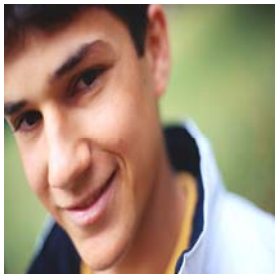
SPIRIT

THIRD YEAR REPORT



Prepared for
Missouri Department of Mental Health
Division of Alcohol and Drug Abuse

Prepared by
Child and Family Mental Health Services Division
Missouri Institute of Mental Health
University of Missouri – Columbia

Carol J. Evans, Ph.D.
Liz Sale, Ph.D.
Virginia Weil, MSW
Rachel Kryah, MSW, MPH
Karen Breejen, BA
Amanda Whitworth, BA

March, 2006

MATT BLUNT
GOVERNOR

DORN SCHUFFMAN
DIRECTOR

STATE OF MISSOURI
DEPARTMENT OF MENTAL HEALTH
1706 EAST ELM STREET
P. O. BOX 687
JEFFERSON CITY, MISSOURI 65102
(571) 751-4122
(573) 526-1201 TTY
www.dmh.mo.gov

MICHEAL COUTY, DIRECTOR
DIVISION OF ALCOHOL AND
DRUG ABUSE
(573) 751-4942
(573) 751-7814 FAX

DIANE MCFARLAND, DIRECTOR
DIVISION OF COMPREHENSIVE
PSYCHIATRIC SERVICES
(573) 751-8017
(573) 751-7815 FAX

KENT STADLER,
NTERIM DIRECTOR
DIVISION OF MENTAL RETARDATION AND
DEVELOPMENTAL DISABILITIES
(573) 751-4054
(573) 751-9207 FAX

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The Missouri Division of Alcohol and Drug Abuse is pleased to present this Third 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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Executive Summary
SPIRIT Program
Year 3

In 2002, the Missouri Department of Mental Health (DMH) initiated an ambitious project to implement evidence-based substance abuse programs in five selected Missouri school districts throughout the state. The project, the School-based Prevention Intervention and Resources IniTiative (SPIRIT), proposed to delay onset and decrease use of substances, improve overall school performance, and reduce incidents of violence. Outcomes were achieved through implementation of evidence-based prevention programs in kindergarten through 12th grades. These programs included PeaceBuilders, Positive Action, Life Skills Training, Second Step, and Reconnecting Youth. Findings after three years of project implementation show the following promising results:

- Over 5,500 children participated in the SPIRIT programs over the past three years, representing one of the largest in-school substance use prevention efforts in the state of Missouri.

- Principals, providers, and teachers 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.

Principals stated that the program in their school:

> *"…made a difference in school climate because relationships are built out of it…"*
>
> *"… is a strong program. It isn't a cure all, but there are positive changes that I've noticed. . . The students are having more positive reactions toward others.*

Both principals and providers thought it would be helpful to have more parental involvement.

Teachers thought that providers had been very helpful to them in addressing difficult issues, and that SPIRIT had become more important to them as they saw children benefit from the program.

- Youth felt that the program had *helped them control anger, get along better with others, feel better about themselves, and learn how to act in tough situations.* Most of the youth felt that the time was well spent. Elementary school students were the most positive, following by middle and then high school students.

- The findings from the Teacher Observations Checklists for 2004-2005 of Kindergarten through 3rd graders are extremely positive in the area of social competence, an area targeted by the interventions in the SPIRIT program. Across both subscales, emotional regulation and prosocial norms, there were significant improvements.

- In 4th and 5th grades, absences declined. While the incidence was very low, disciplinary incidents and suspensions increased as might be expected with natural maturational trends.

- For students in 4th and 5th grades, lifetime and 30-day alcohol use rate increased significantly last year, but for those students with two years of data in the smaller sample, there were no significant increases in these two rates. This pattern repeated for cigarette use. Increases occurred in 30-day cigarette use for last year's sample, but not for those studied over two years. There were no significant changes in lifetime cigarette use for either sample.

- While 30-day alcohol use, binge drinking, marijuana use and inhalant use all changed significantly over time for students in 6th through 12th grades, cigarette use did not increase significantly, either for the 2004-2005 sample or for the three-year sample.

- Serious illegal drug use was insignificant, with only 0% - 5% of the SPIRIT youth (6th-12th graders) reporting use at any time point, and no significant increases in use. Furthermore, SPIRIT youth, on average, use less than the general population of youth, when use rates are compared to the Missouri Student Survey, a general population of students.

- SPIRIT youth in the three-year sample became more aware of the dangers of major drugs, but they became less fearful of the risks of minor (cigarette, alcohol and marijuana) drugs.

- SPIRIT youth in the three-year sample improved their decision-making skills.

- Over a three-year span, there was a significant drop in bullying and shoving/hitting. The drop in shoving/hitting is quite dramatic (27%).

SUMMARY AND RECOMMENDATIONS

Results from the Year Three findings for SPIRIT are encouraging. The project involved a large number of students from Kindergarten through 12th grade taking part in evidence-based substance use prevention programming over the past three years. The programs were successful in reducing the rates at which youth typically increase their cigarette use, reducing rates of bullying, victimization, and improving problem-solving skills. The programs also helped make youth more aware of the dangers of major drugs. Principals, teachers, providers and youth were enthusiastic about the programs and felt that they were making a difference.

Given that negative behaviors would typically increase during the transition periods as students move from elementary school to middle and then high school, these results suggest the programs have had an effect, over time, in reducing negative behaviors in school. Data being collected during the current academic year will add to the growing knowledge regarding the effectiveness of these evidence-based programs for Missouri's youth. Recommendations to more fully and smoothly implement SPIRIT in the future include the following:

- Fidelity to program models. Four of the five programs had significant design modifications during implementations. Some changes were minor and some major. Although there is no way to estimate the impact of these changes on program outcomes, we recommend that schools and providers take special care to implement programs as close to the model as possible. Because model programs have been tested, in most cases, with several different populations of youth, and few curriculum modifications are needed. Adhering to the planned curricula, lesson plans, number of hours per week, and other features of program design are preferred to achieve success except in situations where the curriculum is clearly not applicable for the children being served. Future implementation of these evidence-based programs should focus upon fidelity of implementation to assure the maximum benefit to the youth being served,

Other recommendations include on the specific curricula, working with the schools prior to program implementation to assure school district buy-in, and assuring adequate time for program implementation in the school schedule.

- Parental involvement in SPIRIT. Future policy may want to consider expanding SPIRIT to include parental involvement activities on a more significant scale. This would permit parents to gain knowledge about substances and reinforce the notion of prevention at home.

- Additional training for providers and teachers. Teachers should be informed about new programming well in advance of program implementation and be trained thoroughly in the program. Incorporating teachers into the planning phase allows them to feel ownership in the program and creates less resistance to full implementation. Furthermore, they become better trained in prevention topics that may not be part of their normal professional development.

CHAPTER ONE
INTRODUCTION

Substance use is increasingly recognized as 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 for lost earnings alone over $200 billion dollars annually [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.

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, model 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 (see www.samhsa.gov, http://ojjdp.ncjrs.org, and www.ed.gov). In an effort to shift the prevention field toward a policy of evidence-based practice model programs are being disseminated nationwide.

In the state of Missouri, the Department of Mental Health (DMH) implemented the **S**chool-based **P**revention **I**ntervention and **R**esources **I**ni**T**iative (SPIRIT), a multi-site substance abuse and violence prevention effort, in five selected Missouri school districts over a three year period. SPIRIT was in the third year of implementation in FY2005. **SPIRIT** proposes to delay onset of and decrease substance use, improve overall school performance, and reduce incidents of violence. An attempt to achieve the project goals was made through implementation of evidence-based prevention programs in kindergarten through 12th grade. The Missouri Institute of Mental Health's (MIMH) Child and Family Mental Health Services Research Division conducted the project evaluation.

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, representative of those throughout Missouri, involved in the SPIRIT project were Knox County R-I, Hickman Mills C-I, New Madrid Co. R-I, Carthage R-IX, and Jennings. The programs elected were PeaceBuilders (www.peacebuilders.com); Positive Action (www.positiveaction.net); Life Skills Training (www.lifeskillstraining.com); Reconnecting Youth (Eggert, 1995), and Second Step (www.cfchildren.org). Although the methods, components, targeted behaviors, and comprehensiveness of the programs differed, 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, with Reconnecting Youth specifically targeting children who are already indicating behavioral or academic problems. Specific age groups or grade levels were not mandated to receive services, therefore some schools offered programming to all grades, and some restricted programming to only selected grades.

This current report contains an evaluation of outcomes for the third year of the SPIRIT project implementation, representing the four main goals of the project: 1) reduce violence and aggressive behaviors, 2) improve overall school performance, 3) decrease the use of alcohol, tobacco, and other drugs (ATODs), and 4) delay the onset of ATOD use. Conducted by the Missouri Institute of Mental Health (MIMH), the evaluation methods include a combination of questionnaires, interviews, focus groups, and school performance data.

Methodology

Data were gathered on program implementation, student and teacher satisfaction with programs, teacher 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. 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. Table 1 displays the methods use to collect the various evaluation data.

Table 1. Evaluation Outcomes and Methods.

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

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

- In Kindergarten through 3rd grade, students' teachers completed the Teacher Observation Checklist which measures aggression (proactive and reactive) and social competence (emotional regulation and prosocial 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 grade 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 limited 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 this 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 was 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 some grade information was not able to be included in subsequent analyses.

- Prevention program teachers were asked to provide fidelity forms to verify the programs were implemented accurately according to the 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. Teachers also completed a Teacher Questionnaire aimed at assessing attitudes toward prevention, common methods of teaching the prevention curriculum and program reinforcement, and observations of student and parent acceptance of the SPIRIT program.

- 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 site visit was conducted at each location with the exception of New Madrid.

Enrollment in the SPIRIT Program

Over the past three years, almost 5,500 children and youth have participated in the program to date, with the largest number of participants coming from urban sites: Jennings (St. Louis area) and Hickman Mills (Kansas City area; see Figure 1).

The three subsequent charts present the number and percentage of children participating in the SPIRIT evaluation, the majority of whom represent the participating elementary and middle schools. Only one district provided programming for all high school students. One district does not have a high school component, two districts have programs only in selected high school grades, and one district is implementing Reconnecting Youth for only a limited number of students. Participation in the evaluation was contingent upon obtaining consent from parents and assent from students. The consent rate varied considerably by district. The greatest number of youth participating in the evaluation were in elementary school, followed by middle, and then high school. The number of participants displayed in Figures 2 and 3 represent those youth who completed a questionnaire at both Time 5 (Fall 2004) and Time 6 (Spring 2005).

Figure 1. Total Enrollment in SPIRIT by District (n=5,447).

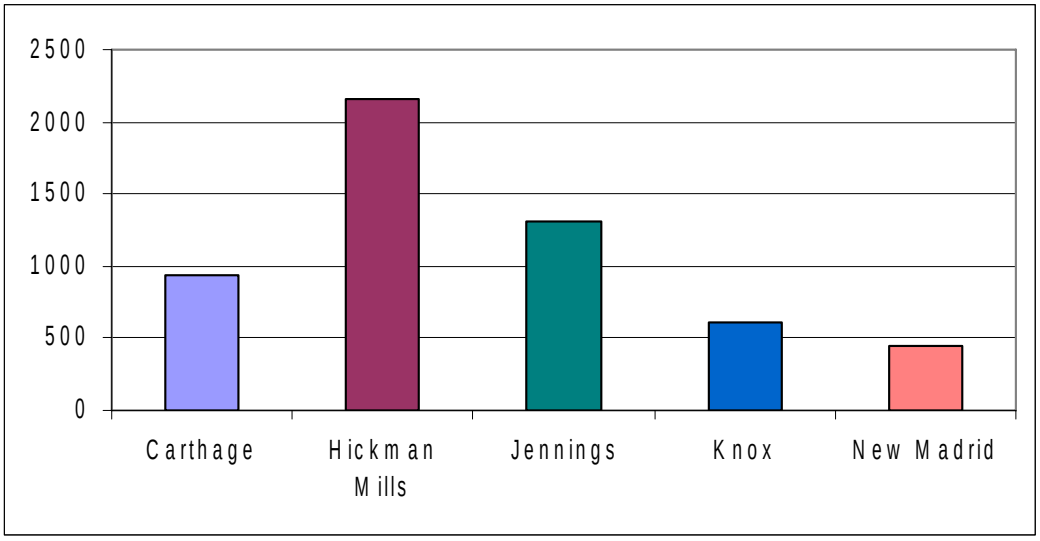


Figure 2. Total Number of SPIRIT Youth Who Completed Pre and Post Test in 2004-2005 by Level in School (n=1,287).

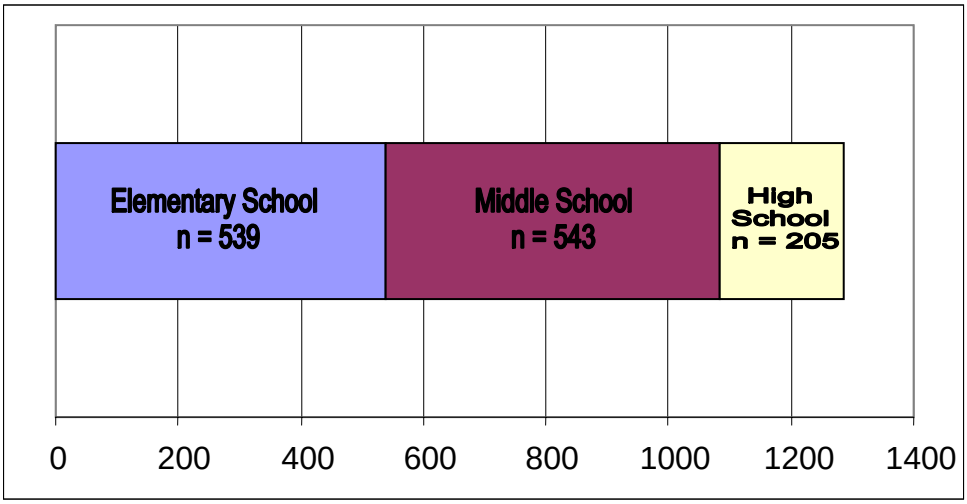


Figure 3. Percentage of Students Who Completed Pre and Post Test in 2004-2005 by District (1,287).

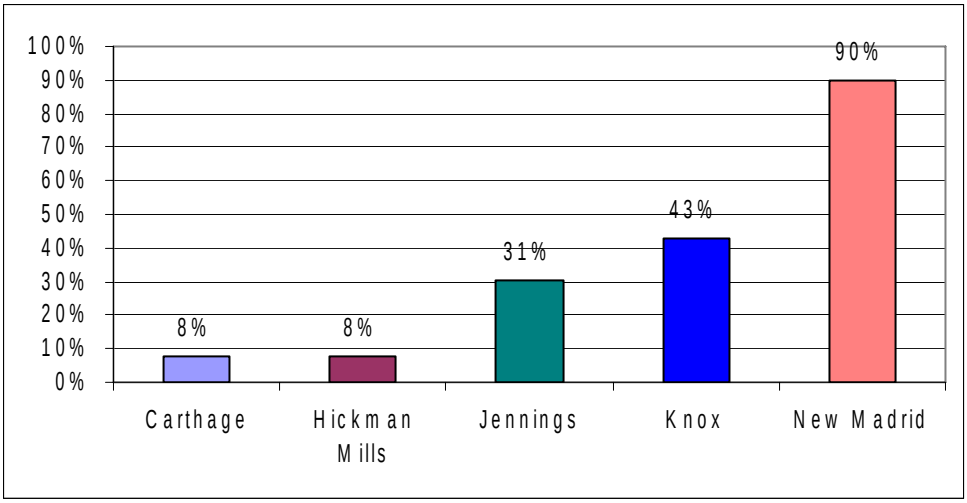


Table 2. Missouri SPIRIT Cross-Site Study – Programs Offered by School and Grade Level.

