School District of Lake County, Florida

TECHNICAL REPORT

EVALUATION OF THE *TOO GOOD FOR DRUGS--ELEMENTARY SCHOOL* PREVENTION PROGRAM 2002-2003

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RESEARCH SUMMARY

EVALUATION OF THE
TOO GOOD FOR DRUGS--ELEMENTARY SCHOOL
PREVENTION PROGRAM 2002-2003: LAKE COUNTY, FLORIDA

This report is a summary of an evaluation of the *Too Good for Drugs-Elementary School* prevention program. The School District of Lake County was awarded 'Safe and Drug-Free Schools' funds from the Florida Department of Education to supplement the district's ongoing substance and violence prevention efforts. One component of the entitlement grant focused on implementing the *Too Good for Drugs* (TGFD) prevention program for elementary students during the 2002-2003 school year.

The purpose of the evaluation was to examine the effectiveness of the *Too Good for Drugs-Elementary School* program in impacting children's classroom behaviors, attitudes toward drugs, perceptions of the harmful effects of drugs, emotional competency skills, social and resistance skills, and goal setting and decision making skills.

The evaluation examined the following questions. First, do *teachers* of students receiving the *TGFD* prevention program in comparison to teachers of students in the control group observe: 1) more frequent student use of personal and social skills, 2) more frequent student engagement in positive social behaviors, and 3) less frequent student engagement in inappropriate social behaviors in the classroom? Second, do *students* receiving the *TGFD* prevention program in comparison to students in the control group indicate: 1) higher levels of emotional competency skills, 2) higher levels of social and peer resistance skills, 3) higher levels of goal setting and decision making skills, 4) more positive attitudes regarding the inappropriateness of drug use, and 5) greater awareness of the harmful effects of drugs?

Method

Six of the district's 22 elementary schools were randomly selected and recruited for participation. Fifty-two classroom teachers participated in the study--26 in the treatment group and 26 in the control group. One thousand one hundred and forty-two (1142) students participated in the study. Forty-nine percent of the students were third graders and 51% fourth graders. Forty-nine percent of the students were female, approximately 71% White, 17% African American, 10% Hispanic, and 2% Other (Asian, American Indian and Multiracial). Forty-five percent of the student sample was categorized as economically disadvantaged based on receipt of reduced or free lunch services.

Teachers in the treatment and control group completed checklists assessing student behaviors prior to delivery of the *TGFD* prevention program, following program delivery, and again 4-months after program delivery. Students in the treatment and control group completed a survey questionnaire prior to delivery of the *TGFD* prevention program, following program delivery, and 4-months later.

Results

Prevention research has identified certain risk factors that increase the likelihood of children and youth engaging in substance use behaviors and certain protective factors that decrease the impact of risk factors. The *TGFD* program incorporates curricula and instructional activities aimed at reducing risk factors and building protective factors. The following risk and protective factors were examined in the study: Socially Appropriate and Inappropriate Behaviors; Emotional Competency Skills; Social and Resistance Skills; Goal Setting and Decision Making Skills; Perceptions of the Harmful Effects of Drugs; and Attitudes Toward Drugs.

1. Students in the treatment and the control group responded to a survey questionnaire before, following and 4-months after program delivery.

   Student responses to protective survey items at the end of program suggest the following:

   (a) Students participating in the *TGFD* program had statistically significant higher scores or higher levels of **emotional competency skills** in comparison to students in the control group. A sample of item content that represents skills in this category includes: 1) I know many different words to describe what I feel inside, 2) I am responsible for choosing to live a safe and healthy life, and 3) I can do almost anything I put my mind to.

   (b) Students participating in the *TGFD* program had statistically significant higher scores or higher levels of **social and resistance skills** in comparison to students in the control group. A sample of item content that represents skills in this category includes: 1) If someone tried to hand me a can of beer, I would just walk away, 2) If a group of kids called me over to try some marijuana, I would just ignore them, and 3) I know many peer refusal strategies to help me avoid pressure to smoke, drink or use marijuana.

   (c) Students participating in the *TGFD* program had statistically significant higher scores or higher levels of **goal setting and decision making skills** in comparison to students in the control group. Positive effects on goal and decision-making skills were present 4 months later. A sample of item content that represents skills in this category includes: 1) Setting a goal helps me figure out what I want to do, 2) When I set a goal, I think about what I need to do to reach my goal, and 3) I make good decision because I stop and think.

   (d) Students participating in the *TGFD* program had statistically significant higher scores or higher **perceptions of the harmful effects of drug use** in comparison to students in the control group. A sample of item content that represents skills in this category includes: 1) Drinking alcohol can make it hard to see, walk and talk, 2) People who smoke cigarettes can quit whenever they want to, and 3) Smoking marijuana improves a person's coordination.

(e) Students in both the treatment and the control group had very positive attitudes about the inappropriateness of drug use. The average scores across groups ranged from 4.62 to 4.67 on a 5.00-point scale, suggesting a ceiling on the potential effects of program treatment. Considering the students in this sample were served in general education settings, the vast majority of third and fourth graders would not be engaging in tobacco, alcohol and other drug use.

2. In an effort to triangulate data, teacher judgment concerning student behavior was also examined. Classroom teachers were asked to rate each student's behavior related to personal and social skills, prosocial behaviors, and inappropriate social behaviors across the three testing periods. If teacher responses were consistent with student responses or vice versa, the study's findings could be interpreted with greater confidence.

Teachers' observations of students at the end of program and again at the 4-month follow up suggest the following:

(a) Based on teachers' judgments, students participating in the *TGFD* program had statistically significant higher scores or higher levels of **personal and social skills** in comparison to students in the control group. A sample of item content that represents skills in this category includes: 1) uses a variety of verbal labels for emotions, 2) stops and thinks before acting, and 3) uses positive peer refusal strategies.

