4 only	24
7. Pattern of responses by survey level of questions concerning program effectiveness (Year 4 total sample excluding Reconnecting Youth).....	24
8. Pattern of student responses of their perception of program effectiveness (Year 4, reconnecting youth participants only).....	26
9. Percentage of students, by program and grade level, who responded “yes, a lot” when asked if the program helped them with their resistance skills (Year 4 total sample).....	26
10. Percentage of students, by program and grade level, who responded “yes, a lot” when asked if the program helped them act/ behave better (Year 4 total sample)	27
11. Percentage of students, by program and grade level, who responded “yes, a lot” when asked if the program has made their school better (Year 4 total sample)	27
12. Number of students completing the satisfaction questionnaire in each program by district and school level both Year 3 and Year 4.....	29
13. Pattern of student responses of their perception of program effectiveness (Year 3 and Year 4 matched pairs only).....	33
14. Pattern of baseline and post-test assessments kindergarten through 3 rd grade	35
15. Pattern of baseline and post-test assessments.....	40
16. Pattern of baseline and post-test assessments (Sixth through Twelfth graders).....	53
17. The percentage of students who reported using the drug at least once during the past thirty days at Time 7, in order of frequency	58
18. The percentage of students who reported using the drug at least once during the past thirty days at Time 8, in order of frequency	58
19. The percentage of students who reported using the drug at least once during the past thirty days at Baseline assessment, in order of frequency	59
20. The percentage of students who reported using the drug at least once during the past thirty days at Post-test assessment, in order of frequency	59
21. The percentage of students who reported illegal or violent behaviors or being a victim of antisocial behaviors at least once within the past year at Time 7, in order of frequency.....	62
22. The percentage of students who reported illegal or violent behaviors or being a victim of antisocial behaviors at least once within the past year at Time 8, in order of frequency.....	62
23. The percentage of students who reported illegal or violent behaviors or being a victim of antisocial behaviors at least once within the past year at Baseline assessment, in order of frequency.....	63
24. The percentage of students who reported illegal or violent behaviors or being a victim of antisocial behaviors at least once within the past year at Post-test assessment, in order of frequency.....	63

FIGURES

1. Total enrollment in SPIRIT by District.....	8
2. Total number of youth consented into evaluation by grade level and district.....	9

3. Total number of youth enrolled in SPIRIT vs. number consented in evaluation in 2005-2006 by district.....	9
4. Percentage of students enrolled in SPIRIT, consented into the evaluation and who completed pre- and post-test in 2005-2006 by district.....	10
5. Satisfaction by program by grade in school.....	25
6. Satisfaction levels by grade and gender.....	28
7. Students' overall satisfaction with their prevention program.....	29
8. Extend to which students liked their program.....	30
9. Extend to which students perceived the program to encourage better behavior.....	31
10. Students' perception of the extent to which the program encouraged them to "say no" to their peers.....	31
11. Students' perception of the extent to which the program caused others to be nicer to them.....	32
12. The extent to which kindergarten – 3 rd grade students thought school felt like a nice place to be by gender.....	32
13. Teachers' perception of students' pro-social behavior.....	36
14. Teachers' perception of students' emotion regulation.....	36
15. Teachers' perception of students' displays of proactive aggression.....	37
16. Teachers' perception of students' displays of reactive aggression.....	37
17. Percentage of students reporting having used cigarettes in their lifetime.....	40
18. Percentage of students reporting having used alcohol in their lifetime.....	41
19. Percentage of students perceiving drugs to be "very bad" for a person's health in the fourth year evaluation.....	43
20. Percentage of students perceiving drugs to be "very bad" for a person's health in baseline/post-test analysis.....	43
21. Percentage of students reporting participation in or being subject to antisocial or aggressive behavior in fourth year evaluation.....	44
22. Percentage of students reporting participation in or being subject to antisocial or aggressive behavior in the baseline/post-test analysis.....	44
23. Percentage of students indicating positive goals and aspirations.....	45
24. Student perception of home environment.....	46
25. Percentage of students reporting that they were never home alone after school.....	46
26. Student perception of peer environment.....	47
27. Average number of student absences.....	47
28. Average number of student disciplinary incidents.....	48
29. Student perception of school environment.....	48
30. Student perception of safety in and outside of school.....	49
31. Average number of violent behaviors reported by males and females.....	60
32. Percentage of students reporting illegal and violent behaviors at Time 7 and Time 8.....	61
33. Percentage of students reporting illegal and violent behaviors at baseline and post-test assessments.....	62
34. Perceived risk of using minor drugs.....	64
35. Perceived risk of using major drugs.....	64
36. Perceived wrongfulness of using cigarettes, alcohol, and other drugs.....	65
37. Male and female students' ability to manage stress (higher score indicates greater ability to handle stress).....	66
38. Male and female students' ability to make decisions.....	67
39. Male and female students' perceived family response to deviant behavior.....	68
40. Male and female students' perceived family management.....	69
41. Average number of absences per student.....	69
42. Average number of disciplinary incidents per student.....	70
43. Average number of suspensions per student.....	70
44. Average grade point average at baseline and post-test assessment.....	71
45. Students' reported interest in school.....	72
46. Students' reported rate of getting into trouble at school.....	72