	Jennings Yr. 1	Jennings Yr. 2	Jennings Yr. 3	Hickman Mills Yr. 1	Hickman Mills Yr. 2	Hickman Mills Yr. 3	New Madrid Yr. 1	New Madrid Yr. 2	New Madrid Yr. 3	Carthage Yr. 1	Carthage Yr. 2	Carthage Yr. 3	Carthage Yrs 1-3 U-Turn	Knox Yr. 1	Knox Yrs 2-3	Knox Yrs 2-3 Alt Sch
K	PA	SS	SS	PA	PA	PA			PA	PB	PB	PB				
1st																
2nd																
3rd																
4th																
5th							PA	PA								
6th								PA								
7th	LST	LST	LST			PA	PA	PA		LST	LST	LST		LST	LST	
8th	LST	LST	LST							LST	LST	LST		LST	LST	
9th	RY (Alt HS)		Too Good For Drugs			PA	PA	PA			LST; RY	LST	RY Yr.1 = 2 groups Yr. 2-3 = 4 groups	PA	PA	RY
10th										RY 1 group	RY 2 groups	RY 2 groups		PA	PA	
11th														PA	PA	
12th														PA	PA	

KEY:

PB = PeaceBuilders
PA = Positive Action
LST = Life Skills Training
RY = Reconnecting Youth
SS = Second Step

CHAPTER TWO
PROGRAM DESCRIPTIONS AND FIDELITY

Organization of the Report

DMH has initiated a unique project in the field of prevention in Missouri by introducing several well-known, evidence-based programs into five selected school districts around the state. This report documents the findings from the third year of implementation of the SPIRIT project. The structure of the remainder of the report is as follows:

Chapter Two: Program Description and Fidelity. A description of the individual model programs, and presents information related to the quality and fidelity of program implementation are presented.

Chapter Three: Perceptions of Effectiveness and Program Satisfaction. A summary of interviews and questionnaires from administrators, teachers, providers, and students is given.

Chapter Four: Outcome Findings. Descriptive data regarding the sample and findings over time from individual youth, including changes in substance use, protective and risk factors, school performance and disciplinary actions are presented.

Chapter Five: Summary. A summary of the outcome findings with recommendations for the upcoming year are presented.

A. Program Descriptions

This chapter describes the five model prevention programs in five SPIRIT school districts, including program goals, model program status information, target population, curriculum content, program intensity, and duration. Information on the quality of implementation is also discussed.

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 lessons are loosely defined with regard to length or number of sessions, but there are many suggestions for curriculum integration and use of the principles in handling specific situations, i.e. interpersonal problems, playground incidents. The program is built on the concept of infusing the five PeaceBuilders principles and strategies into the regular curriculum and into school-wide special events. 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.

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. The basic philosophy of the program is that "you feel good about yourself when you do good (positive actions)."

Positive Action has separate curricula for the elementary, middle, and high school levels, and contains components for the family and community. The elementary and middle school programs are designed to be implemented daily in 15 minute segments, while the high school curriculum requires sessions of longer length. 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.

Second Step: A Violence Prevention Curriculum

Second Step is a school-based social skills program for students in pre-school through junior high. The goals of the program are to teach children to change attitudes and behaviors that contribute to violence by reducing impulsive and aggressive behavior and increasing social competence. There are 15-20 lessons for each grade level focused on empathy, impulse control, problem-solving and anger/emotion management. It is recommended that lessons, based on class discussion and skill practice, be taught once or twice a week for 20-50 minutes depending upon students' ages. A multicultural perspective is incorporated throughout the program.

Second Step 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). It received the highest rating of any elementary and middle school violence prevention programs in Drug Strategies evaluation, as well as recognition from the White House, New Jersey Dept. of Education and the Utah Office of Education. Research shows significant positive outcomes for preschool-kindergarten students in that they showed a decreased verbal aggression, disruptive behavior and physical aggression, and improved empathy and consequential thinking skills. Students also shows decreased aggression on the playground and in conflict situations, decreased need for adult intervention, better anticipation of consequences, and increased social competence and positive social behavior. Girls, specifically, showed higher levels of empathic behavior in conflict situations. Middle and junior high school students showed less approval for physical, verbal and relational aggression

and increased confidence in the ability to regulate emotions and problem solve. In addition, Second Step has demonstrated effectiveness with students of diverse racial and ethnic backgrounds.

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).

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. It teaches life skills and provides social support as a means of enhancing self-esteem, decision-making, personal control, interpersonal communication, school-bonding, and pro-social relationships. The program addresses multiple risk factors including academic failure, persistent anti-social behavior, low school bonding, favorable attitudes toward alcohol or drug use, and friends involved in problem behaviors. Students may be invited to participate in the class if they have a high rate of absenteeism or truancy, have earned fewer than average number of credits for their grade level, and/or show signs of problem behaviors such as substance abuse, depression or suicidal ideation. The program is optimally taught as a daily, semester long, 55-minute Personal Growth Class, to a diverse group of students. It includes suicide prevention training for teachers.

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.

B. Program Implementation and Fidelity

Evidence-based programs can be well designed, but 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. The purpose of this section is to 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 sites, site visits, and fidelity forms from providers and teachers. [1]

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, with one exception, students participated enthusiastically and teachers were clear in their presentations

PeaceBuilders

PeaceBuilders was implemented at two SPIRIT sites. Because the program curriculum and length are less structured than others, implementation fidelity is difficult to assess. Most of the program is conducted by integrating program themes throughout the regular school curriculum. The following differences in implementation were noted at the two districts:

- One site uses classroom teachers to implement the program; the other uses a provider prevention specialist.

- PeaceBuilders lessons were conducted one time per week for 15-30 minutes with daily reinforcement at one site, and one time per week for 20-30 minutes at the second site.

- Kindergarten/Grade 1 and 4-6 grade lessons were modified at each site so that they are age-appropriate.

- At one site, a single presenter develops and teaches lessons on a common principle to students at all grade levels. At the second site, teachers independently select the

[1] 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 was much more sporadic and incomplete. Because of this, these data are considered unreliable for many grades.

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.

Positive Action

Positive Action was originally implemented in four school districts at different school levels. Numerous modifications have been made across sites, including the following:

- At one site, the program was taught only every other week for 20 minutes, which is less than the 15-60 minutes per week which is the amount of time considered necessary for effectiveness. The other two sites implementing PA met the minimum dosage requirements.

- At one site, a provider implemented the program at the elementary level and classroom teachers implemented at the middle and high school levels; at the other two sites, classroom teachers provide instruction.

- At one site, most middle school teachers opted out of Positive Action in the second year and chose a video program in its place.

- At one site, staff opted to switch from Positive Action to Second Step during the second year of implementation and have continued to use Second Step in Year Three because they believe it is a better fit for the school.
- The program has been modified at the high school level because it is deemed not age-appropriate. At one site, only the principles of Positive Action, and not the curriculum, were used with regular health textbook materials in the 9th grade.

- 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.

- At one site, high school teachers often reported activities not part of the curriculum as being "Positive Action." In theory, implementation at that site was to all grades in the high school, but some teachers only documented teaching lessons three or four times during the year.

- At a middle school of one site, lessons were presented one time per week to the seventh grade only.

Second Step

- Because standard Second Step implementation schedule is too short (10-12 weeks) to use for the number of sessions agreed upon with the school (40 sessions), the provider supplemented lessons with Steps to Respect, the companion anti-bullying program. Additional lessons were also written based on the suggested extension lessons. Lessons from Too Good for Drugs, another evidence-based program, were also incorporated into the intervention.

- Lessons were provided twice a week for 30 minutes each for a total of 20 weeks. These modifications to the program make conclusions regarding the effectiveness of Second Step itself difficult given the current research design.

Life Skills Training (LST)

- LST is being implemented as planned at two sites. At a third site, it was modified significantly. Less than 60% of the 1st year, and about 67% of the 2nd year curricula were taught and these were greatly modified using an anger management focus. Furthermore, the third year of the curriculum could not be taught because the program was implemented at a two-year junior high school.

Reconnecting Youth

- Reconnecting Youth was implemented in two districts during the 2003-2004 school year. At one district, however, fidelity did not meet the minimum standards for implementation 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 one site, students received 56-60 hours of RY instruction and at the other, only 16.6 hours.

Over-all changes to curricula

Table 3 documents changes made to the curricula in all programs this past year. The most frequent change made is classified as "other," which can be any type of change not otherwise specified. The teachers who added material or who made the curricula more age appropriate most frequently taught PeaceBuilders or Positive Action. Positive Action was the only program for which the curriculum was changed in an effort to increase cultural appropriateness.

Table 3. Fidelity Documentation of Changes to Curricula.

	Frequency	Percent
Any change	1358	38.1
Shortened lesson	286	8.0
Lengthened lesson	167	4.7
Combined lessons	265	7.4
Added material	478	13.4
Age appropriateness	441	12.4
Cultural appropriateness	74	2.1
Other	509	14.3

A summary of all fidelity issues in SPIRIT programs can be found in Table 4.

Table 4. Summary of Fidelity and Adaptation Issues in SPIRIT Programs.

Program	Program as Planned	Program as Implemented
Reconnecting Youth	• Daily implementation • Small heterogeneous groups	• Implemented one hour per week • Group size too small and homogeneous
PeaceBuilders	• Some specific lessons • Loosely defined lessons	• Same lessons taught to all students at school vs. different lessons to all students • Supplied lessons were redesigned for K-1st grade and for grades 4-6 to be more age-appropriate
Second Step	15-20 lessons	40 lessons adding Steps to Respect and Too Good for Drugs
Life Skills Training	Three year program	• Two year program at one site • Fewer than 60% of program components taught at one school; curriculum modified to concentrate on specific curriculum components
Positive Action	Daily 15 minutes intended for elementary and junior high students	• Implemented every two weeks for 20 minutes • Implemented differently at high schools • Curriculum rewritten for one high school to make more age appropriate • Significant addition of positive enrichment activities and small special groups

Summary

From a fidelity standpoint, Reconnecting Youth, Life Skills Training, Positive Action, and Second Step all were subject to significant 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 design changes, we might anticipate less impact on proposed outcomes. These considerations will be discussed later in Chapter Four.

CHAPTER THREE
PROGRAM SATISFACTION AND PERCEPTIONS OF EFFICACY
PRINCIPALS, PROVIDERS, AND TEACHERS

To gain impressions of program satisfaction and efficacy, the evaluation team gathered information from key adults involved in SPIRIT. Interviews were held with principals of each participating school and prevention providers. In addition, teachers of the SPIRIT programs completed a questionnaire.

Principal Interviews

Five elementary, four middle school, and three high school principals were interviewed to determine the level of administrative support and to gain their perspective on SPIRIT. This represented principals of all participating schools except for high school principals from Jennings and New Madrid and the middle school principal in Carthage. In addition, one counselor was interviewed in place of a principal who was unable to meet.

While all principals expressed support for SPIRIT, their level of involvement varied. Elementary principals tended to be more directly involved than those in middle or high school. Most likely this was a consequence of the type of interventions being offered in the elementary schools (school climate programs) as opposed to those in the middle and high schools that focused more upon changing individual characteristics.

Attitude toward participating in SPIRIT. All principals expressed appreciation for the program, and in particular, valued being linked with a provider agency. One principal credited the provider with *"improving the overall morale of the building"* with her presence. Another liked the fact that the provider gave the students *"another person for the kids to talk to."* Yet another stressed the importance of *"the positive male role models"* in the lives of her students. In districts with limited funding, there was great appreciation for the providers because they helped extend resources. One superintendent, who also served as the middle school principal, said they *"are grateful for all the help they can get,"* a sentiment echoed by the elementary principal.

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 of the districts, providers implement the program thereby reducing the burden on teachers. One principal commented that *"the providers have brought fresh minds and fresh thinking."*

What worked and what didn't. Changes in program have been made in the last three years. In one district, where programs were changed from year one to year two to more adequately address the needs of students, the principal stated that teachers were much happier with the new program and students seemed to be responding well. Another district taught Positive Action only to the fifth grade students for the first two years, then expanded the program to all elementary grades. The principal states:

> *"It is a strong program. It isn't a cure all, but there are positive changes that I've noticed. . . The students are having more positive reactions toward others. . . There have been zero fights since Thanksgiving (the interview was in May). Normally there is a major fight every 2 or 3 weeks."*

Principals in schools using Positive Action and PeaceBuilders all spoke about the beneficial influence of having programs that provided everyone with a "common language."

The principals in the three districts using Life Skills Training believed the program was a good choice. Two districts use Positive Action with mixed results. Teachers in the district where it has worked well implemented the program once every two weeks. The principal stated that teachers are so enthusiastic that they want to implement a prevention program weekly next year. In the other district, only sixth graders received the program during the first year. The second year, it was taught by only four teachers while a competing curriculum was also taught.

Reconnecting Youth, Positive Action and Too Good for Drugs were used in the high schools. While Positive Action is not considered a strong curriculum at that level, principals in two districts believed that it was important as "character education." Reconnecting Youth was taught as a semester long class in one of the districts and worked out exceptionally well. The principal believed that

> *"…it made a difference in school climate because relationships are built out of it. The curriculum is important, but more than that, it's the relationships they make with peers and adults."*

They stated that

> *"the good that happened as a result of the program can not always be quantified."*

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, Youth Reconnected, for students who wanted to continue their progress.

Attitudes Toward Providers. Providers were appreciated in all districts. 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.

Referrals. Schools have rarely called on providers for screening and referral even though these services are available. Principals cited several reasons the most prevalent of which was that schools had been working with other agencies prior to SPIRIT and continued to do so. This year for the first time, 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.

Teacher Attitudes. Principals said that teachers' initial responses to prevention programming were positive. In two districts teachers were involved in selecting the curriculum; one district already was using PeaceBuilders and LST. In two other districts, the decision about programs was made jointly by provider agencies and administrators. In one of the districts where teachers had been involved in choice, the selection was overridden by the provider and administration, which resulted in some negative feelings that took time to resolve.

Teacher training and in-service. Principals stated professional development has focused on MAP skills and curriculum issues in most districts. No in-services or trainings have been held to give the teachers a greater understanding of alcohol and other drugs or violence with one exception in which teachers received training on bullying, sexual harassment and violence.

Biggest problem faced by schools. 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. 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.

Behavioral changes as a result of the program. 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 interviewee noted that there seemed to be less drug use in the past year, although not significantly: *"You can tell it's getting into their minds."* He credited the journal writing component of the LST program for early detection of students using drugs thus making treatment is easier.

Parent involvement. 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.

Suggested improvements for SPIRIT. Though most principals were quite satisfied with SPIRIT, they had suggestions for improvements which included:

1) additional resources and continued funding
2) professional development
3) short trainings for teachers
3) improved curricula at the high school level
4) student support groups at all levels
5) a greater level of parental involvement

Program continuation after SPIRIT ends. Most elementary and middle school principals said that they would look for other grants or resources to fund programs to continue the programs in some form when SPIRIT ends. Some said that they had learned much from the providers and that they would incorporate their methods into program continuation.

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.

School/provider relationships. 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. In one district, administrators wanted to be certain that providers understood the needs of African American students. While initially suspicious of providers, the district has since asked the provider to actually teach the program to all of the elementary students.

Greatest need. 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.

Program satisfaction. Providers expressed satisfaction with all of the elementary programs but were dissatisfied with Positive Action at the middle and high school levels. For these grades, the program was viewed as "dated," and the drugs selected for inclusion in the curriculum are not those typically used by students. Providers have assisted teachers with modifying the curriculum to make it more appropriate. 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. In another district, providers described LST as not having "much meat." Reconnecting Youth was considered to be highly effective.

Training. Providers all believed that it was important to revitalize program training each year and to train new teachers. Adequate time was not provided in all districts for this to happen.

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. Reconnecting Youth was seen as effective for a majority of students, particularly in decreasing student drug use. Students are also more able to develop trusting relationships with staff and with each other.

Suggested changes. Several suggested changes were noted including that SPIRIT could be expanded to include all of the schools in the district and that it should run for six years rather than three or four. More parental involvement was mentioned by several of the providers and the need for a better high school curriculum was stated in those districts using PA; more

flexibility in curriculum choices appropriate for African American populations was also an expressed desire. 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. 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.

Teacher Questionnaires

Teachers in all five districts of SPIRIT programs were asked to complete Prevention Program Attitudes questionnaires at the end of the 2004 – 2005 school year. The survey assessed their attitudes toward the effectiveness and value of prevention programs in general, the specific program they implemented, and their typical teaching methods. Out of an estimated 106 teachers of SPIRIT prevention programs, 45 analyzable, completed surveys were returned, for a response rate of 42%.

Responding teachers represented all five prevention programs: Positive Action (68.9%), PeaceBuilders (15.6%), Life Skills Training (11.1%), Second Step (2.2%), and Reconnecting Youth (2.2%). The majority of the teachers represented the Hickman Mills school district (55.6%), with six teachers each from the Knox, Carthage, and New Madrid school districts, and two teachers from the Jennings school district.[2]

Measures

Program Effectiveness. Teachers were asked to indicate their level of agreement (1 = strongly disagree; 4 = strongly agree) to three statements regarding the effectiveness of prevention programs in general, whether they 1) delayed the onset of substance abuse, 2) decreased school violence/disciplinary incidents, and 3) improved student performance and one statement regarding the effectiveness of the program they were involved in implementing (i.e., "I have seen an improvement in student behavior since the prevention program has been implemented"). In open-response format teachers were also asked to describe what they would change, if anything, about the program to increase its effectiveness.