(b) Based on teachers' judgments, students participating in the *TGFD* program had statistically significant higher scores or engaged in more **prosocial behaviors** in comparison to students in the control group. A sample of item content that represents skills in this category includes: 1) helps other students, 2) asks other students to play if they don't have someone to play with, and 3) takes turns, plays fair, and follows rules of the game.

(c) Based on teachers' judgments, students participating in the *TGFD* program had statistically significant higher scores or engaged in fewer **inappropriate social behaviors** in comparison to students in the control group. A sample of item content that represents skills in this category includes: 1) yells at other students, 2) gets into a lot of fights at school, and 3) disrupts instruction and/or procedures.

3. Treatment effects were examined for teachers and students participating in the *TGFD* program across gender, socioeconomic status (free/reduced lunch), and ethnic background. These results offer evidence of the *TGFD* program's utility in serving and meeting the needs of diverse student populations.

Teachers' observations of students in the treatment group at the end of program suggest the following:

(a) The *TGFD* program was effective for participating students **regardless of gender**. Both girls and boys experienced positive improvements in Personal and Social Skills, Prosocial Behaviors, and Inappropriate Social Behaviors.

(b) The *TGFD* program was effective for participating students **regardless of socioeconomic status**. Economically disadvantaged and non-economically challenged students experienced positive improvements in Personal and Social Skills, Prosocial Behaviors, and Inappropriate Social Behaviors.

(c) The *TGFD* program was effective for participating students **regardless of ethnic background**. White, African American and Hispanic students experienced positive improvements in Personal and Social Skills, Prosocial Behaviors, and Inappropriate Social Behaviors. Sample sizes for students from other ethnic backgrounds were too small to include in the analyses.

Treatment student responses to protective survey items at the end of program suggest the following:

(a) The *TGFD* program was effective for participating students **regardless of gender**. Both girls and boys experienced positive improvements in Emotional Competency Skills, Social and Resistance Skills, Goal Setting and Decision Making Skills, Perceptions of Harmful Effects, and Attitudes Toward Drugs.

(b) The *TGFD* program was effective for participating students **regardless of socioeconomic status** in four of five protective factors. Economically disadvantaged students experienced improvement across all five protective areas. Students not economically challenged experienced improvements in all protective areas with the exception of Attitudes Toward Drugs.

(c) The *TGFD* program was effective for participating students **regardless of ethnic background** in three of the five protective areas. White and African American students experienced improvement across all five protective areas. Hispanic students experienced improvement in Social and Resistance Skills, Goal Setting and Decision Making Skills, and Attitudes Toward Drugs. No changes were observed in the areas of Emotional Competency Skills or Perceptions of Harmful Effects of Drugs.

In summary, the *TGFD* prevention program evidenced a positive effect on third and fourth graders' behaviors in the classroom up to four months following program delivery. The prevention program was also successful in impacting four of the five protective factors associated with strengthening children's abilities to make positive, healthy decisions–emotional competency skills; social and resistance skills; goal setting and decision making skills; and perceptions of harmful effects of drug use. Treatment effects measured using student surveys tended to degrade over time, stressing the importance of ongoing review and practice of intrapersonal and interpersonal skills in the classroom setting. The *TGFD* program was effective for students regardless of gender, socioeconomic status, and ethnic background.

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EVALUATION OF THE

TOO GOOD FOR DRUGS--ELEMENTARY SCHOOL

PREVENTION PROGRAM 2002-2003: LAKE COUNTY, FLORIDA

INTRODUCTION

This report is a summary of an evaluation of the *Too Good for Drugs-Elementary School* prevention program (Mendez Foundation, Inc., 1998). The School District of Lake County was awarded *Safe and Drug-Free Schools* (SDFS) funds from the Florida Department of Education to supplement the district's ongoing substance and violence prevention efforts. One component of the SDFS grant focused on delivering the *Too Good for Drugs* (TGFD) prevention program to elementary school students. A brief description of the *Too Good for Drugs-Elementary School* prevention program is provided first, followed by the purpose of the evaluation, evaluation design, results, and conclusions.

TGFD PROGRAM DESCRIPTION

The *Too Good for Drugs* (Grades K-8) prevention program is a multifaceted, interactive social influence intervention using a universal education strategy. The *TGFD* program at each grade-level consists of: (a) 10 core curriculum lesson units and interactive student workbook delivered by trained teachers or *TGFD* instructors, (b) Looking for More component at the end of each lesson with suggestions for infusion, recommended reading, videotapes, and additional activities for reinforcing important concepts and skills, (c) parent component consisting of newsletters and Home Workout sheets for families, (d) strategies for involving community partners, and (e) Staff Development Curriculum for Educators. The program is designed to benefit everyone in the school by providing needed education in social and emotional competencies and by reducing risk factors and building protective factors that affect most, if not all students in these age groups. The logic model for the prevention program is shown in Figure 1. Instructional strategies strongly emphasize cooperative learning activities, role-play situations, and skills building methods such as modeling, practicing, reinforcing, providing feedback, and promoting generalization of skills to other contexts.