The majority of teachers indicated that prevention programs, in general, are useful in deterring the onset of substance abuse, reducing violence, and increasing student performance. The majority agreed that prevention programs delay the onset of substance abuse, decrease school violence or disciplinary incidents, and increase student performance. Teachers were more likely to say that the programs had an effect on school violence and substance abuse than on improving

[2] Teachers represented all levels, with elementary teachers being highest (55.6%), and an even percentage of middle and high school teachers, 22.2% each. Elementary school teachers represented Positive Action (68.0%), PeaceBuilders (28.0%), and Second Step (4.0%). Middle school teachers represented either Positive Action (50.0%) or Life Skills Training (50.0%). High school teachers represented either Positive Action (90.0%) or Reconnecting Youth (10.0%).

grades or behaviors. More teachers would also like more training in prevention. Teachers' amount of agreement did not vary dependent upon school level. Teachers also indicated they had seen actual improvement in their students' behavior, though these percentages were not as high as other percentages. Teachers appear to believe that prevention programs can be effective in changing behaviors, but in many cases they have not seen that happen to date with the existing SPIRIT programs.

Table 5. Teachers' Attitudes Regarding SPIRIT Effectiveness (n=45).

	Strongly Disagree	Disagree	Agree	Strongly Agree
Programs delay onset of substance abuse	0.0%	9.1%	70.5%	20.5%
Programs decrease school violence	0.0%	9.1%	68.2%	22.7%
Programs improve student performance	0.0%	13.6%	75.0%	11.4%
Programs are valuable	0.0%	4.4%	68.9%	26.7%
This program is valuable	0.0%	11.1%	68.9%	20.0%
Time spent is worthwhile	2.2%	11.1%	71.1%	15.6%
Seen improvement n student behavior	0.0%	31.1%	57.8%	11.1%
Adequate training	0.0%	15.6%	64.4%	20.0%
Program reinforcement	2.3%	2.3%	74.4%	20.9%

Teachers were also asked to describe what they would change about the program to increase its effectiveness. The competing demands of the school were mentioned most often:

> *"The difficulty is finding time to teach it – our days are stretched to the max with curriculum demands & testing! Something has to give."*
>
> *"[We need] more school support."*
>
> *"The only problem I have is time to fit it in to the already crowded day. I enjoy the lessons; it's just hard to squeeze everything in."*

Many teachers also realized that the effectiveness of the program depends on factors that could be altered. For example, the program needs to be integrated within the school more effectively:

> *"The whole school should be reminded of positive actions daily rather than just in individual classrooms."*
>
> *"[The prevention program] should be in all classes or not at all."*

In addition, teachers stated that sometimes students lose their enthusiasm and programs need to be changed to more effectively maintain student excitement:

> *"[We need] suggestions of how to maintain excitement of students.*

Program Value. The majority of teachers agreed (68.9%) or strongly agreed (26.7%) that prevention programs, in general, are valuable to students and these responses did not vary by school level. They also agreed (68.9%) or strongly agreed (20.0%) that the specific program they were teaching was valuable to their students.

Most teachers also felt that the time spent on the program was worthwhile (71.1% agree, 15.6% strongly agree).

Some of the teachers indicated their feelings about the value of the programs had changed over time:

> *"I have come to appreciate it (the program) even more. [It is] especially beneficial for more reserved students."*
>
> *"It is more worthwhile than I first expected. Students lead emotional discussions and have more opportunities to share problems at home through Positive Action."*
>
> *"I used to believe that if you did not work with the kids young enough by high school, it was a lost cause—however, over the last several years the high-school age students have proven this wrong."*
>
> *"I've always felt it was helpful and useful, but now feel it is absolutely NECESSARY!"*
>
> *"[I] have lost momentum and enthusiasm as students become disinterested."*

Program Training. Most teachers felt that the prevention training that they received was adequate (64.4% agree, 20.0% strongly agree). A small minority (about 15%), however, indicated they did not feel adequately trained. Depending on school level, teachers differed in their opinion over whether they received adequate training. Comparisons between school levels showed that elementary teachers thought they received better program training than high school teachers. They also thought that in order to properly implement the program it was necessary for them to continue their training throughout the school year.

Program Reinforcement. The majority of teachers reinforced program lessons on a continual basis. Middle school teachers indicated that they reinforced the program more than did elementary teachers, yet elementary teachers commented:

> *"At first I thought it would be too much work, but it isn't. I use PeaceBuilders ideas and strategies throughout the day—not just a specific lesson."*

Provider Support. While a majority of teachers indicated that they used provider support frequently (41.0%) or consistently (30.8%), slightly more than a quarter of the teachers (28.3%) revealed that they rarely contacted the provider agency for support. They indicated that a variety of services were helpful to them including workshops and training sessions held at the beginning of the year. They also indicated that specific activities provided for teachers as well as students were useful:

> "*Ideas and guest speakers, when [the provider] had the National Guard come and the students participated in leadership activities."*
>
> *"When situations arose in the classroom, [the provider] would teach lessons dealing with the students and special situations."*

The teachers also indicated that the providers were useful in helping them with students considered "at risk."

> *". . . because of all the 'troubled' students in my classroom, we needed solutions fast. Our coordinator helped us use conflict resolution."*
>
> *"Extra assistance for students work and/or behavior."*
>
> *"The help from [the provider] with a very demanding student & the support materials."*

Observations. The majority of teachers thought that at least some enthusiasm of both their students and students' parents was evident (36.4% somewhat enthusiastic; 40.9% enthusiastic). However, only 9.1% of the teachers perceived that the students were "very enthusiastic". Teachers' perceptions did not vary by school level. Student responsiveness to the programs helped to change the attitudes of some teachers toward prevention programming.

> *"I have seen how students use it and remind themselves of things that they have learned which has made me more appreciative of the program."*
>
> *"At first it felt like one more thing to do, but then I saw how the students liked it and [it] wasn't just one more thing."*

Teachers perceived parents to be less enthusiastic, with 24.0% of the teachers indicating that the parents were not at all enthusiastic. Forty-four percent thought parents were "somewhat enthusiastic" and 20% indicated that parents were "enthusiastic". Only 12.0% indicated that they perceived parents to be "very enthusiastic" about the program.

Many teachers expressed doubtfulness of parent involvement either because of the parents' lack of knowledge about the program or that their enthusiasm was difficult to accurately gauge:

> *"I don't know if parents even know about it."*

"I have never discussed the program with a parent."

"I haven't had any parent feedback."

Still others indicated that they were very aware of parent enthusiasm:

"I have seen how enthusiastic the parent of the student that [the provider] works with. She has asked him to continue to be a mentor".

Many teachers commented that they would like more parent involvement—that it would be helpful to have more lessons that would include parent feedback and that a parent component would be useful.

Table 6. Teachers' perception of enthusiasm of student and parent reactions toward the program (n = 45).

	Not at all enthusiastic	Somewhat enthusiastic	Enthusiastic	Very enthusiastic
Student reaction	13.6%	36.4%	40.9%	9.1%
Parent reaction	24.0%	44.0%	20.0%	12.0%

Teaching Strategies. Of the types of teaching strategies used when implementing the prevention program, teachers employed classroom discussion significantly more often than any other teaching method (Table 7). Elementary teachers used role playing, simulations or practice more frequently than teachers in the upper grades. Still others revealed that other demands on class time make it difficult to do anything but class discussion or lecture.

Table 7. Frequency of use of teaching methods (n = 45).

	Never	Rarely	Frequently	Consistently
Classroom discussion	0.0%	2.3%	43.2%	54.5%
Seat work	0.0%	34.9%	60.5%	4.7%
Small group activities	9.3%	25.6%	46.5%	18.6%
Lecture/instruction	9.1%	25.0%	52.3%	13.6%
Student worksheets	7.1%	33.3%	54.8%	4.8%
Role playing	6.8%	22.7%	56.8%	13.6%
Special projects	7.9%	57.9%	26.3%	7.9%

An example of special projects and events implemented this year include:

"We read the stories & play & discuss them as if they were involved in the same situation. The stories & play lead to the discussions involving drugs, alcohol, & teenagers' lives."

Special events also contributed to program reinforcement.

- Carthage and Knox County had Donuts for Dads and Muffins for Moms parent functions. In Knox, SPIRIT co-sponsored a "Daddy/Daughter Dance" event and presented a program on the choices and consequences of methamphetamine use.

- Carthage hosted a PeaceBuilder Kick-off with an outdoor celebration complete with helium balloons, t-shirts and special activities.

- RY students in Carthage did special activities around Red Ribbon Day. Two students from RY were sent to a national leadership training conference, and upon their return, they presented information to other students about the conference. Additionally, RY students were involved in promoting a bond issue (that passed) and in writing their state congressional members in support of continued funding for SPIRIT.

- Students from Knox County Elementary, Pleasant Valley Elementary from Carthage and Burke Elementary from Hickman Mills performed PeaceBuilder and Positive Action songs at school assemblies.

- Students at Knox County Elementary were nominated to participate in a special Principal's Luncheon. Student PeaceBuilder awards also included the opportunity to be an honorary team member of the boys' and girls' high school basketball team.

- Burke Elementary students had several ways of recognizing "positive actions." There were classroom rewards, lunches with the prevention specialist, and a Positive Action chain made.

- Hickman Mills High School had teachers nominate students for Positive Action recognition each month. At the year-end honor activity, twelve students were selected to receive backpacks with supplies and prizes.

- Students at the elementary school in Jennings were treated to a special SPIRIT field day wrap-up put on by the providers.

Summary

Principals, providers, and teachers 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. Many felt that it has been successful in delaying the onset of substance use and in reducing violent behaviors; they were less likely to think that program impacted grades. Teachers thought that providers had been very helpful to them in addressing difficult issues, and that SPIRIT had become more important to them as they saw children benefit from the program.

A major area where all adults felt there was room for improvement was in the area of parent involvement. School staff 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 program 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, working with the schools prior to program implementation to assure school district buy-in, and assuring adequate time for program implementation in the school schedule.

CHAPTER FOUR
YOUTH PERCEPTION OF THE SPIRIT PROGRAM

Participants

At the end of FY05, a satisfaction questionnaire was administered to all participating youth to obtain their opinions of the SPIRIT program. A total of 1,071 youth completed the questionnaire. Youth in 6th through 8th grades were the most frequently represented (48.3%).

Almost half of the respondents were participants in Positive Action (42.7%), about one quarter were in Life Skills Training (24.6%), 16.4% attended PeaceBuilders, 16.0% participated in Second Step, and 0.3% participated in Reconnecting Youth.[3] Positive Action was the only program with representation across elementary, middle and high school level. Most students who responded (86.4%) were in elementary and middle school (see Table 7). The number of students per district varied from 180 to 290, but each district contained a sufficient number of students for meaningful analysis. Most of the sample was either White (56.5%) or African-American (39.7%). Statistical methods were used to control for differences in sample size across district. Slightly more than half (52.8%) were female.

[3] Responses from students in Reconnecting Youth were eliminated from the analysis because of the low number of youth participating.

Footnote 3 Table. Number of students participating in each program by district.

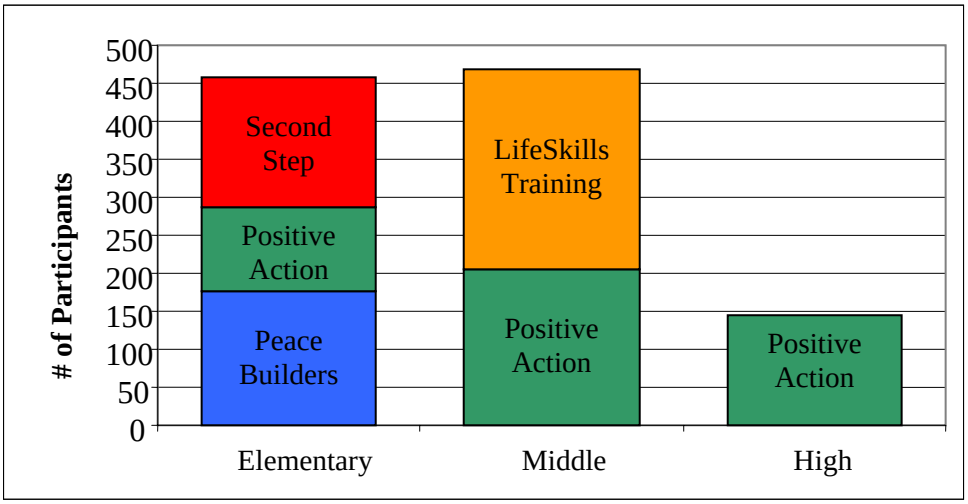
	Carthage	*Hickman Mills*	*Jennings*	*Knox*	*New Madrid*	**Total**
Peace Builders	85	0	0	91	0	176
Second Step	0	0	172	0	0	172
Positive Action	0	195	0	52	212	459
Life Skills Training	95	0	118	51	0	264
Total	180	195	290	194	212	1,071

Table 8. Number of students participating in each program by district and school level.

	Carthage			*Hickman Mills*			*Jennings*			*Knox*			*New Madrid*			**Total**
	ES	*MS*	*HS*	*ES*	*MS*	*HS*	*ES*	*MS*	*HS*	*ES*	*MS*	*HS*	*ES*	*MS*	*HS*	
Peace Builders	85									91						176
Second Step							172									172
Positive Action				98	44	53						52	12	160	40	459
Life Skills Training		95						118			51					264
Subtotal	85	95		98	44	53	172	121		91	51	52	12	160	40	
Total		180			195			293			194			212		1,071

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

Figure 4. Number of students completing the program satisfaction questionnaire by school level representing each program (n = 1071).



Measures

Two separate satisfaction questionnaires were designed for students in K-3rd grade (8 items) and 4th-12th grade (10 items). The questionnaire included items of general satisfaction (i.e., "Did you like the program?") and perceptions of program effectiveness (i.e., "Has the program helped you to get along better with other people?"; "Did the program help you feel better about

yourself?"). The questionnaire for K-3rd grade students differed from the one for older students in that simpler words were used to reflect comprehension level, two items were deleted (i.e., "Did the program help you decide how to act in tough situations" and "Do you think the time spent on the program was helpful"), and one item was added (i.e., "Does your school feel like a nice place to be"). The satisfaction scales both showed adequate reliability (K-3rd, Cronbach's alpha = .80; 4th – 12th, Cronbach's alpha = .94). A 4-point scale was used to measure satisfaction (1 = no, not at all; 4 = yes, a lot).

Findings

Overall findings showed higher satisfaction with the programs in elementary schools than in middle or high school (see Figure 5) and higher satisfaction with the Peacebuilders program, followed by Positive Action, Life Skills Training, and Second Step (see Figure 6). Higher satisfaction among elementary school students may be due to higher levels of agreement generally among this age group than older youth, rather than with program satisfaction, although there was less adaptation of individual prevention programs at the elementary school level than at the middle or high school levels. Given that Positive Action, Life Skills Training and Second Step were all adapted at several of the sites, these satisfaction ratings are a measure of the *current program being implemented* and not necessarily the original evidence-based program.

Figure 5. Students' program satisfaction ratings by school level across programs (n = 1071).