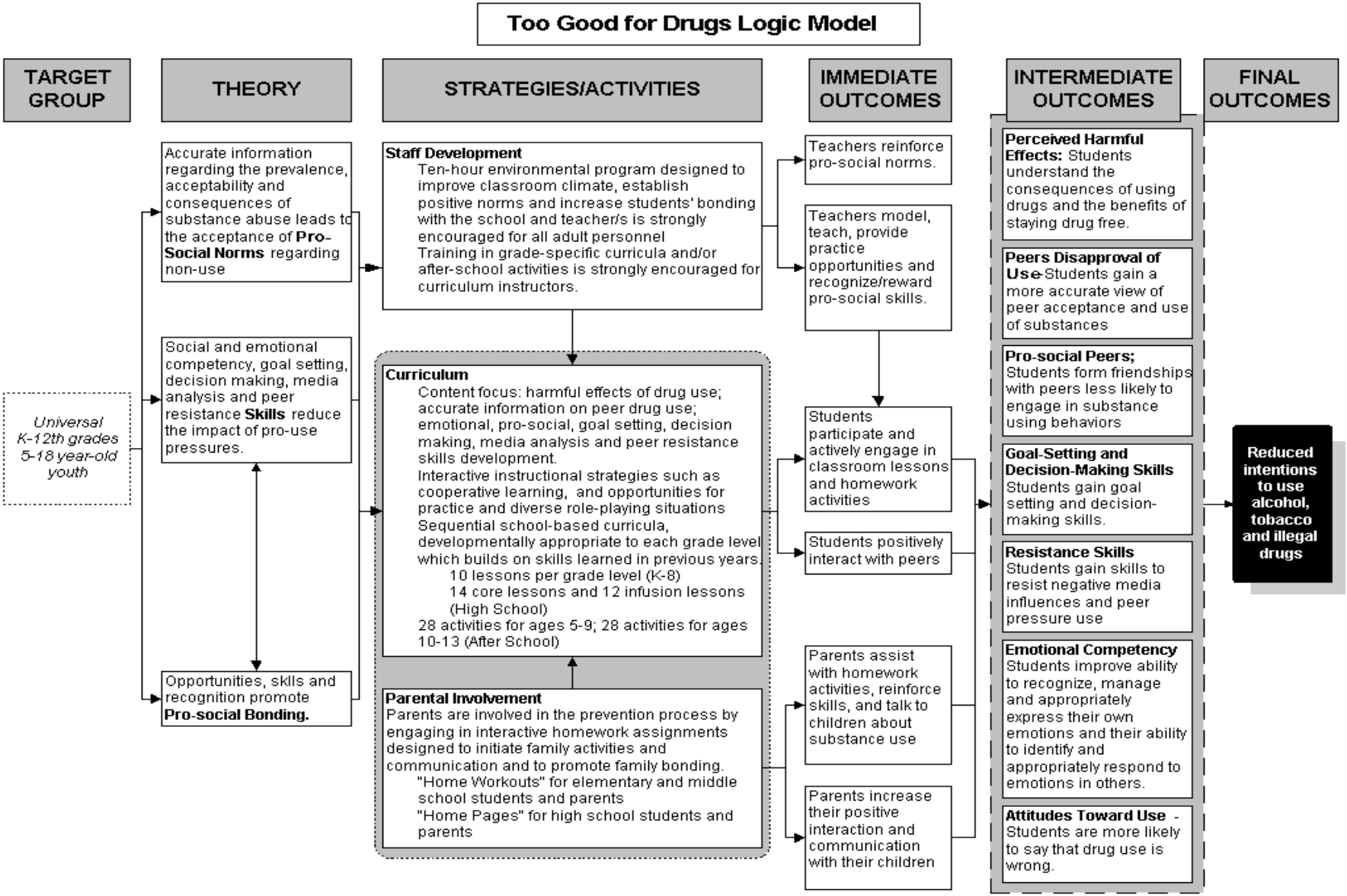

Figure 1. Logic Model for the TGFD Prevention Program

The curriculum for students focuses on developing personal and interpersonal skills to resist peer pressures. Instructional strategies focus on strengthening skill development in goal setting, decision-making, bonding with others, respect for self and others, managing emotions, effective communication, and social interactions. The curriculum also provides information about the negative consequences of drug use and the benefits of a non-violent, drug-free life style.

PURPOSE OF THE EVALUATION

Young people's use of tobacco, alcohol and other drugs (ATOD) has been a social, educational and inter- and intra-personal concern for decades. The contributors and reasons for young people's substance use and the consequences to the individual and the communities around them are complex and multifaceted. Effective school-based prevention programs have been identified as one of the important and useful interventions to the overall substance prevention effort. The *Too Good for Drugs-Elementary School* curriculum was developed based on the merging of federal, state and prevention agency guidelines as well as research findings of studies using the social influence and the cognitive-behavioral models for school-based prevention programs.

The purpose of the evaluation was to examine the effectiveness of the *Too Good for Drugs-Elementary School* program in impacting children's classroom behaviors, attitudes toward drug use, perceptions of the harmful effects of drug use, emotional competency skills, social and resistance skills, and goal setting and decision making skills. The evaluation examined the following questions from the perspective of the classroom teacher and the student.

1. Do *teachers* of students receiving the *TGFD* prevention program in comparison to teachers of students in the control group observe:
   (a) more frequent student use of personal and social skills;
   (b) more frequent student engagement in positive social behaviors; and
   (c) less frequent student engagement in inappropriate social behaviors in the classroom?
2. Do *students* receiving the *TGFD* prevention program in comparison to students in the control group indicate:
   (a) higher levels of emotional competency skills;

(b) higher levels of social and peer resistance skills;

(c) higher levels of goal setting and decision making skills;

(d) more positive attitudes regarding the inappropriateness of drug use; and

(e) greater awareness of the harmful effects of drugs?

Evaluation Strategies

Three areas were of particular interest in the data gathering effort for the evaluation. The first concerned assessing the fidelity and quality of program implementation. The second focused on assessing teachers' perceptions of student behaviors in the classroom before, after, and 4-months following program delivery. The third focused on assessing students' perceptions of skills and attitudes before, after, and 4-months following program delivery. The assessment tools used in the evaluation process are described below.

Classroom Observation of *TGFD* Implementation. The district's SDFS coordinator and site-based curriculum resource teachers trained in the *TGFD* program conducted two classroom observations of each teacher delivering prevention lessons. The observation form contained 16 items requiring the observer to indicate whether certain activities and behaviors occurred during the delivery of the lesson unit.