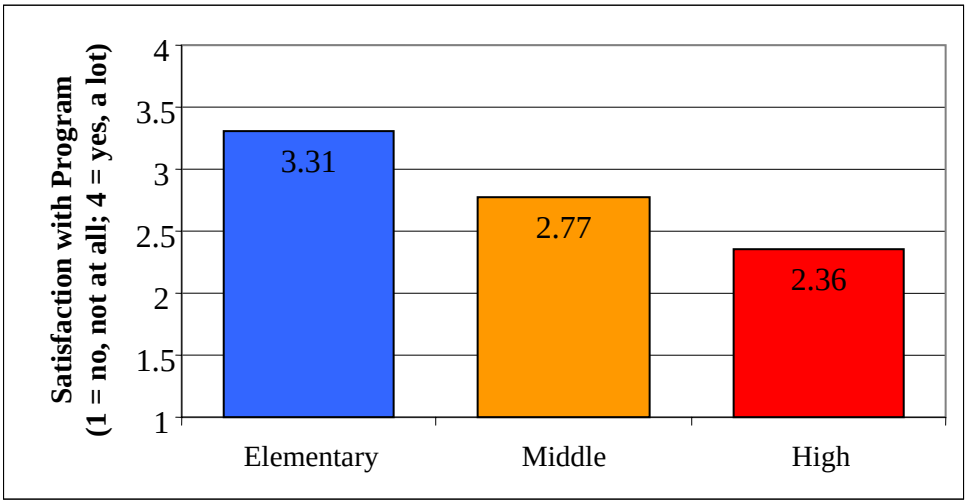
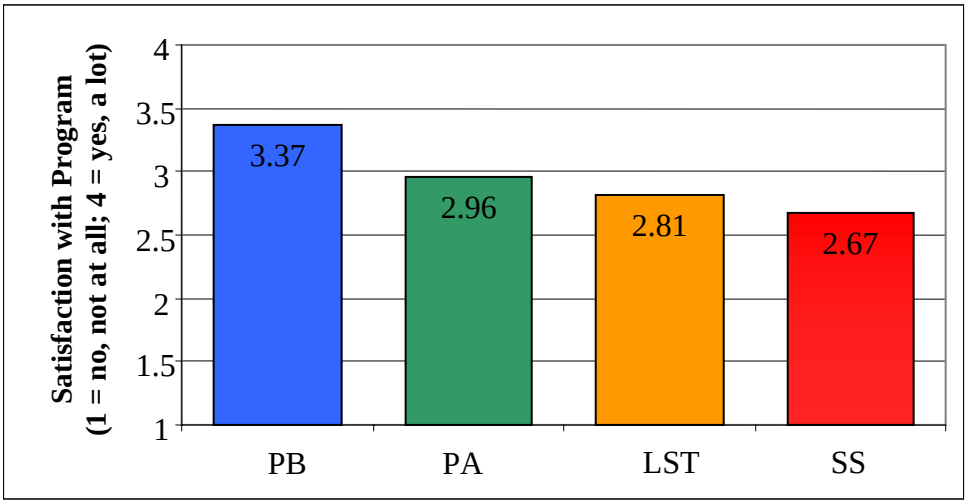
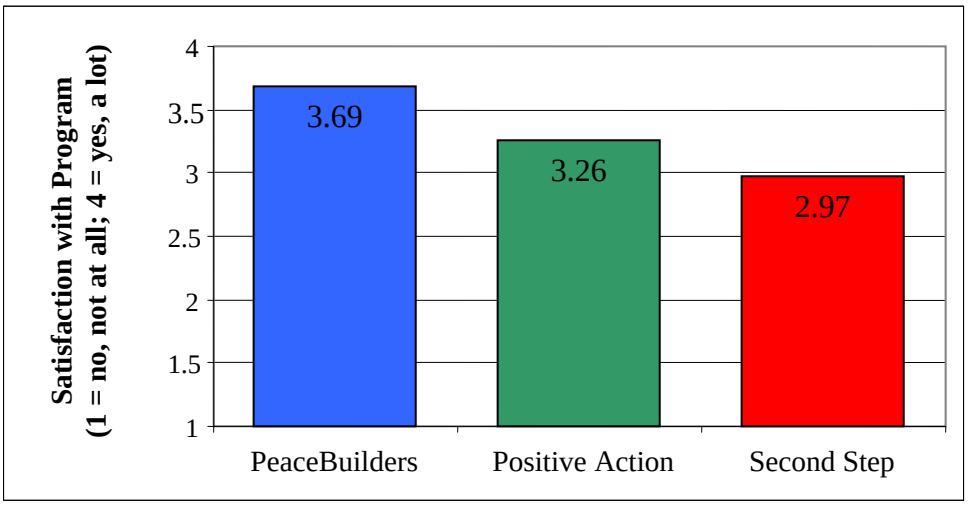


Figure 6. Students' program satisfaction ratings by program (controlled for district and school level; n = 1,071).



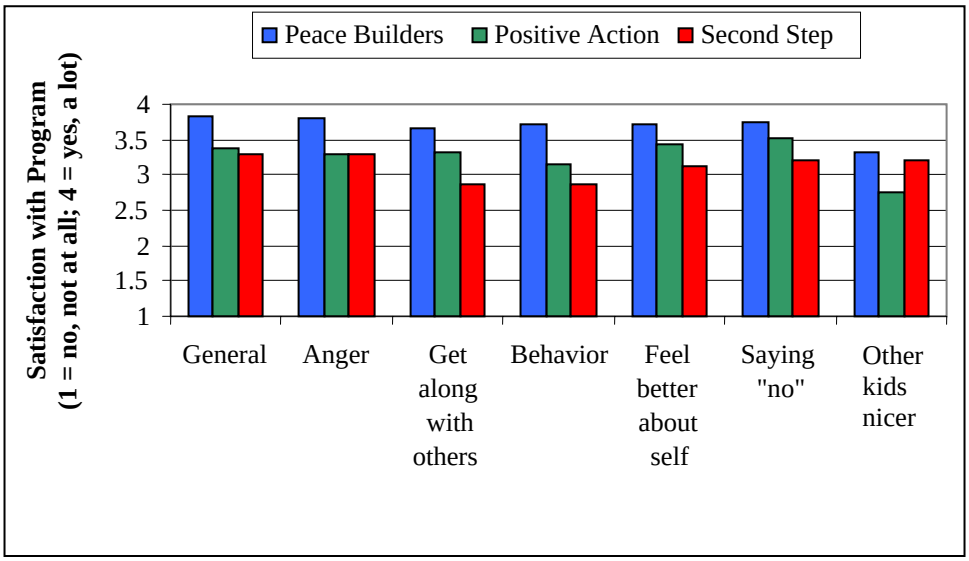
Elementary Schools. Responses from all programs in elementary schools showed high levels of satisfaction regardless of program, with youth participating in PeaceBuilders reporting higher satisfaction than youth in Positive Action or Second Step (see Figure 7).

Figure 7. Elementary school students' satisfaction ratings of their programs (controlled for district; n = 458).



This pattern held true for individual items including "The program helped me to get along better with others;" "The program helped me to feel better about myself;" and "Other kids are nicer to me because of the program." Youth in Peace Builders tended to express more satisfaction than youth in other programs. (see Figure 8).

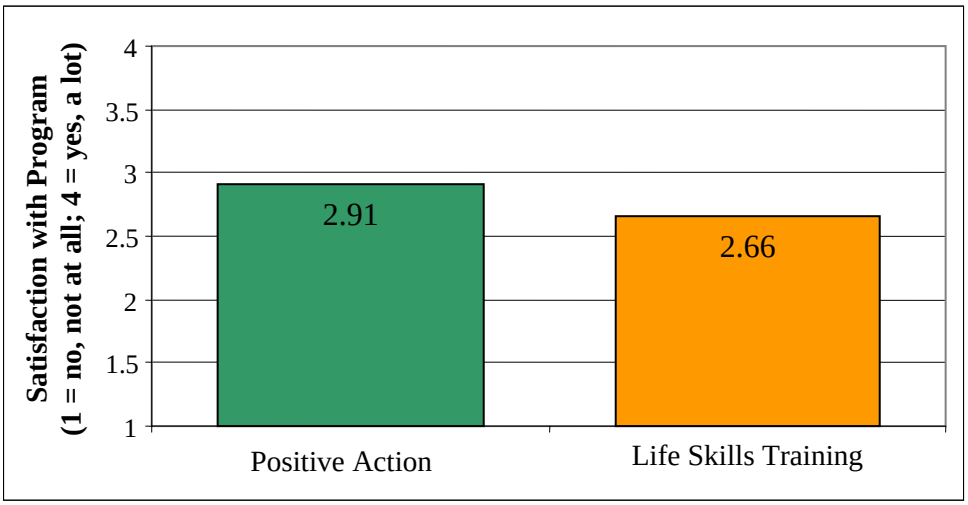
Figure 8. Elementary school students' satisfaction ratings of their programs by individual item (controlled for district; n = 458).



All items were significantly significant at the .001 level. Differing subscripts indicate a significant difference between groups (within that row) at the $p < .05$ to the $p < .001$ level.

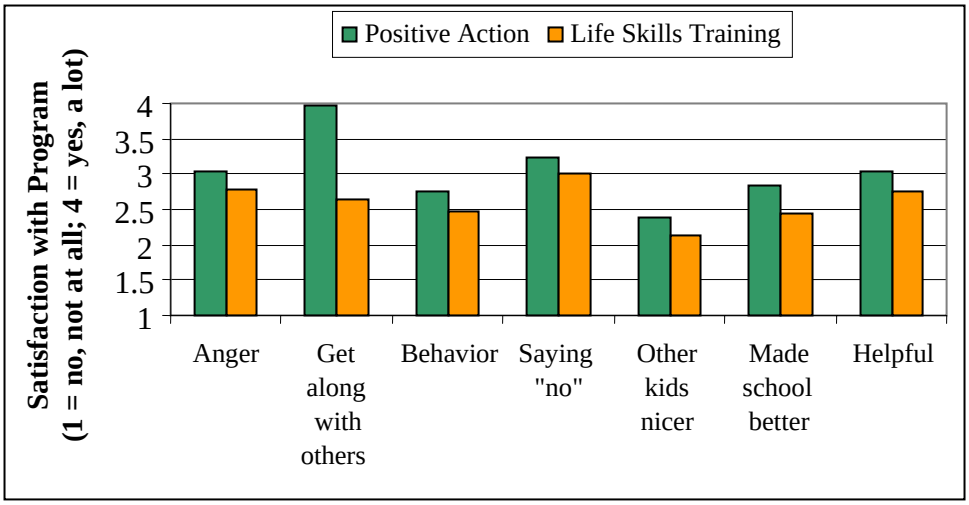
Middle Schools. Middle school students generally reported lower levels of satisfaction with SPIRIT programming than elementary school children, but this difference in satisfaction levels may be due to maturation only, and not a difference in program satisfaction. In comparing the two middle school programs, Positive Action produced a higher level of satisfaction than did Life Skills Training (see Figure 9).

Figure 9. Middle school students' satisfaction ratings of their programs (controlled for district; n = 468).



Average scores per item indicated that youth rated Positive Action higher than Life Skills on questions related to the program's ability to teach them to control their anger, to get along better with others, to behave better, and to say "no" to kids who are trying to get them to do harmful things. They also thought their program helped to create a better school environment and that the time spent on the program was helpful. The students' ratings of the programs did not differ on questions related to their general program satisfaction, the ability of the program to help them feel better about themselves, or to decide how to act in tough situations. Importantly, on the majority of items, students' ratings of the program did not fall below 2.50 (a mean of less than 2.50 would indicate actual *dissatisfaction* with the program). However, many of the students in Life Skills Training were dissatisfied with the ability of the program to help them behave better (average = 2.47), and to make the school better (average = 2.45). Students in both Life Skills and Positive Action were dissatisfied with the ability of these programs to cause other kids to be nicer to them (average = 2.13 and 2.40, respectively).

Figure 10. Middle school students' satisfaction rating of their programs by individual item (controlled for district; n = 468).

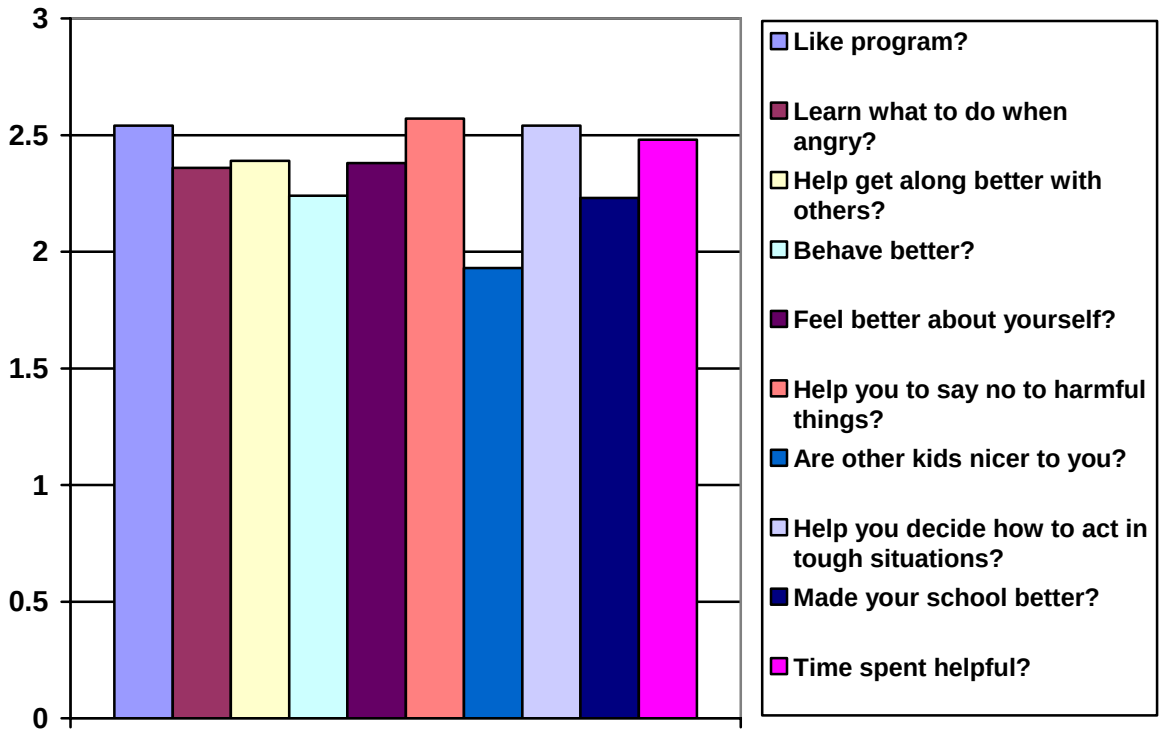


All items were significantly significant at the .001 level. Differing subscripts indicate a significant difference between groups (within that row) at the $p < .05$ to the $p < .001$ level. Bold numbers represent those items on which particular groups averaged a negative satisfaction rating (< 2.50).

The findings are interesting in light of the fact that Life Skills was implemented with relatively good fidelity in two of the three districts, while Positive Action was implemented with much less fidelity in both of the districts implementing it. For example, in one district, Positive Action was taught once every two weeks for 20 minutes each time; in the other district, the program was hardly taught at all.

High Schools. Results from students in Positive Action showed that high school students were more dissatisfied with the program than elementary or middle school youth.

Figure 11. High school students' satisfaction with programs.



While there is some reason to expect this result since satisfaction generally decreases as youth mature, there are some indications that maturation alone may not be responsible for all of the dissatisfaction. Observations from site visits, review of documentation, and interviews with teachers and providers suggest that some of this dissatisfaction is program related. As was discussed previously, Positive Action was not initially designed for high school youth, and there is some concern that lessons currently are not age appropriate.

Positive Action, all grade levels. Positive Action is the only program with components taught to all grade levels. Individual item analysis was conducted to determine which items were more important to elementary, middle and high school students. Because items did not completely overlap between the K-3 and 4-12 surveys, responses from K-3 students were removed from the analysis. In the following description elementary will be used to indicate 4th – 5th grade students *only*.

There were differences in levels of satisfaction across school levels (elementary, middle/junior high, and senior high) on every item on the survey, (see Figures 12 and 13). Elementary school students were more satisfied than middle school students. Middle school students were, in turn, more satisfied than high school students.

Figure 12. Student satisfaction ratings of the Positive Action program by school level (controlled for district; n = 459).