Prevention Activities and Lesson Log. Teachers in both the treatment and control group were requested to record any major social skill development curriculum or drug and violence prevention curriculum delivered to students during the course of the school year. The purpose of the lesson logs was to identify any potential confounding influences on program effects.

Teacher Evaluation of Program Implementation. Elementary school teachers implementing the *TGFD* program were asked to respond to a survey questionnaire regarding the number of program lessons provided, the average length of lessons, the degree structured activities and materials were used, and their perceptions of the lessons' relevance and impact on students.

Teacher Checklist of Student Behavior. Teachers of students participating in treatment and control classrooms were administered a checklist questionnaire prior to the delivery of the *TGFD* program, following program delivery, and 4-months later. Classroom teachers responded to 23 questionnaire items using a 5-point scale ranging from "1 = Never" to "5 = Almost

Always." Survey items asked teachers to assess each student's rate of engagement in personal and social skills, positive social behaviors, and negative social behaviors.

Elementary Student Survey Questionnaire. Elementary school students participating in treatment and control classrooms were administered a survey questionnaire prior to the delivery of the *TGFD* program, following program delivery, and 4-months later. Students responded to 30 survey items using a Likert scale ranging from "1 = Strongly Disagree" to "5 = Strongly Agree." Survey items examined students' attitudes towards drug use; perceptions of the harmful effects of drug use; emotional competency skills; social and peer resistance skill; and goal setting and decision making skills.

EVALUATION METHODS

Design

The district's 22 elementary schools were stratified on school ratings based on State criteria of academic performance, learning environment, and student characteristics. Three levels of stratification were selected and two schools from each level were randomly assigned to either the treatment or control condition. Students in three of the elementary schools (Astatula, Eustis Heights, and Groveland) participated in the prevention program during the first half of the school year, and students in the other three schools (Beverly Shores, Spring Creek, and Umatilla) served as the control sample for the study. It should be noted that students in the control group were not denied access to services; the prevention program was delivered to student at the end of the study during the fourth quarter of the school year.

Sample

Six (27%) of the district's 22 elementary schools were randomly selected and recruited for participation. Fifty-two classroom teachers participated in the study--26 in the treatment group and 26 in the control group. One thousand one hundred and forty-two (1142) students participated in the study. Forty-nine percent of the students were third graders and 51% fourth graders. Forty-nine percent of the students were female, approximately 71% White, 17% African American, 10% Hispanic, and 2% Other (Asian, American Indian and Multiracial). Forty-five percent of the student sample was categorized as economically disadvantaged based on receipt of reduced or free lunch services.

Prevention Program

The *TGFD* curriculum used in the study included 10 lesson units delivered to students participating in the treatment group by classroom teachers. The elementary school prevention curriculum is designed to develop skills in: (a): goal setting, (b) decision making, (c) identifying and managing emotions, (d) effective communication, (e) social skills and peer resistance, and (f) bonding with others. The curriculum also provides information about the negative consequences of drug use and the benefits of a drug-free life style. Teaching methods are highly interactive through the use of role-play, cooperative learning, games, small group activities and class discussions. Students are provided opportunities to be active participants and receive recognition for their contributions and involvement. The teaching methods model and encourage bonding with prosocial others. Students are also encouraged to share the "Home Workouts" with family members to reinforce concepts practiced during the lesson units.

Procedure

Teachers in the treatment group received a brief training refresher in small groups or individually. Teachers in the treatment and control group completed checklists assessing students' behaviors prior to delivery of the *TGFD* prevention program, following program delivery, and again 4-months after program delivery. Students in the treatment and control group completed a survey questionnaire prior to delivery of the *TGFD* prevention program, following program delivery, and 4-months later. School administrators and teachers located at control sites were requested to refrain from delivering any major prevention curricula or programs in the classroom until the fourth quarter of the year. Teachers received detailed instructions for completing the *Teacher Checklist of Student Behavior*. The average time to complete a checklist for a student ranged from 1.5 to 2 minutes. Curriculum resource teachers who assisted classroom teachers with the *Student Survey Questionnaire* were provided scripted directions for administering the survey.

Assessment of Program Implementation

Three methods were used to gauge quality of program implementation in the treatment group, and potential confounding factors in the control group. First, classroom teachers participating in the *TGFD* program were asked to complete the *Evaluation of Program*

Implementation survey to gauge treatment fidelity and quality of implementation. Second, classroom observations were conducted for teachers delivering the prevention program. Third, teachers in both groups were asked to record multiple or extensive prevention activities conducted in the classroom during the course of the school year.

Instrumentation

The *Teacher Checklist of Student Behavior* and the *Student Survey Questionnaire* were developed based on research findings and contributions from a variety of alcohol, tobacco and other drug (ATOD) prevention agencies and investigators that focus on key risk and protective factors associated with children's ability to resist pressures to use substances and make healthy lifestyle choices. Items on the teacher checklist were piloted in studies using the *Too Good for Violence-Elementary School* prevention program. Items on the student survey were piloted in studies using the *Too Good for Drugs-Middle School* and *Too Good for Drugs and Violence-High School* prevention programs. Teacher responses to checklist items as well as student responses to questionnaire items were examined using a series of item analysis techniques.

Teacher Checklist of Student Behavior

Teachers responded to 23 behavioral items using a 5-point scale ranging from "1 = Never" to "5 = Almost Always." Teacher responses to items were grouped into three protective subscales associated with students' social adaptability. It should be noted that items indicating less socially acceptable behaviors (e.g., yells at other students, pushes or shoves other students) were recoded such that higher scores indicated positive levels of those behaviors. An estimate of reliability using Cronbach's alpha coefficient for the Teacher Checklist Behavior Scale was r_α = .94. Protective factors were computed using the mean of the item scores for each subscale consisting of: Personal and Social Skills (r_α = .90); Positive Social Behaviors (r_α = .92); and Inappropriate Social Behaviors (r_α = .94).