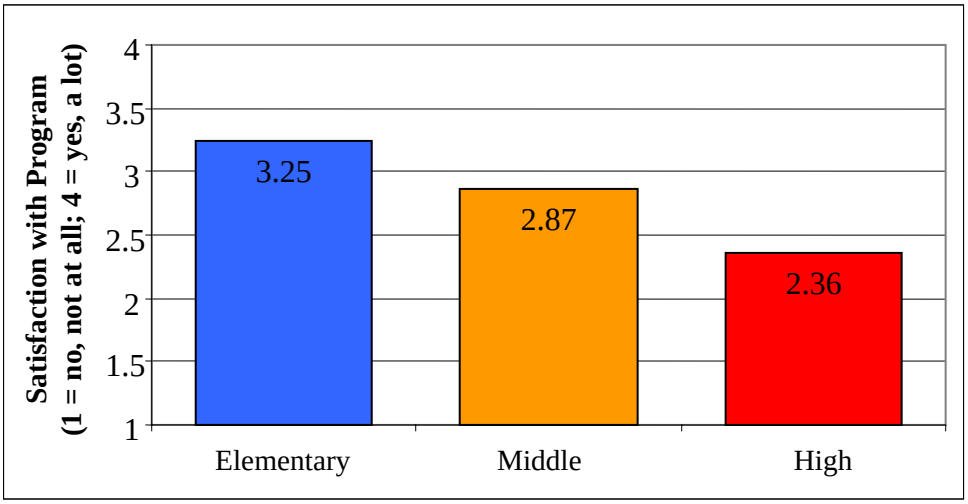
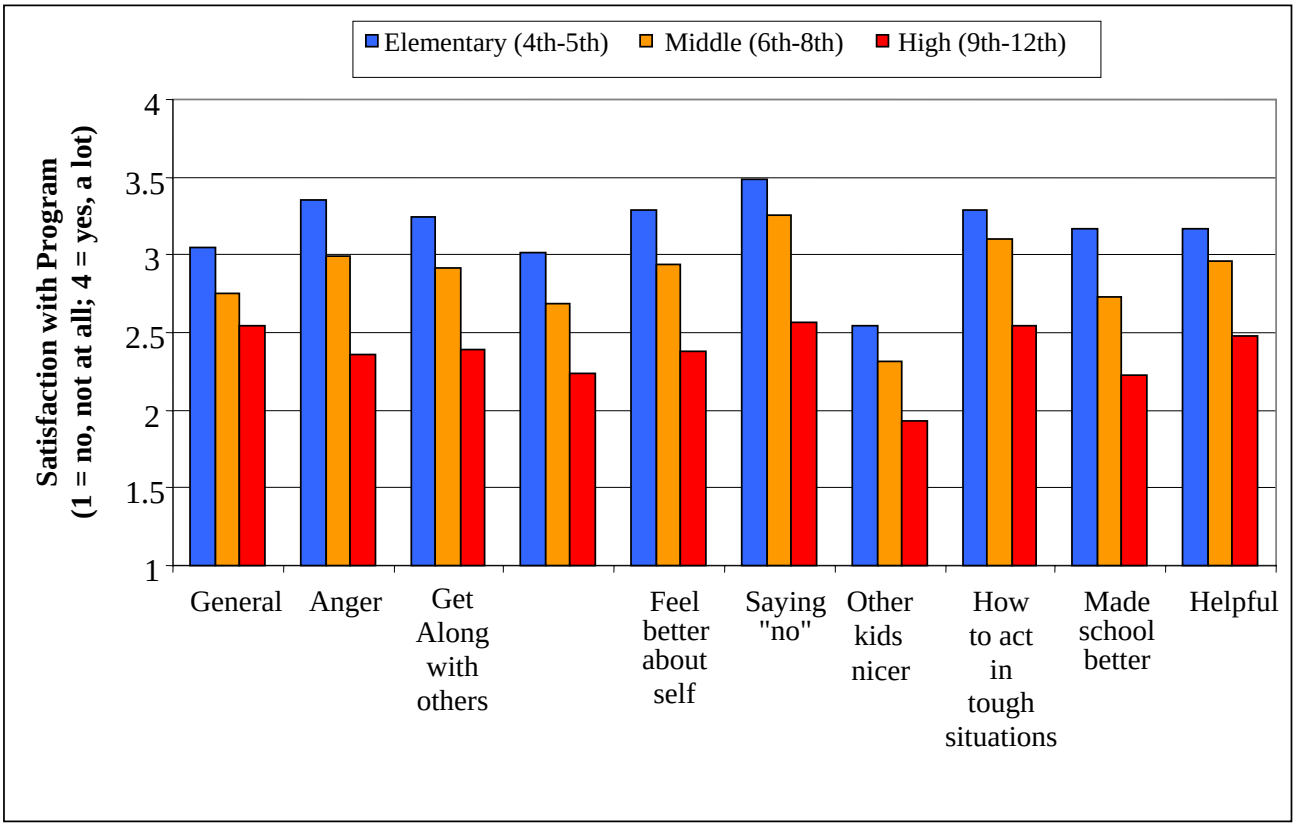


Figure 13. Student satisfaction ratings of program, by individual item, by school level (controlled for district; n=1071).



All differences were statistically significant at the .001 level

Elementary and middle school students' average ratings of the program did not fall below 2.50 on the majority of items. With the exception of ratings on three items [students' general program satisfaction (average = 2.54), the ability of the program to teach them how to act in tough situations, learn how to say "no" in tough situations (average = 2.54), and the ability of the program to teach them how to say "no" (average = 2.57)], students in high school were dissatisfied on most items. The aspect of the program with which students were least satisfied with was the ability of the program to cause other kids to be nicer to them. Both middle school and high school students indicated dissatisfaction with this area (averages of 2.31 and 1.93, respectively).

Summary

Student assessments of the SPIRIT program were on the whole very positive. Youth felt that the program had *helped them control anger, get along better with others, feel better about themselves, and learn how to act in tough situations.* Most of the youth felt that the time was well spent. Elementary school students were the most positive, following by middle and then high school students. Students were more favorable toward PeaceBuilders than other programs, though this may be related to a lack of fidelity of implementation at some sites for Positive Action, Life Skills Training, and Second Step. They were least favorable toward Positive Action at the high school level; this finding was substantiated in interviews with staff and teachers who confirmed that the Positive Action curriculum needed to be redesigned if it were to be effective for this age group.

CHAPTER FIVE
OUTCOME FINDINGS

Kindergarten – 3rd Grade Outcomes

Students in Kindergarten through 3rd grade were assessed for aggressive behavior and social competence, two factors considered to be precursors to substance use. The Teacher Observation Checklist (TOC), completed by teachers, was used to determine outcomes for students participating in SPIRIT.

Two sets of analyses were conducted. The first was to measure student progress from Time 5 (Fall 2004) to Time 6 (Spring 2005); the second was to measure outcomes for a smaller group of students who had remained in the program from the beginning of SPIRIT. Because teacher observations of behavior were believed to be more accurate at Time 2 than Time 1, after teachers knew students better, our second analysis compares teacher observations over a two year period (Time 2 to Time 6).

One hundred seventy-seven students were observed using the TOC at both Time 5 and 6. Students were from Jennings (33.1%), followed by Knox (28.2%), New Madrid (20.3%), Carthage (13.0%) and Hickman Hills (5.4%). While only half (51.8%) of the teachers reported the gender of the youth, males (50.0%) and females (49.2%) were equally represented for those students whose gender was known. Only 52% of the students in both T5 and T6 completed the ethnicity item. Among those youth, most students were from African-American (45.8%) or White (51.6%) heritage. Fewer than 3% of the sample consisted of Hispanic or Native American heritage.

Only students who completed Times 2, 4 and 6 were included in the second analyses (n=80). The majority of the students were from Jennings (55.0%), followed by Knox (12.5%), Hickman Mills (17.5%), and Carthage (15%). Gender status was equally represented (males = 53.2%, females = 46.8%). Most students were either African-American (61.3%) or White (36.3%). Fewer than 3.0% of the sample were either of Hispanic or Native American heritage.

Social Competence

Social competence measured teachers' perceptions of changes in two areas: prosocial behavior and emotional regulation. Items were measured on a seven point scale (1= not at all, 5 = almost always true)

In the 2004-2005 sample, there was a significant increase in emotional regulation and prosocial behavior between Time 5 and Time 6 (See tables 9 and 10).

Table 9. Changes in Sample Pro-Social Norms Items, Time 5 and Time 6.

	Time 5 Average	Time 6 Average
Accepts legitimate imposed limits.***	3.48	3.60
Plays by the rules of the games.**	3.55	3.40
Cooperates with peers without prompting.**	3.48	3.60
Can give suggestions and opinions without being bossy.***	3.55	3.40

***Significant change at the .001 level
**Significant change at the .01 level

Table 10. Changes in Sample Emotional Regulation Items, Time 5 and Time 6.

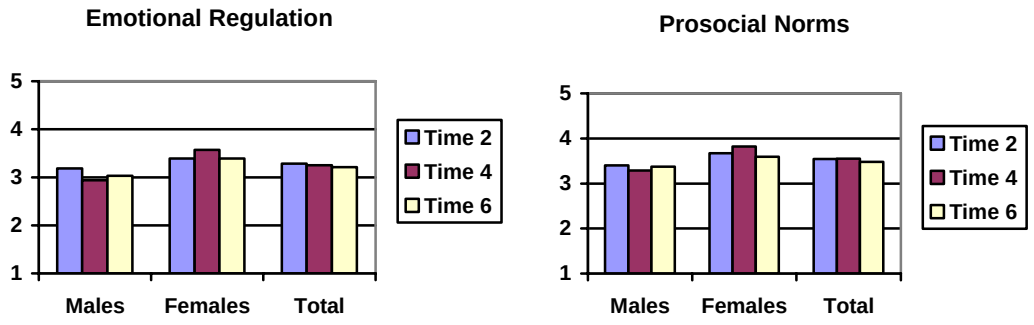
	Time 5 Average	Time 6 Average
Copes well with failure*	3.17	3.29
Thinks before acting*	3.16	3.28
Can calm down when excited or all wound up***	3.31	3.51
Is very good at understanding other people's feelings**	3.35	3.50

***Significant positive change at the .001 level
**Significant positive change at the .01 level
*Significant positive change at the .05 level

Teachers observed that children significantly coped better with failure, accepted limits, calmed down when excited, waited in line patiently, understood others' feelings, worked well in groups, played by the rules, shared materials, cooperated with peers, were helpful, gave suggestions without being bossy and acted friendly toward others. Still other items approached significance: expressed needs appropriately, thought before acting, resolved peer problems on own, and listened to others' points of view. These findings are very encouraging: SPIRIT is assisting in building protective factors that prevent or delay substance use in younger children.

The three year sample (n = 73) showed modest improvements for females between Time 2 and Time 4. These differences were not maintained the following year (Time 4 to Time 6). There were no findings for males.

Figure 14. Change in Emotional Regulation and Pro-Social Norms Over Time (n=73)



In conclusion, teacher observations of student behaviors showed significant improvements between Time 5 and Time 6 across both the emotional regulation and prosocial norms scales, but no sustained effects were obtained in the smaller sample over time.

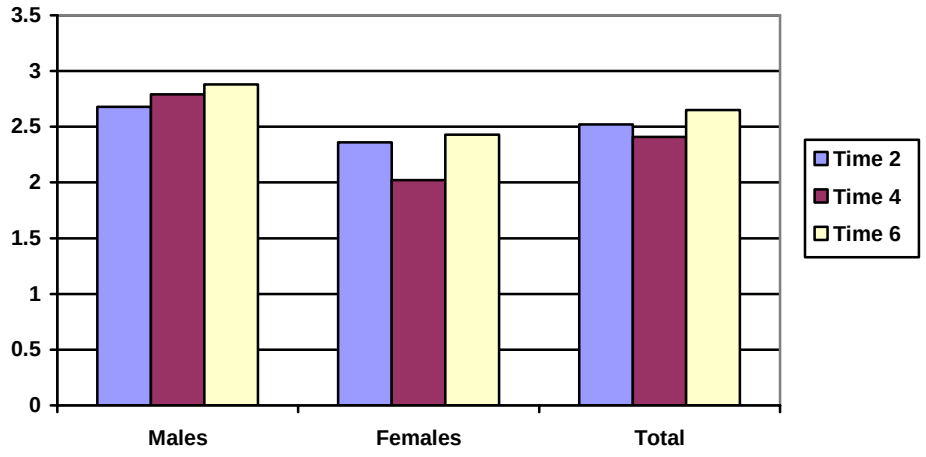
Aggressive Behavior

Teachers were asked to complete items on an aggressive behavior scale that was divided into two subscales, proactive (using physical force to get what you want) and reactive (self-defense) aggression. Response ranged from 1 (never true) to 5 (almost always true).

Reactive Aggression

There were no significant changes in reactive aggression from Time 5 to Time 6. Reactive aggression decreased between Time 2 and Time 4, but then increased between Time 4 and 6. As figure x shows, findings differed between males and females, with male aggression increasing slightly (though not significantly) over time, but female aggression decreasing during the 2003-2004 year and then increasing back to the previous level during the 2004-2005 year. Reactive aggression was higher for males at all time points than for females. Without a comparison group, it is difficult to know whether male aggression would have increased at a more rapid rate than noted here. The decrease in aggression during the first year for females is very encouraging, more research is needed to explain why aggression levels increased during Year 2 (there was no change in intervention at the targeted schools). Reactive aggression at Time 6 was still higher for males than for females.

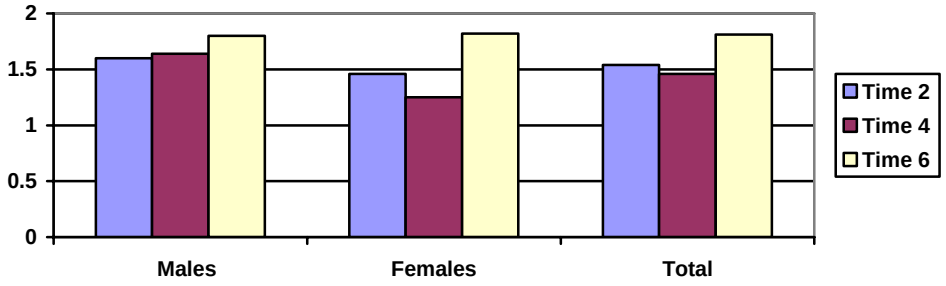
Figure 15. Change in Reactive Aggression Over Time (n=74)



Proactive Aggression

Patterns in proactive aggression were similar to those of reactive aggression though the overall levels of proactive aggression were lower. Among males, proactive aggression increased over time, but among females, it dropped between Time 2 and Time 4, and then increased between Time 4 and Time 6. At Time 2, males reported more aggressive behavior than females; by Time 6, levels of aggression were virtually the same for both groups.

Figure 16. Changes in Proactive Aggression Over Time (n=74)



Summary of K-3 Findings

The findings from the Teacher Observations Checklists for 2004-2005 are extremely positive in the area of social competence, an area targeted by the interventions in the SPIRIT program. Across both subscales, emotional regulation and prosocial norms, there were significant improvements.

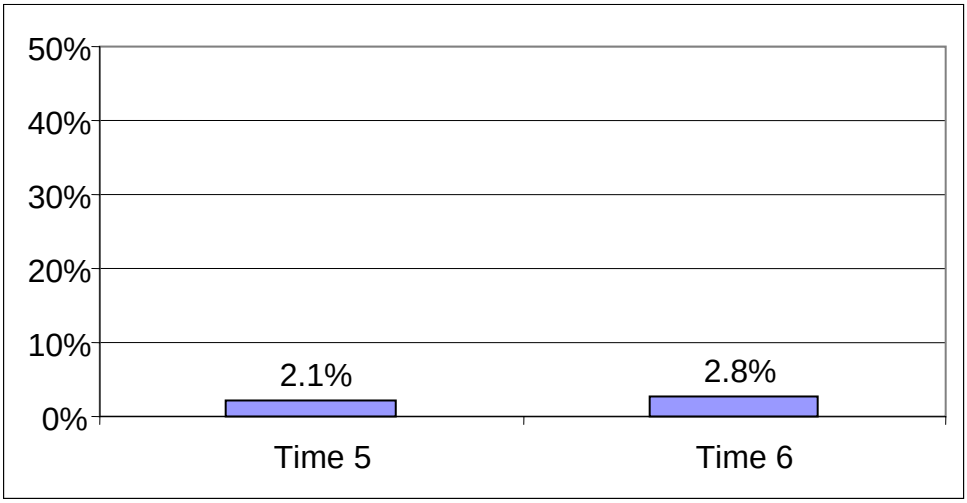
There were no reductions in aggression, however, there were no significant increases either, and for this age group of children, aggression often increases. It should be noted that, even with the increase, the average rate for proactive aggression, overall, is low. The SPIRIT project, which focuses much of its programming upon violence prevention, appears to be at least maintaining aggression levels. Overall, these findings are very positive for this age group.

4th – 5th Grade Outcomes: Substance Use

Fourth and fifth grade students completed the Healthy Kids (HKS) survey, an instrument assessing substance use and related risk and protective factors. Between 140 and 177 students completed the survey at Time 5 (Fall 2004) and Time 6 (Spring 2005), depending on the scale. Jennings school district had the largest number of respondents (38.2%); New Madrid, Hickman Mills, and Knox each represented between 12.9% and 27.1%; and Carthage had 7.6% of the sample. Male and females students were equally represented at 51.2% and 48.8%, respectively. Most students were either White (50.0%) or African-American (47.6%). Students were equally distributed between the fourth (n=88, 51.8%) and fifth (n=82, 48.2%) grades.