Student Survey Questionnaire

Students responded to 30 Likert scale items ranging from "1 = Strongly Disagree" to "5 = Strongly Agree." Item responses were recoded such that higher scores (maximum score 5.00) indicate positive levels of attitudes, perceptions or skills. Student responses were grouped

into five protective subscales associated with impacting children's resiliency to social challenges. An estimate of reliability using Cronbach's alpha coefficient for the Student Protective Survey Scale was r_α = .79. Protective factors were computed using the mean of the item scores for each subscale consisting of: Attitudes toward Drug Use (r_α = .68); Emotional Competency Skills (r_α = .55); Goal Setting and Decision Making Skills (r_α = .80); Social and Peer Resistance Skills (r_α = .58); and Harmful Effects of Drugs (r_α = .34).

EVALUATION RESULTS

The study results are presented in the following order. First, an examination of the data related to fidelity of program implementation. Second, teacher responses and outcomes based on the *Checklist of Student Behavior*. And last, student responses and outcomes based on the *Survey Questionnaire.*

Program Implementation

Prevention Lesson Logs

Teachers from the treatment and control group indicated there were two district-wide initiatives in place during the school year. Red Ribbon Week, a school-wide drug awareness and prevention series of events and instruction, occurred during the month of October 2002. State legislation requires elementary schools provide *Character Education* instruction that emphasizes core ethical values such as attentiveness, patience, initiative, caring, honesty, fairness, respect for self and others, compassion, and equity of opportunity. The delivery of Character Education instruction varied across the study sites. Examples of implementation ranged from monthly lessons provided by the guidance counselor, morning show broadcast lessons with additional time for class review, to lessons provided by classroom teachers. Since Red Ribbon Week and Character Education were implemented in all sites, it is assumed that any positive influences were relatively equally distributed among the treatment and control groups. Lesson logs completed by teachers in the control group suggest no other extensive drug prevention programs or activities were implemented during the study period.

Classroom Observations

The district's Coordinator for SDFS and site-based curriculum resource teachers conducted two classroom observations of treatment teachers sharing *TGFD* lessons with their students. As shown in Table 1, the results of the observations suggest that all or almost all teachers were: prepared for instruction; provided clear directions about how and what to do for each lesson activity; transitioned effectively between activities; defined terms, provided explanations and gave examples; provided all intended lesson activities; used all *TGFD* lesson materials; used strategies to keep students involved and on-task; provided students opportunities to participate in discussions; provided sufficient time for students to practice learned skills; recognized and reinforced student participation; modeled respectful behavior for and among students; listened to student input in a receptive and supportive manner; provided clear prosocial or "no use" feedback to student comments; and created an open and sharing classroom environment. The results also suggest that students were actively engaged in the learning process. Overall, classroom observations suggest teachers delivered the *TGFD* lesson units as intended.

Table 1. Proportion of Observed Behaviors on the Classroom Observation Form by Time

Classroom Observation Items (Time 1 n = 26; Time 2 n = 23)	Percent Observed Time 1	Percent Observed Time 2
1. The teacher was prepared for the TGFD lesson.	100%	91%
2. The teacher gave clear directions to students (explaining what & how to do it).	100	96
3. The teacher effectively transitioned between lesson activities.	100	100
4. The teacher used strategies to keep all students involved and on-task.	100	100
5. The teacher defined terms, provided explanations, and/or gave examples.	100	100
6. The teacher gave students opportunities to participate in discussions.	100	100
7. The teacher gave students opportunities to practice lesson skills.	100	100
8. The teacher recognized and rewarded students for participating.	100	91
9. The teacher modeled mutual respect for and among students.	100	96
10. The teacher listened to students in an attentive and receptive manner.	100	100
11. The classroom environment promoted student sharing and discussion.	100	96
12. The teacher gave clear prosocial or "no use" feedback to students' comments.	100	100
13. Students were actively engaged in learning/activities.	100	96
14. The teacher delivered all planned lesson activities (refer to manual).	96	100
15. The teacher used all planned lesson materials (refer to manual).	96	91
16. Based on your observations and the manual content, the teacher delivered the TGFD lesson as intended.	96	96

Survey of Program Implementation

Classroom teachers delivering the *TGFD* program were asked to complete the *Evaluation of Program Implementation* questionnaire to gauge treatment fidelity and quality of implementation. The questionnaire asked teachers to indicate the number of lesson units delivered and the average length of time needed to deliver lessons. Teachers were also asked to indicate the extent to which they implemented planned activities for each lesson unit, used the lesson materials and the student interactive workbook, and distributed Home Workout Sheets for families.

- Ninety-two percent of the teachers (24 out of 26) indicated they delivered all 10 *TGFD* **lesson units**, and 8% indicated they delivered nine out of the 10 lesson units.

- Eighty-eight percent of the teachers indicated lessons required **30 or more minutes** to deliver, 8% indicated lessons averaged between 25 to 29 minutes, and 4% between 20 to 24 minutes.
- Twenty-seven percent of the teachers indicated they delivered all of the planned lesson **activities**, 62% almost all of the planned lesson activities, and 11% indicated they delivered most of the planned activities.
- Twenty-three percent of the teachers indicated they used all of the planned lesson **materials**, 62% almost all of the materials, 11% most of the materials, and 4% indicated they used some of the lesson materials.
- Seventy-three percent of the teachers indicated they used the interactive **student workbook** with lesson units, 23% used the student workbook with almost all lesson units, and 4% with most lesson units.
- Nineteen percent of the teachers indicated they sent home all of the **Workout Sheets** for parents and students, 27% almost all of the Home Workout Sheets, 15% most of the Workout Sheets, and 39% some of the family Workout Sheets.
- Ninety-six percent of the teachers indicated the *TGFD* prevention program had a positive impact on their students' behaviors or choices.
- All teachers indicated students enjoyed the program activities.
- Ninety-six percent of the teachers indicated program content and activities were relevant to students' lives.

Teachers were provided the opportunity to respond to three open-ended questions at the end of the survey questionnaire. The questions prompted teachers to indicate which program activities their students most enjoyed, what challenges they faced in implementing the prevention program, and what suggestions did they have for improving the *TGFD* program. The most frequently occurring themes found in teachers' comments were grouped into categories. A sample of teachers' verbatim comments by category is provided below.

Comments Related to Positive Impact of Program

"This program truly introduces and reinforces effects and problems associated with drugs and alcohol. Students are positive and feel this is helpful in the choices they may have to make."

"My students wanted to talk about illegal drugs and were really interested in why people make the choice to use them. They also really enjoyed acting out scenarios [role-playing]."

"Using the TGFD lesson activities were very informative for students. Many of them understood concepts pertaining to drugs. They were able to relate stories to real life situations."

Comments Related to the Time of the Year for Program Delivery

"The time we were asked to teach the program. It would have been better to do this after FCAT testing. We would have plenty of time to do it then and I wouldn't have been so overwhelmed with teaching the program along with preparing for testing."

"I think the lessons shouldn't be rushed at the beginning of the year before FCAT testing. I like to do all the lessons in one week at the end of the year."

"Working the curriculum into my schedule at this time of the year."

Comments Related to the Sequencing of Lesson Unit Delivery

"Spacing out the lessons one per week. The students had a hard time remembering what we did the previous week. I had to start doing them [lessons] closer together for connections."
"The program should not be stretched out over a period of nine or ten weeks. This age group has difficulty retaining the information."

"More concentrated--not spread out so long--one class a week is too long a period to keep interest."

Comments Related to Challenges for Delivering the Program

"The lessons are very long and did not fit in the regular 45 minute block."

"Making sure the materials are available before starting the program."

"Provide song tape, books to read aloud."

"Getting the books for the suggested reading [enrichment activities]."

Teachers' feedback on the fidelity of program implementation poises some modest concern about the integrity of program delivery. If the program content was not delivered as designed by the developers, then the maximum potential benefits of the program are truncated. In order for the prevention program to achieve its full utility, all designed lesson activities,

materials, use of the student workbook, and distribution of Home Workout Sheets would occur in the classroom setting. Item responses suggest that only 27% of the teachers delivered all lesson activities, 23% used all the lesson materials, and 19% distributed all of the Family Workout Sheets. Although the majority of teachers indicated "almost all" in sharing these program components with students (excluding Home Workout Sheets), almost all is not full implementation of the designed program. Positive effects for students may have been stronger if full delivery of the *TGFD* prevention program had occurred across classrooms.

School administrators and teachers should be encouraged and reminded of the importance of delivering selected prevention programs as they are designed in order for students to receive the best benefits. Most externally developed programs are based on theoretical and research findings supporting the need for full implementation. Secondly, teachers need frequent formal training in how to use and deliver packaged prevention lesson units. Most of the frustration of teachers requiring more than the planned 30-35 minutes per lesson comes from lack of familiarity with the activities, materials and pacing of instruction. Training activities that allow teachers to role-play the delivery of lessons would enhance the chances of engraining the process of how to best prepare for and deliver lessons.

Some teachers' written comments offer further food for thought. It appears that several teachers are comfortable or accustom to delivering prevention programs during the fourth quarter of the school year. With the added focus and pressure on teaching professionals to prepare students for the State's performance assessments, this is not an unusual situation. The question should be raised, however, if federal, state and local agencies support the need to provide students with an awareness of the risks associated with ATOD use and strengthening protective factors that promote students making healthier life choices, then prevention instruction cannot be limited to a selected time of the year. Focusing on prevention instruction at the end of the school year may begin the process of enhancing students' skills, but leads them into the summer months where many skills atrophy. Reading, mathematics, social studies or science instruction would never be regulated to one time period during the school year because of the certain knowledge that sustainable growth would not occur. Similarly, children's and youth's personal, social and resistance skills are not likely to evidence sustainable growth without active instruction, and ongoing review and practice of concepts and skills throughout the school year. For prevention education to take a meaningful position in the overall context of what students need to learn

requires an organizational culture that supports the belief that life skills development is a key component of the learning environment and can be meaningfully embedded in the regular curriculum.

A few teachers' comments indicated concerns about providing only one formal *TGFD* lesson unit once a week over a 10-week period. Teachers recognize that third and fourth graders' retention and interest shifts easily. With this understanding, teachers should be encouraged to use best practice instructional strategies by conducting brief reviews and practice opportunities from one formal lesson unit to another. It may be a limitation of the study by not specifically guiding teachers to engage in these activities, or the study context restricted teachers' typical instructional behaviors. If it wasn't a limitation of the study, it raises another question of whether there is a perception among school personnel that once a formal prevention program has been delivered the task is completed. The rates of behavioral referrals, suspensions, conflicts with peers, and challenges of communicating effectively with adults and others suggest this is not a reasonable perspective. Current legislation requiring Character Education at the elementary level supports the continued awareness that when students reach the workplace there are skills required beyond academics that are needed for success. The need for development of intrapersonal and interpersonal skills has been reflected in other initiatives such as School-to-Work, TECH Prep, the Secretary's Commission of Achieving Necessary Skills, and Blueprint 2000.

The evaluator is not suggesting the district and its constituents have not infused or embedded prevention and life skills development into their organizational culture, vision and mission statements, and instructional guidelines. That is beyond the knowledge and purview of this report. Quite simply, some data prompts some queries that may be worth reflection to ascertain its relevance to the district. The observations made on the limited amount of data from the current study are likely to be very situation specific with limited relevance to a broader context.