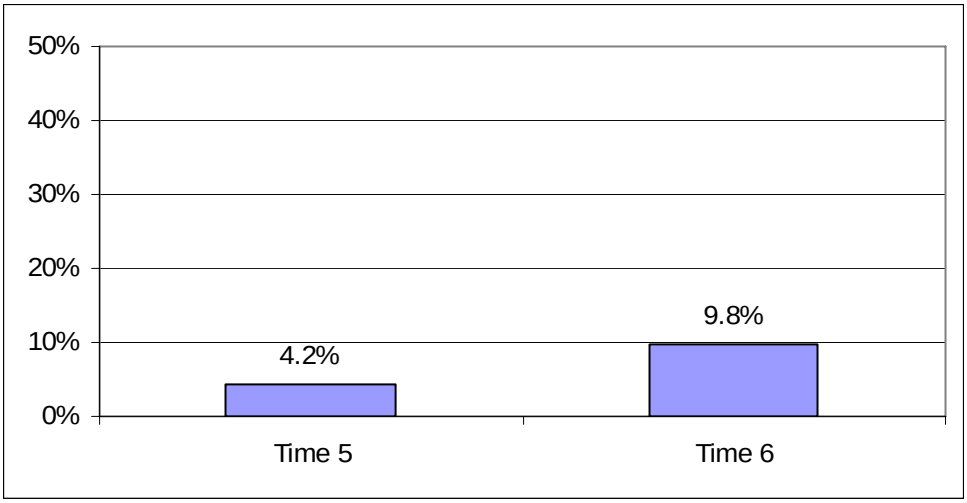
Cigarettes. Youth were asked about their lifetime and 30-day use of cigarettes. While there was a significant increase in lifetime reported use (from 10.6% to 15.5%), there was no reported increase in 30-day use (2.1% to 2.8%, an increase of 1 student), suggesting that while there may have been some experimental use taking place, more regular use did not increase for this age group.

Figure 17. 30-day cigarette use, 4th – 5th grade, Time 5 and Time 6 (n = 142).



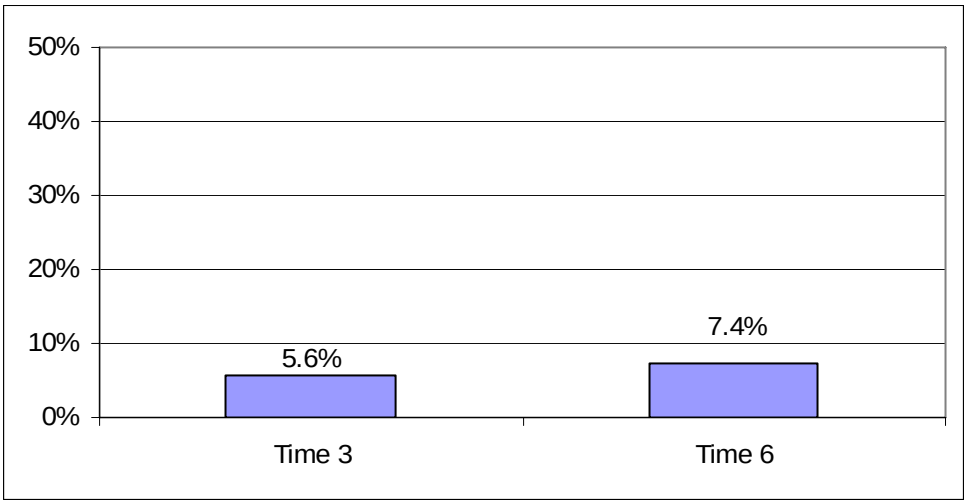
Alcohol. There was a slight but significant increase in 30-day alcohol use from Time 5 to Time 6 (4.2% to 9.8%). The increases are most likely due to natural maturational trends reflected in all national data that show small increases in alcohol use among this age group.

Figure 18. 30-day alcohol use, 4th – 5th grade, Time 5 and Time 6 (n = 142).



The two year cumulative effects of the program on alcohol use (Time 3 to Time 6) were examined; all respondents are in 4th grade at Time 3 and 5th grade at Time 6 for this analysis. There were no significant changes in alcohol use among this age group for lifetime use or 30-day use. This is a very encouraging finding, suggesting that over time, the program is preventing 4th and 5th graders from using alcohol.

Figure 19. 30-day alcohol use, 4th – 5th grade, Time 3 and Time 6 (n = 54).



Chewing Tobacco/Snuff. Participants were asked to indicate whether they had used chewing tobacco or snuff in their lifetime. There were no significant differences between Time 5 and Time 6 (2.1% and 5.4% respectively), though use did increase slightly. A comparison of the two

years showed no significant differences in use patterns over time. Again, these findings are very encouraging.

Marijuana. When they were asked at Time 5 to indicate whether or not they had ever "smoked any marijuana (pot, grass, weed)" in their lifetime, only 2 students (1.4%) revealed they had done so. It should be noted that 13.5% of the students indicated they didn't even know what marijuana was. By the end of the school year (Time 6) only one additional student (0.7%) indicated that they had used marijuana, with a total of 2.3% reporting lifetime use. The percentage of students revealing that they did not know what marijuana was reduced to 10.5% (a decrease of four students).

When program effects were examined across a two year time span, only one student (1.9%) revealed trying marijuana over the course of the two year time span, a non-significant increase. No students indicated they used marijuana at Time 3.

Inhalants. Inhalant use increased significantly between Times 5 and 6, though the number of youth affected was low. Five participants (3.5%) indicated they had sniffed something through their nose to get high in their lifetime at Time 5; by Time 6, an additional 6 students reported having used, for a total of 7.7% of the sample. The two-year effects of the program showed no significant increases in use among this sample of youth. These mixed results suggest SPIRIT may want to increase its focus on programming aimed at discussing the dangers of inhalants to this age group.

Summary

The findings from the HKS related to alcohol and other drugs are mixed. Both lifetime and 30-day alcohol use increased significantly last year, despite the presence of the SPIRIT interventions, but among the smaller sample for whom we have two years of data, there were no significant increases for either lifetime or 30-day alcohol use. Changes in smokeless tobacco were not significant. Thirty-day cigarette use increased last year, but lifetime cigarette use was not significant for either last year's sample or the two-year sample, and 30-day cigarette use did not change significantly for the two-year sample. Lifetime inhalant use increased significantly, but 30-day inhalant use did not, suggesting that experimentation is starting among this age group but that more regular use, as reflected in our measure of 30-day use, is not as prevalent. These findings suggest that the SPIRIT interventions may need to be more focused and intensive on specific issues related to cigarettes, alcohol, and inhalants, substances that are not necessarily covered in all of the evidence-based programs offered through SPIRIT. For example, Second Step is a violence-prevention program that addresses behaviors correlated with substance use such as aggression, but it may be less effective addressing alcohol and cigarette use given that its focus is on violence prevention. PeaceBuilders is focused on conflict resolution skills-building and creating a peaceful school environment, but is not focused specifically upon substance abuse prevention, and the same is true of Positive Action. A longer term study is needed to see whether the majority of children who start out in 4th grade with these programs and move into middle school change their substance use behaviors in later years given the lessons that they have learned from their elementary school prevention programs.

A. 4th - 5th Grade Outcomes: Risk and Protective Factors

The HKS also measured several risk and protective factors related to substance use including students' perceptions of their school, home and peer environment, empathy and problem solving, perceptions of safety, antisocial behavior, goals and aspirations, and perceptions of the risk of substance use. Sample size between Time 5 and Time 6 was 177; between Time 3 and Time 6 it was 61. The majority of students in this select sample were from Hickman Mills (39.3%) and Jennings (34.4%). Most were male (68.9%) and either African-American (60.7%) or White (36.1%).

Individual Factors

Risk of Substance Use. Time 5, almost all students believed that smoking cigarettes, drinking alcohol, and smoking marijuana were very bad for a person's health. By Time 6, youth perceived alcohol to be less harmful; there was no significant change for perceptions of harm from cigarette or marijuana.

Table 11. Perceived Harm from Cigarettes, Alcohol, and Marijuana.

Category	Time 5 Very bad	Time 6 Very bad
Smoking cigarettes	90.6%	88.3%
Drinking alcohol	90.2%	75.0%
Smoking marijuana	95.3%	94.5%

For those youth who were tracked over two years, both alcohol and marijuana were perceived to be less harmful at the end of 5th grade than the beginning of 4th grade. An overwhelming majority of participants (98.1%) believed marijuana to be very unhealthy at the beginning of the 4th grade, but by the end of 5th grade, this percentage had dropped to 87.0%. These findings, coupled with the finding of increased alcohol use for this cohort of youth, suggests a need for more programming emphasizing the negative health effects of alcohol and marijuana for elementary school children.

Antisocial/Aggressive Behavior. While not significant, there was an increase in aggressive behavior from Time 5 to Time 6. The majority of students (54.9%) at Time 5 responded that they had not pushed or hit another youth at school within the last year; at Time 6, this dropped to 46.9%. Rumor-spreading increased significantly (21.0% to 33.9%), as did the belief that others were spreading rumors about them (56.8% and 65.2%, respectively). No significant differences were found for the very low incidence of students reported bringing a gun or knife to school at the beginning of the school year (none at Time 5 and 3 at Time 6). There also was no significant difference in the percentage of students reported that seeing their fellow classmates bring a gun or a knife to school.

A comparison of student responses for the longer time period showed no significant differences in the extremely small number of students who reported bringing a weapon to school (1 at Time 3 and 3 at Time 6). Again, students reported seeing other students with weapons significantly

more often. At Time 3, 24.6% of the students indicated that they had seen another student with a weapon at school. By Time 6, this number was slightly lower, but not significantly, with only 18.0% of the students reporting having witnessed students with weapons.

Goals & Aspirations. Because most students indicated that they had goals and plans for college at Time 5 (93.2% and 91%), there was little room for movement in this area. At Time 6, these percentages changed slightly (94.7% and 94.7%, respectively). Similarly, students overwhelmingly responded that they had plans for the future at both times (90.9% at Time 5 and 96.4% at Time 6). Almost the same number of students expressed plans to go to college at Time 3 (90.9%) as at Time 6 (92.7%).

Empathy & Problem Solving. A 5- item empathy and problem solving scale assessed students' capacity for trying to understand how others feel, feeling bad when others get hurt, knowing where to go for help, trying to work problems out, and trying to do your best. From Time 5 to Time 6, students' ability to empathize and problem solve did not change significantly though there was a slight decrease, with an average score of 2.72 at Time 5 and 2.65 at Time 6. In the two-year sample, at both Time 3 and Time 6, students showed positive levels of empathy and problem solving (average = 2.85 and average = 2.52), but these factors decreased significantly over time**.** Further review of the curriculum for this age group is recommended to assess how empathy and problem solving skills might be further strengthened.

B. Family Factors

Home Environment. The 6-item home environment scale assessed students' perception of their relationship with their parents and/or guardian, Students showed a very positive perception of their home environment at both time 5 (average= 3.37) and time 6 (average = 3.34). Home environment scores over the course of a two year period were very similar to their 2004-2005 school year ratings. At Time 3, students showed a positive perception of their home environment (average = 3.48) and at Time 6 (average = 3.31). The fact that these factors remained unchanged is not surprising given that students were young and there was no intervention aimed at the family at any of the participating schools.

Family Supervision. There was a significant increase in the likelihood that students were at home alone after school from Time 5 to Time 6. At Time 5, 66.4% of students indicated that they were "never" alone after school and 12.9% responded that they were always home alone after school. By Time 6, only 49.1% of the students responded that they were "never" home alone, and were more likely to indicate that they were home alone "some of the time" (30.2%). For Time 3, most students (66.7%) said that they were not home alone after school, with only 7.8% responding that they were home alone all of the time. At Time 6, the number of students responding that they were never home alone decreased to 45.1%, also a significant decrease in the number of youth who reported this.

Family supervision has been shown to be significantly related to substance use in numerous studies (Sale, Springer, Sambrano, & Turner, 1993; Hawkins, Catalano, & Miller, 1992). Increasing parental knowledge of the link between family supervision and substance use for this vulnerable population is recommended.

C. Peer Factors

Peer Environment. The peer environment scale is comprised of two items measured on a four point scale (1 = no, never; 4 = yes, all the time). Students were asked whether their best friends try to do the right thing and whether they get into trouble. Students' perception of their peer environment over the course of the 2004-2005 school year declined though the difference was not statistically significant (Time 5: average = 3.20; Time 6 (average = 3.05).

Peer environment scores over the course of a two year period were very similar to their 2004-2005 school year ratings. At the beginning of the 4th grade year (Time 3) showed a positive perception of their peer environment (average = 3.22). By the end of the 5th grade year (Time 6) peer environment scores had dropped but not significantly (average = 2.92).

D. School Factors

School Performance. Students' school performance including grades, absences, total number of disciplinary incidents (e.g., any reprimands, detentions, and suspensions) and number of suspensions were obtained from schools as another measure of program effectiveness. Because of inconsistencies in grading criteria and nonequivalence across schools, grade point averages (GPA) for students in 4th and 5th grades are not available. School performance data is provided for the year in total rather at the beginning and end of the school year.

In the 2004-2005 school year, the number of student absences ranged from zero to 69, with an average of 5.57. The number of disciplinary incidents raged from zero to 13, with the average less than one (average = 0.92). The number of suspensions was also very low, ranging form zero to six (average = 0.19).

An analysis of data for students in both the 4th and 5th grade showed a decline in the number of absences from 4th to 5th grade (average = 4.68 in 4th grade, average = 4.37 in 5th grade). Disciplinary incidents, while very low overall, increased over the two years with an average of 0.43 (range: 0 – 8) in the 4th grade and 1.00 (range: 0 – 12) in the 5th grade. The number of suspensions increased as well, but again, the number overall is very low (0.13 (range: 0 – 3) in the 4th grade and 0.65 (range: 0 – 6) in the 5th grade). These increases would be expected without any intervention, as school performance indicators tend to decline as children enter adolescence.

School Environment. The 6-item school environment scale asked students whether teachers care about them, tell them when they do well, believe in them, and listen to them. They were also asked whether they help out in the classroom and if they are involved in classroom decisions. Students' perception of their school environment over the course of the 2004-2005 school year declined slightly but not significantly (average = 3.07 at Time 5; 2.89 at Time 6). School environment scores over the course of a two year period (Time 3 to Time 6) were similar to 2004-2005 school year ratings (Time 3, average = 3.24; Time 6, average = 2.85).

School Safety. Youth were asked about their perceptions of safety both in and outside of school. At Time 5, a little more than half of the students (56.9%) felt safe at school "all the time" and 14

students (12.1%) said that they never felt safe at school. By Time 6, the percentage of students who didn't feel safe increased to 18.1% and a little less than half (46.6%) revealed that they felt safe all the time. This represented a significant decrease in perceptions of safety at school from the beginning to the end of the 2004-2005 school year. The pattern exists for the sample of youth with two years of data as well. At Time 3, only two students (3.9%) indicated that they never felt safe at school and a large percentage (62.7%) replied that they always felt safe. By Time 6, 23.5% of the students said that they never felt safe at school. Only 35.3% of the students said that they always felt safe at school.

These findings suggest that the SPIRIT students feel less safe in school as they begin to move into adolescence, and this is an important factor for prevention practitioners, school administrators, and policy makers to consider. If students do not feel safe at school, they may later feel less inclined to go to school, and more inclined to associate with negative peers who are using alcohol and drugs and who will encourage them to use as well. School safety policies are encouraged to help promote school attendance and school bonding to avoid absenteeism and school dropout that can result from lack of school attachmen**t.**

E. Community Factors

Safety Outside of School. Generally, students feel safer in school than outside of school. While 56.9% of youth in the Time 5 – Time 6 sample reported feeling safe at Time 5, only 37.9% felt safe outside of school. Over time, perceptions of safety outside of school did not change At Time 3, 39.2% felt safe outside of school all of the time. At Time 6 the perceptions of safety outside of school were slightly more positive, however, not enough so to be a meaningful difference; 31.0% felt safe outside of school all of the time.

Summary

The findings regarding risk and protective factors related to substance use indicate the following:

- Youth feel that substance use is bad for a person's health. This is consistent across cigarette, alcohol, and marijuana. These findings were true before they started SPIRIT and remained true throughout the intervention period. However, 5th grade youth felt alcohol and marijuana were less dangerous than 4th grade youth. This suggests the need for increased programming stressing the dangers of alcohol and marijuana to this age group.

- Anti-social behaviors increased over time, including hitting/shoving and spreading rumors. At the beginning of the 2004-2005 year, around half of the youth said they had hit or shoved another youth in the past 30 days. These findings remained unchanged over time. Around 20% admitted spreading mean rumors, and around this many said they had seen a fellow classmate bring a weapon to school.

- No one admitted to bringing a weapon to school at the beginning of the school year. Spreading rumors increased significantly over time.

- Almost all youth said they had goals and aspirations for the future; these responses remained relatively stable over time.

- Empathy and problem solving remained the same for the larger sample of youth from the 2004-2005 year; it declined for the two-year sample of youth.

- Perceptions of the home environment were positive and remained unchanged over time.

- There was a significant increase in the percentage of children left alone at home after school for both samples of children.

- There were no significant differences in the students' perceptions of their peers over time.

- There was not sufficient data on students' grades to assess change over time. There was a decrease in the number of absences, and significant increases in disciplinary actions and suspensions.

- There was a significant decrease in the perception of school as a safe place to be from the beginning to the end of the 2004-2005 school year.