Teacher Checklist of Student Behaviors

Impact of Attrition on Posttest Checklist Scores

Attrition rates are an ongoing challenge and concern for any study gathering information over time, and the potential bias of missing responses on experimental results is a threat to the generalization of the findings. In this study, attrition rates for the Teacher Checklist did not vary substantially across the treatment or control condition, with a nine percent loss (56 out of 591) of responses for the treatment group, and a six percent loss (35 out of 551) of responses for the control group. Due to coding errors and student reassignment to other teachers or schools, approximately 8% (91) of the study sample could not be matched to pretest scores at the time of the 4-month follow up. When the student characteristics of the treatment and control condition were examined between the original sample and the study sample (responses at the 4-month posttest), no substantial differences were present (see Table 1, Section I).

To assess whether the study results could have been impacted if all posttest scores were available, a two-way Multivariate Analysis of Variance (MANOVA) was conducted using the behavior subscale scores as the dependent variables, and the treatment condition and attrition as independent variables. Mean behavior subscales for the treatment and attrition condition are shown in Table 1 (Section II). The findings from the analysis suggest that there were significant main effects or differences between the behavior subscale scores for the treatment condition and for the attrition condition. A significant interaction effect was also observed among the behavior subscale scores for the treatment by attrition condition.

Follow up Univariate Analysis of Variances (ANOVAs) were computed to determine which pretest behavior subscales were contributing to the differences between the treatment and attrition conditions. Potential interaction effects were examined first (treatment x attrition). As shown in Figure 2, a significant change in the direction of the trend lines (trend lines cross) for the treatment by attrition conditions for the Personal and Social Skills Scale was observed (F = 15.62, $p \leq .0001$). This suggests for the few students missing teacher ratings (56) at the 4-month follow up, treatment pretest scores were substantially higher for the students missing posttest scores in comparison to students in the remaining treatment sample. Conversely, for the few students missing teacher ratings (35) at the 4-month follow up, control pretest scores were

substantially lower for the students missing posttest data in comparison to students in the remaining control sample. If the proportion of missing data were larger, the potential impact on pretest scores would be to underestimate the treatment group's initial performance in Personal and Social Skills, and to overestimate the control group's initial performance in this area.

When main effects for the attrition condition were examined, the findings suggest that teacher perceptions of students' Prosocial Behaviors ($F = 5.77$, $p = .016$) and Inappropriate Social Behaviors ($F = 37.04$, $p \leq .0001$) were significantly more positive for students without missing data in comparison to students missing data at the 4-month posttest (see Figures 3 and 4). The potential impact of these findings on pretest scores would be to overestimate the treatment and control groups' initial engagement in both Prosocial Behaviors and Inappropriate Social Behaviors (scores recoded with higher scores indicating lower rates of inappropriate behaviors).

When main effects for the treatment condition (treatment and control groups) were examined, the findings suggest that teachers' perceptions of students using Personal and Social Skills ($F = 5.77$, $p = .016$), and students engaging in Inappropriate Social Behaviors ($F = 37.04$, $p \leq .0001$) were significantly more positive for students in the control group in comparison to students in the treatment group (see Figures 2 and 4). These findings lead to the following section addressing pretest score equivalence.

Table 1. Characteristics of Treatment and Control Groups for the Teacher Checklist Pretest Scores and 4-Month Follow Up

	Pretest n = 1142		Follow Up n = 1051	
I. Variable	Treatment	Control	Treatment	Control
Female	49%	51%	49%	49%
White	64%	79%	64%	78%
African American	20%	14%	21%	15%
Hispanic	14%	5%	13%	5%
Other	2%	2%	2%	2%
Free/Reduced	46%	45%	45%	45%

II. Test of Equivalence of Attrition Rates by Treatment Condition

	Wilks'	*df*	*F*	*p*
Multivariate Between Effects				
Treatment	.952	3, 1136	19.25	.0001
Attrition	.942	3, 1136	23.15	.0001
Treatment x Attrition	.973	3, 1136	10.43	.0001

Pretest Mean Scores	Study Sample n = 1051		Attrition Group n = 91 (8% loss of total)	
	Treatment	Control	Treatment	Control
Personal & Social Skills	3.27	3.39	3.45	2.93
Prosocial Behaviors	3.40	3.38	3.17	2.94
Inappropriate Behaviors	3.90	4.33	2.78	3.68

III. Test of Prescore Equivalence on the Behavior Checklist

	Wilks'	*df*	*F*	*p*
Multivariate Between Effects				
Treatment	.923	3, 1047	29.09	.0001

(Means scores for treatment and control conditions reported above under '*Study Sample'*)

Note. Dependent variables measured on a rating scale ranging from 1.00 to 5.00. Scores were reverse coded with a score of 5.00 indicating the most positive response. Other = Asian/Pacific Islander, American Indian and Multiracial; Wilks' = Wilks' Lambda test of multivariate differences; df = degrees of freedom; F = F test statistic; p = probability level.

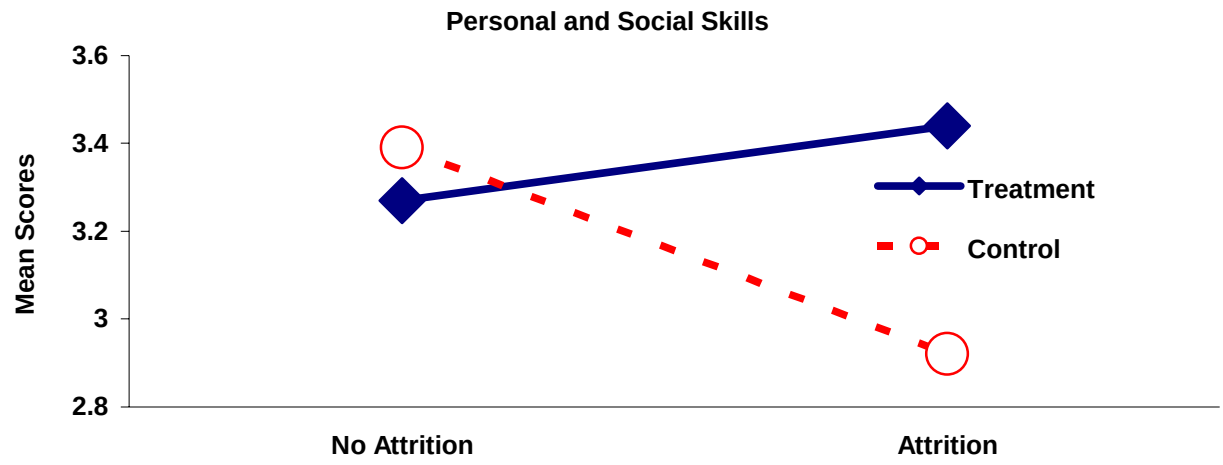

Figure 2. Pretest Scores *Personal and Social Skills* Scale by Group and Attrition