- Perceptions of safety outside of school remained unchanged.

These findings suggest that for evidence-based programming to make an impact on the risk and protective factors that prevent or delay substance use, additional programming for 4th and 5th graders may be needed to make significant change. Changing behaviors, such as aggression and bullying, can be very challenging in a high-risk environment, particularly if there is no parental component to reinforce prosocial norms once youth are no longer in school. Furthermore, many of the SPIRIT sites did not implement their programs with full fidelity, and therefore the youth did not receive the intended services. Current research in prevention stresses the need for comprehensive, intensive, multi-year and multi-dimensional (individual, family, school, etc.) programming if long-term effects are to be expected. Future implementation of these evidence-based programs should focus upon fidelity of implementation to assure the maximum benefit to the youth being served, should consider expansion of the empathy/problem solving activities to truly effect antisocial behaviors, and should consider parental involvement to reinforce the SPIRIT philosophy at home.

CHAPTER SIX
6TH – 12TH GRADE SPIRIT YOUTH
ALCOHOL, TOBACCO, AND OTHER DRUG USE

The SPIRIT Survey measured frequency of use within the past 30 days of alcohol, smokeless tobacco, cigarettes, marijuana, psychedelics, cocaine, inhalants, amphetamines, methamphetamine, ecstasy (and other club drugs), and other illegal drugs. The frequency of binge drinking, defined as five or more drinks in a row within the past two weeks, was also measured. Additionally, the Fall 2004 – Spring 2005 version of the SPIRIT Survey assessed participants' illegal use of prescription drugs not prescribed by a medical doctor.

Changes in ATOD use between Time 5 and Time 6 (693 youth), and Time 1 and Time 6 (77 youth) were evaluated. In addition, a sample of youth from the 2004 Missouri Student Survey (MSS) was matched to the demographic characteristics of a sample of SPIRIT youth to compare change in these two groups, with the MSS sample acting as a natural control group. Students were matched on race/ethnicity, gender, and grade level (see Tables 1 and 2). Although the year of the MSS sample is different than that of the SPIRIT sample, matching student responses based on age should provide a realistic comparison.

Alcohol. Findings related to alcohol use are somewhat mixed. There were no significant changes in alcohol consumption between Time 5 and Time 6, which is positive given that the youth are at a vulnerable age when substance use has begun to climb. Thirty-day use was 19.3% at Time 5 and 20.8% at Time 6.

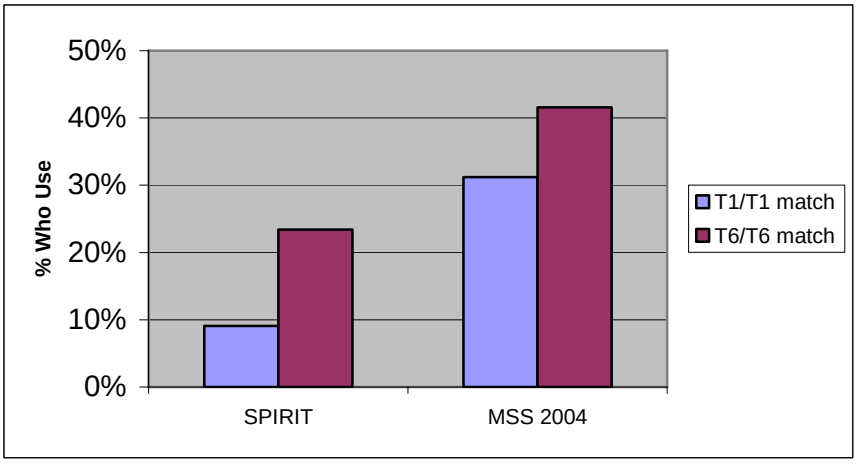
Table 12. Change in 30-day Use of Alcohol, Time 5 to Time 6 (n = 693)

	Time 5 Fall 2004	Time 6 Spring 2005
0 days	80.7%	79.2%
1-2 days	12.8%	13.2%
3-5 days	2.9%	4.1%
6-9 days	1.6%	0.9
10-19 days	1.2%	0.7%
20-29 days	0.1%	0.7%
All 30 days	0.7%	1.2%

In an analysis of the three-year sample, there is a significant increase in 30-day alcohol use from 9.1% to 23.4%. Comparisons with statewide norms indicate that the SPIRIT sample uses less

than the statewide average, both at T1 and T6, (perhaps due to selection bias into SPIRIT or into the evaluation), but that SPIRIT has not been effective in reducing the rate of increase (see Figure x). This may be because the middle and high school Positive Action curriculum used at one school does not address alcohol use, and the Life Skills Training program only has one session addressing alcohol use. To prevent SPIRIT youth from "catching up" with use rates in the general population, more intensive services related to alcohol misuse both for individual youth and the parents of these youth is recommended.

Figure 20. 30-Day Alcohol Use Comparison of Change in Use Among SPIRIT Youth With Missouri Student Survey Youth



Binge Drinking. As with 30-day use, there was no significant increase in binge drinking between Time 5 and 6. Rates were 9.8% at Time 5 and 10.5% at Time 6. The small percentage of participants' who reported binge drinking rates at Time 1 were compared to the MSS 2004 comparison sample. At Time 1, 2.6% of the SPIRIT participants reported binge drinking, compared to 19.5% of the MSS sample. By Time 6, binge drinking rates had reached the same level as the general population. This does not suggest that SPIRIT is having a negative effect; only that participants are reaching a *normal* level of use and that SPIRIT is not deterring binge drinking. Again, enhanced programs that address alcohol-related issues are recommended.

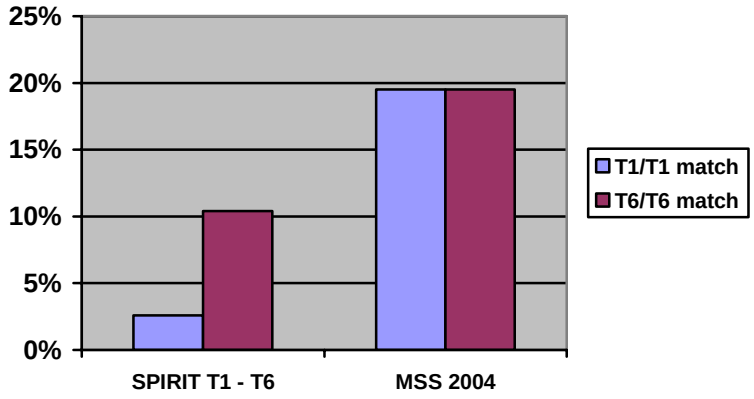
Cigarette Use. There was a slight but insignificant increase in cigarette use between Time 5 and 6 (7.8% to 9.9%). In the longitudinal sample, cigarette use change was also not significant (2.6% to 5.3%). No comparisons were made with the MSS sample because the MSS did not assess cigarette use in the same manner as the SPIRIT Survey. It cannot be determined whether the lack of significant increase in cigarette smoking is due to a positive effect of the program, but it cannot be ruled out as a possible explanation. Given that the Life Skills Training program is advertised as a tobacco reduction intervention, these findings may be related to positive effects of this intervention (although only two sessions address tobacco smoking out of 15 sessions).

Smokeless Tobacco. There were no significant increases in smokeless tobacco in the Time 5-Time 6 sample or the longitudinal sample. Smokeless tobacco rates were relatively low, with only 6.3% of the Time 5-6 sample reporting use at the Time 6 data point. Because the MSS did

not assess use of smokeless tobacco in the same manner as the SPIRIT Survey, no comparisons can be made to the general population.

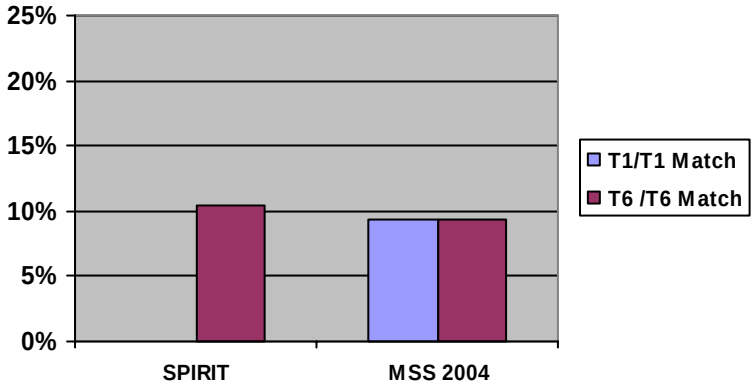
Marijuana. Findings related to marijuana use are mixed. Marijuana use among last year's sample was low, but increased significantly from 6.2% to 9.2%. In the three-year sample, SPIRIT youth increased their use from 2.6% to 10.4%, but these use rates were considerably lower than those of the MSS general population (19.5% at both comparison points).

Figure 21. 30-Day Marijuana Use Comparison of Change in Use Among SPIRIT Youth With Missouri Student Survey Youth



Inhalants. Students' frequency of inhalant use was also assessed. In the 2004-2005 school year sample, there was a slight, but insignificant, drop in inhalant use, from 11.1% to 10.1%, Comparing the three year sample rates to the general population in the MSS, however, inhalant use in the SPIRIT sample increased significantly during that time, but differences in the MSS sample were not significant. By Time 6, SPIRIT levels of inhalant use were equal to those of the general population. It is recommended that SPIRIT add activities related to inhalant use to make youth more aware of the dangers of this activity.

Figure 22. 30-Day Inhalant Use Comparison of Change in Use SPIRIT and Missouri Student Survey Youth



Other Illegal Drugs. SPIRIT students were asked to report their use of other illegal drugs. Findings are summarized in the following table:

Table 13. Other Illegal Drug Use Change Between T5-T6, T1-T6 and MSS Comparison Sample

	T5-T6 Sample		T1-T6 SPIRIT Sample		MSS Comparison Sample	
	%T5 Users	%T6 Users	%T1 Users	%T6 Users	%T1 Match	%T6 Match
Psychedelics	2.3	2.3	1.3	5.2	0.0	1.3
Cocaine	2.5	2.4	0.0	0.0	1.3	1.3
Speed/Amphet./Meth.	2.2	2.6	0.0	3.9	1.3	0.0
Ecstasy	2.0	3.2	0.0	3.9	0.0	2.3
Prescription Medication	1.8	5.7	NA	NA	NA	NA
Other illegal drugs	4.8	5.1	0.0	3.9	3.9	3.9

All reported levels of use were low at all time points, with no significant increases in use for any drug and no significant differences across the SPIRIT/MSS sample. The most noticeable increase is in prescription medication, which, while not significant, is the largest percentage increase of any of the illegal drugs.

Summary

The findings for the 6th-12th grade sample of youth for substance use are mixed. On the positive side, cigarette use did not increase significantly, either for the 2004-2005 sample or for the three-year sample. In addition, serious illegal drug use was insignificant, with only 0% - 5% of the SPIRIT youth reporting use at any time point, and no significant increases in use. Furthermore, SPIRIT youth, on average, use less than the general population of youth, when use rates are compared to the Missouri Student Survey, a general population of students.

On the other hand, 30-day alcohol use, binge drinking, marijuana use and inhalant use all changed significantly over time. When these findings are compared to the youths' perceptions of the harmfulness of drugs, youth do not perceive these drugs to be nearly as dangerous as drugs such as ecstasy or methamphetamine. One of the challenges in the prevention field is to convince youth and adults alike that experimental use of these drugs at an early age is harmful. When many adults have used these drugs themselves, this can be particularly challenging. It is important, therefore, for SPIRIT to communicate to teens and to their parents the effects that these drugs can have on youth physically, emotionally, neurologically, and cognitively.

CHAPTER SEVEN
6TH – 12TH GRADE FINDINGS
RISK & PROTECTIVE FACTORS

The SPIRIT survey includes several measures assessing risk and protective factors across three domains: Individual, Family, and School. Six hundred ninety three (693) students completed the SPIRIT Survey at Times 5 and 6, (Fall 2004 and Spring 2005); 77 students responded at both Time 1 (Fall 2002) and Time 6 (Spring 2005).

A. Individual

The Individual domain assessed anti-social behaviors, perceived victimization from other students' anti-social behaviors, attitudes toward drug use, the perceived risk of using drugs, self-esteem, stress management skills, and decision making skills.[4]

Anti-Social Behaviors. The 6th-12th grade sample was assessed regarding a series of anti-social behaviors linked to substance abuse. Figures 18 and 19 show the changes for last year's sample and the three-year sample. Last year's sample shows slight increases in all behaviors except physical fighting. However, the frequency of both violent behavior and illegal activity did not significantly change. The three-year sample shows significant decreases in the frequency of both violent behaviors and illegal activity. Specifically, students reported a decrease in the frequency of three behaviors, physical fighting, selling illegal drugs, and stealing motor vehicles. However, for neither this year's sample, nor the cumulative sample, was there an increase or decrease in the number of students indicating they had performed any of these behaviors, but rather a decrease in the cumulative sample in the frequency of performance by. These findings suggest that SPIRIT had only modest effects on anti-social behaviors at the middle and high school levels. Given that the weak implementation of SPIRIT in the high schools, these findings are not surprising.

[4] Some scales were combined in the first year of the project, thus overall program effects analyses (time 1 vs. time 6) may reflect the overall scale changes rather than it subscales. For example, the original attitudes scale was retained in its original form to represent both attitudes toward drugs and antisocial behavior.

Figure 23. Anti-Social Behaviors, 6th – 12th Grade SPIRIT Students, Time 1 and Time 6 (n = 77).

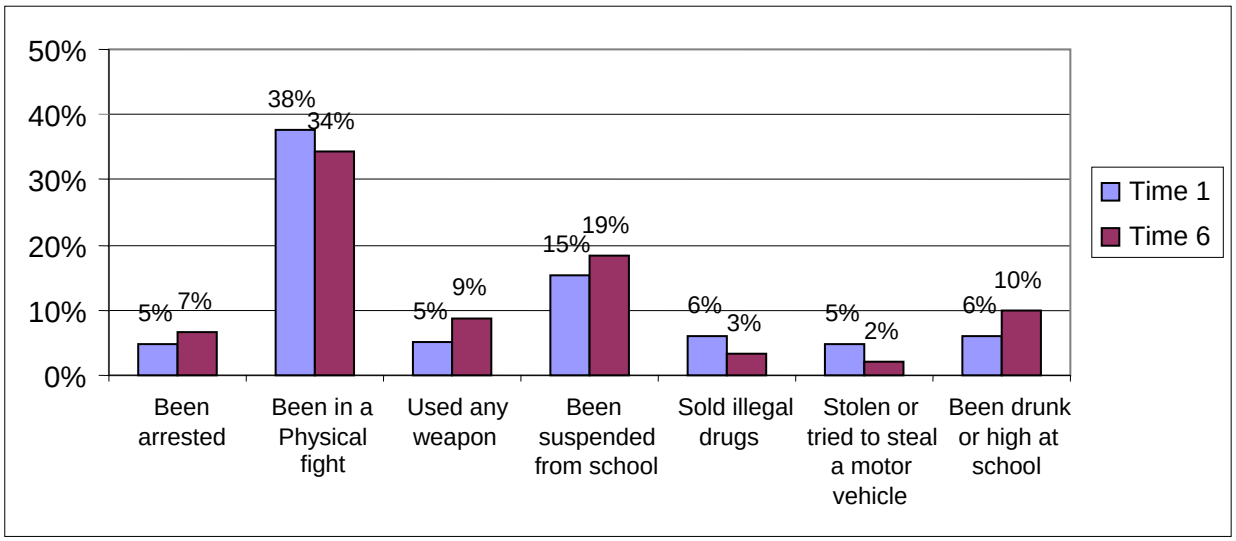
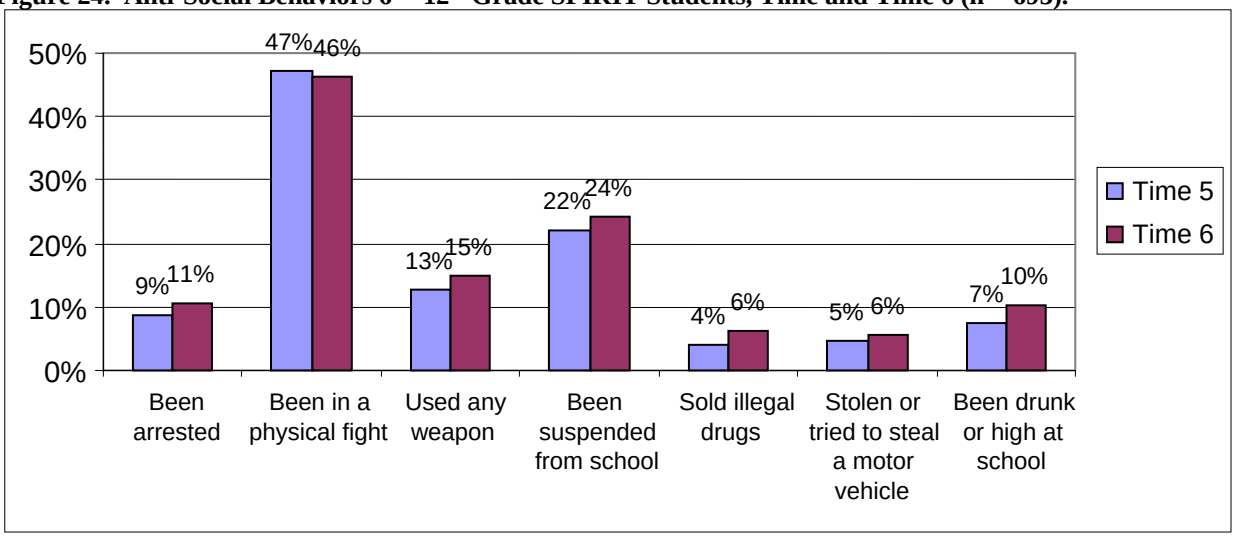


Figure 24. Anti-Social Behaviors 6th- 12th Grade SPIRIT Students, Time and Time 6 (n = 693).



In addition to anti-social behaviors of individual youth, youth were questioned about the extent to which they had been the victims of anti-social behavior. Figures 23 and 24 show the change for both last year's and the three-year sample. While there was not a significant change in last year's sample, over a three-year span, there was a significant drop in bullying and shoving/hitting. The drop in shoving/hitting is quite dramatic (27%). There was also, however, a significant increase in the frequency of being threatened with or injured with a weapon, but that increase was not significant for the number of students reporting such an occurrence (4%). Reconciling the figures regarding individual problem behaviors and victimization, it appears that youth, over time, are not reducing their own behaviors, but that the entire school environment is becoming safer. Given that many of the youth in SPIRIT were not part of the evaluation, it may be that SPIRIT has created a safer school climate that is not reflected in the individual anti-social behavior data but is reflected in the victimization data.

Figure 25. Victim of anti-social behaviors, 6th-12th grade SPIRIT students, Time 1 and Time 6 (n = 77).

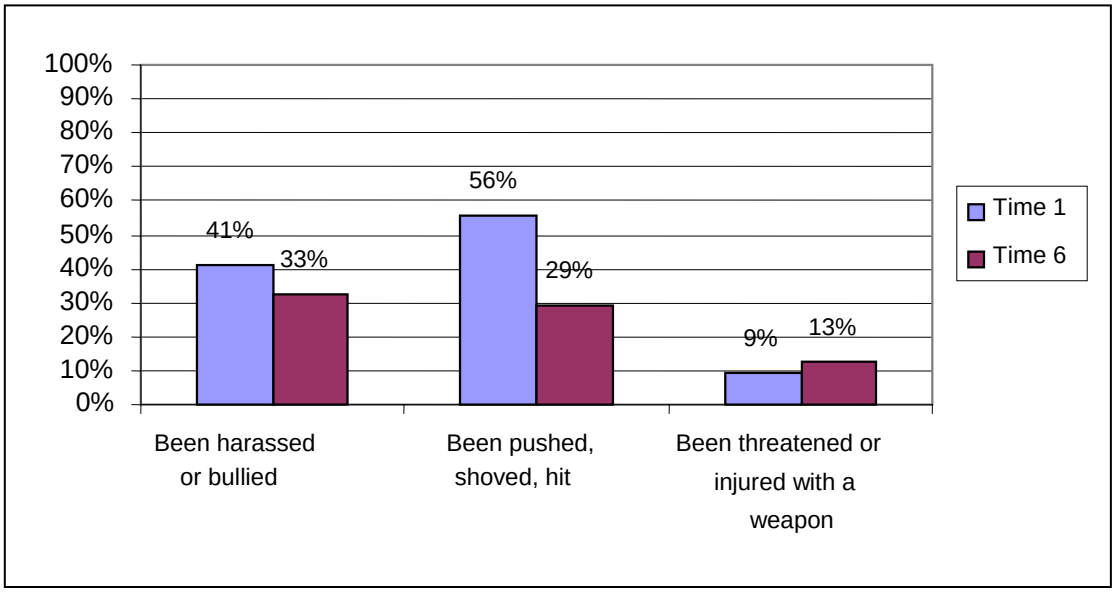
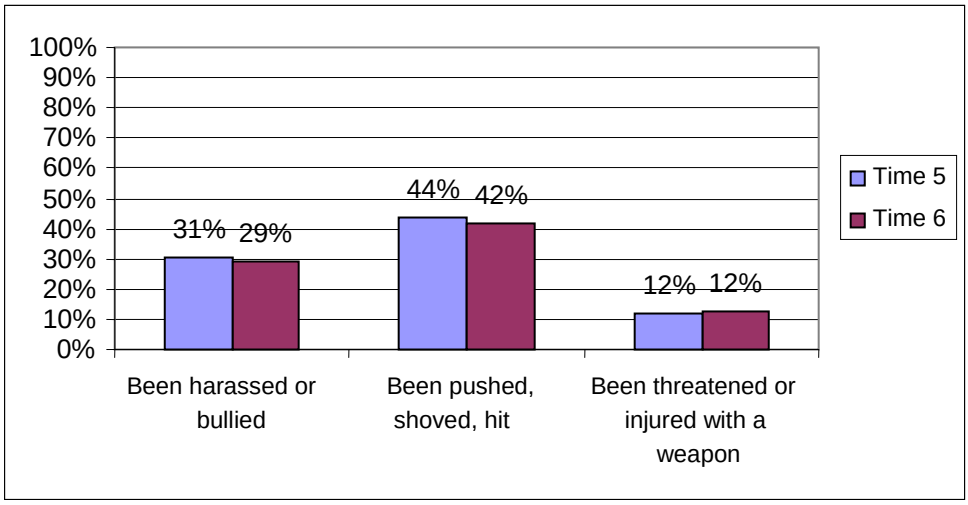


Figure 26. Victim of anti-social behaviors, 6th – 12th grade SPIRIT students Time 5 and Time 6 (n = 693).



In addition to anti-social behaviors and victimization, youth were asked about several other individual protective factors, including their attitudes toward drug use, perceived risk of drug use, self-esteem, stress management, and decision-making skills. A summary of change over time on these protective factors is presented in Figure 27 and 28.

Figure 27. Change in Individual Risk and Protective Factors, 6th-12th Grade SPIRIT Students, Time 1 and Time 6 (n= 77).

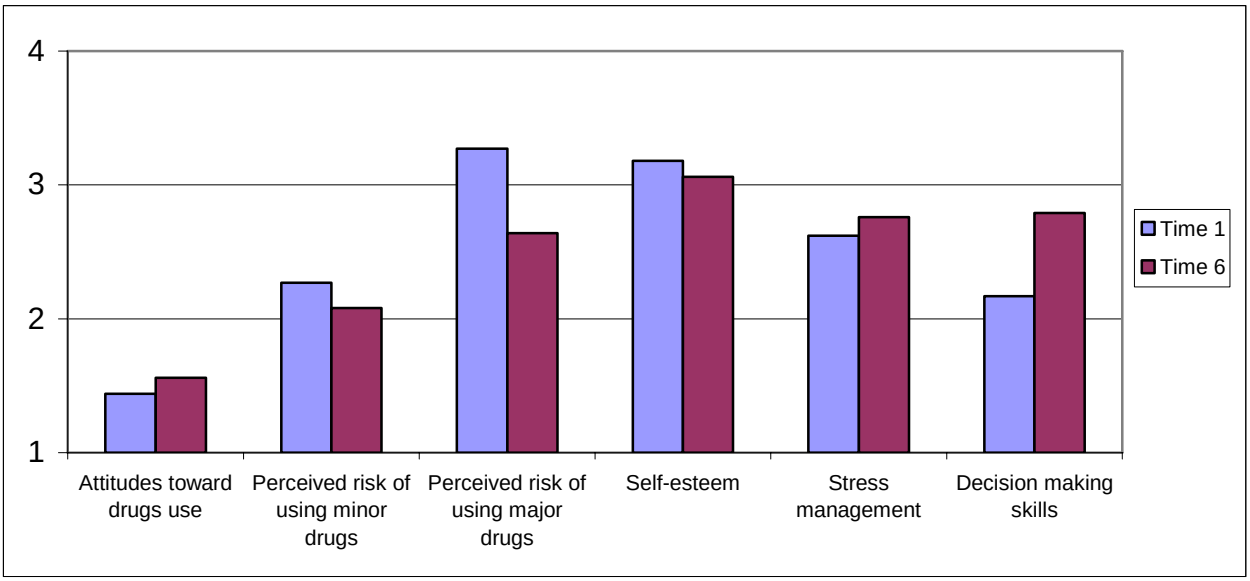
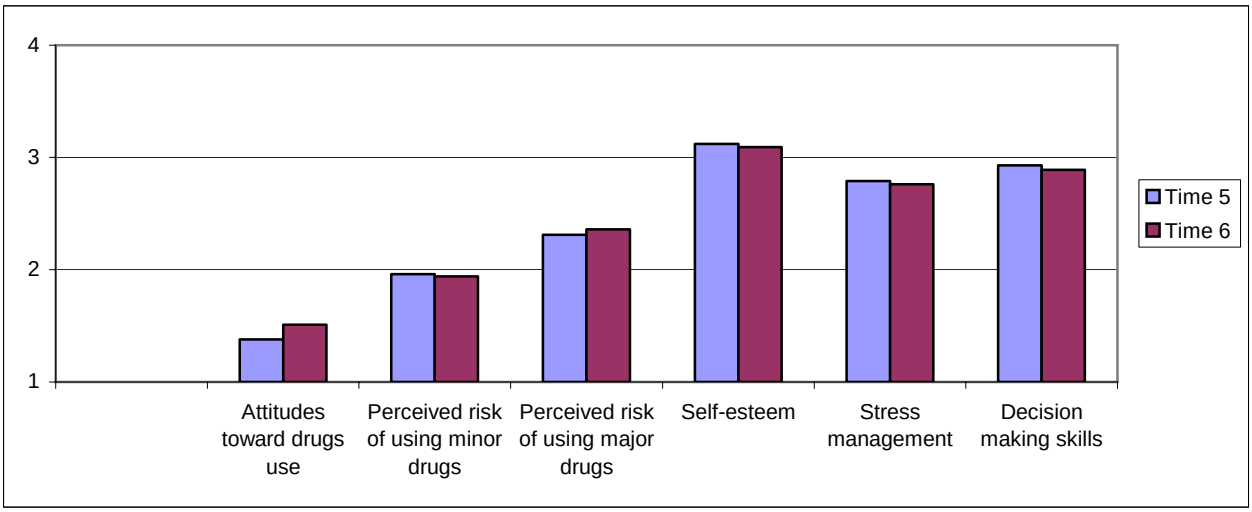


Figure 28. Change in Individual Risk and Protective Factors, 6th-12th Grade SPIRIT Students, Time 5 and Time 6 (n = 693).



Attitudes toward Drug Use. In the interval between Time 5 – Time 6, youth became more accepting of drug use. The average response at the beginning of the school year (Time 5) was 1.38, with a significant increase in acceptance of drug use at time 6 (average = 1.51). Encouragingly, among the smaller sample of youth for whom there are three years of data, analysis showed no significant change in responses from Time 1 to Time 6.

Perceived Risk of Using Minor Drugs. At both Time 5 and Time 6, students perceived the use of minor drugs (tobacco, cigarettes, alcohol, and marijuana) to be relatively risky. As the three-year sample of youth aged, they felt that the minor drugs became less risky.

Self-Esteem. Students were asked to respond to Rosenberg's Self-Esteem scale. No differences in self-esteem were noted between Time 5 and Time 6, nor between Times 1 and 6.

Stress Management. The stress management scale consisted of four items reflecting the extent to which students were able to handle stress and relax when feeling pressure (1 = strongly disagree; 4 = strongly agree). Stress management did not change significantly for either the Time 5-Time 6 sample, nor the Time 1 –Time 6 sample.

Decision Making Skills. The four-item decision making skills scale reflected the ability of students to think it terms of consequences before they make a decision. Decision-making did not change from Time 5 to Time 6 (2.93 and 2.89, respectively) but from Time 1 to Time 6, decision making skills increased significantly (2.17 to 2.79). This is an encouraging finding, particularly given that significant program emphasis is devoted to decision-making skill building, and therefore one would anticipate this to become stronger over time.

B. Family

The family domain consisted of two scales that were reflective of students' perceptions of their family's ability to manage itself and respond to drug use behavior. These two scales were combined in the first year of the project. Family management scores dropped from Time 5 to Time 6 (3.37 to 3.26), and these differences were significant. This is consistent with other studies of youth in this age group, where family management is perceived by youth to decline during adolescence (Sale et al., 1993). Given that there was no family component to SPIRIT, the decline in family management is not program related, but does suggest that family management techniques might be integrated into future programming.

Family Response. The family response scale consisted of three items reflective of the parents likelihood of catching their child using alcohol, carrying a gun, or skipping school Youth were more likely at Time 1 to say that their parents would respond (average = 3.28) than at Time 6 (average = 3.10). Again, these patterns are consistent with general maturational trends among adolescents.

C. School

The School domain consisted of three scales that assessed students' attitudes toward their interest in school, their propensity to get into trouble at school, and their participation in school activities. All scales were measured on five point scale (0 = never; 4 = almost always).

Interest in School. The 5-item interest in school scale measured student's interest in their courses, perceived importance and meaningfulness of learning in school, and enjoyment with school. Interest in school dropped significantly from Time 5 to Time 6, and also dropped significantly from Time 1 to Time 6. Students' interest in school at the beginning of the SPIRIT program (Time 1) was somewhat positive with the average response being 3.08, but by the end of year 3 (Time 6) students indicated that they were significantly less interested in school than they used to be (average = 2.27).

Getting into Trouble at School. Students' propensity to get into trouble at school was measured with three items assessing the extent to which they fooled around in class, failed to complete or turn in assignments, and got sent to the office or had to stay after school because of bad behavior. Negative behaviors increased from Time 5 to Time 6. This is consistent with general trends, and it should be noted that if the students were completing the measure at the beginning of the school year, there were not as many opportunities for them to get in trouble *at school*.

There was a significant increase in the percentage of students getting in trouble in the three-year sample as well. At Time 1 the average response was 0.78, indicating that it was a rare occurrence for them to get sent to the principals office, fail to complete assignments, or fool around in class. By Time 6, however, students reported an increased amount of trouble making (average = 1.33). As students aged they were significantly more likely to get into trouble at school, again consistent with general trends.

School Participation. A 4-item school participation measure assessed 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. Participation dropped significantly from Time 5 to Time 6 (averages of 2.69 and 2.57 respectively). In the longitudinal sample, the same trend emerges, with a significant drop in school participation. (Time 1, average = 2.94; Time 6: average = 2.61).

Summary

Findings on risk and protective factors at the middle and high school levels are mixed, with definite positive findings in the three-year sample across a number of protective factors:

Changes in Positive Direction

- Victimization (bullying and getting hit/shoved)(three-year sample)
- Perceptions of harm of major drugs (three-year sample)
- Decision-making skills (three-year sample)

No change

- Anti-social behaviors (either sample)
- Perceptions of harm of minor drugs (cigarettes, alcohol, and marijuana) and major drugs (ecstasy, methamphetamines, and LSD) (2004-2005 sample)
- Stress management skills (both samples)
- Perceptions of the harm of minor drugs (2004-2005 sample)
- Family management and response (three-year sample)

Changes in Negative Direction

- Perceptions of the harm of minor drugs (particularly alcohol and marijuana; three-year sample)
- Family management and family response (2004-2005 sample)
- Interest in school, trouble in school, participating in school less as they matured

In sum, the findings are mixed. The three areas in which SPIRIT may have had a positive impact were in the area of awareness of the dangers of major drugs and decision-making skills, areas that were targeted by the SPIRIT programming in the middle and high schools. Actual behaviors remained, for the most part, unchanged and youth began to feel that minor drug use was less risky as well suggesting that they might move toward experimental use in the future. These findings point to the need for more programming for middle and high school youth in the area of building risk and protective factors. As has been stated early, implementation of these programs in the upper grade levels was challenging due to full teacher schedules, lack of complete buy-in from all participating schools, and a paucity of programming that truly works for high-school aged youth. At some schools, the SPIRIT program was simply not fully implemented, and at others, the curricula were significantly changed. Future years will need to focus on these important age groups to develop programming that further bolsters the protective factors that can meet the needs of these youth.