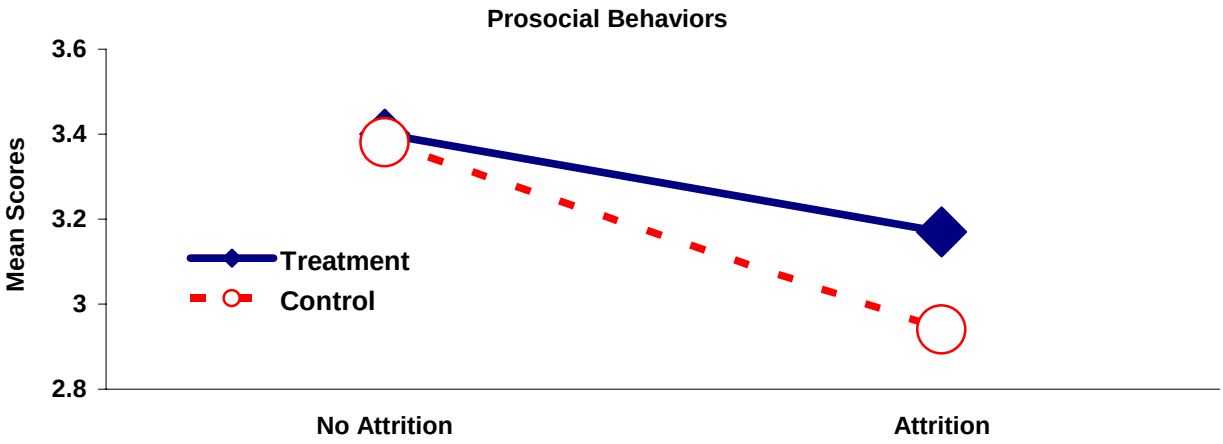

Figure 3. Pretest Scores on the *Prosocial Behaviors* Scale by Group and Attrition

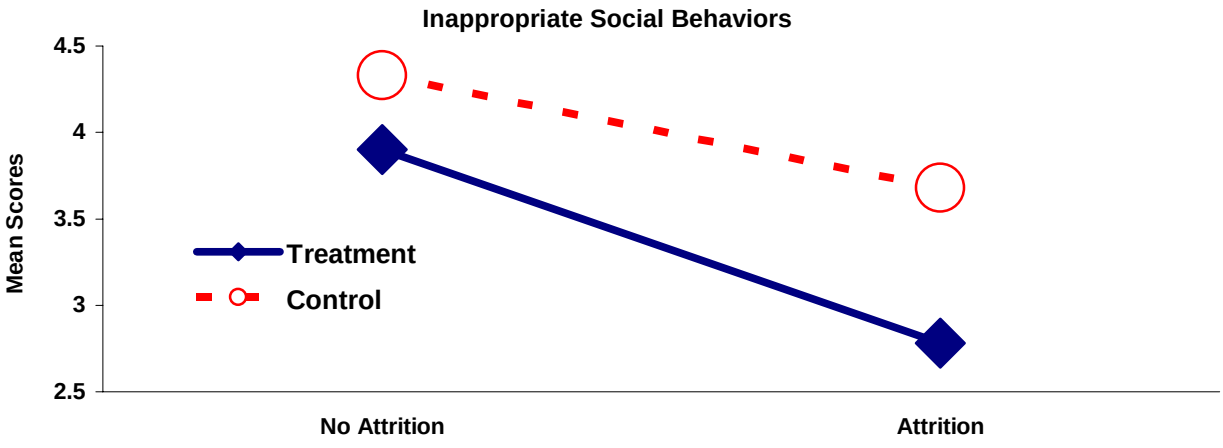

Figure 4. Pretest Scores on the *Inappropriate Behaviors* Scale by Group and Attrition

Checklist Pretest Score Equivalence

Although schools were stratified and randomly assigned to the treatment or control group, the evaluator wanted to assess whether teachers held similar perceptions of student behaviors prior to the delivery of the program. Teacher responses to the *Teacher Checklist of Student Behaviors* were examined using a one-way MANOVA procedure with the treatment condition (treatment and control) as the independent variable, and scores on the behavioral subscales as the dependent variables.

A significant between groups effect was observed between pretest scores for the treatment and control group (see Table 1, Section III). Follow up ANOVAs were computed to determine which behavior subscales were contributing to the differences between the treatment and control group. The findings suggest that teachers in the control group held significantly more positive perceptions of students using Personal and Social Skills in comparison to teachers in the treatment group ($F = 8.07$, $p = .005$). Teachers in the control group also held significantly more positive perceptions of students engaging in Inappropriate Social Behaviors (scores recoded with higher scores indicating lower rates of inappropriate social behaviors) in comparison to teachers in the treatment group ($F = 54.97$, $p \leq .0001$). No significant differences were observed between teachers' perceptions in the treatment and control condition for students engaging in Prosocial Behaviors.

The findings suggest teachers in the control group tended to score student behaviors at higher levels than teachers in the treatment group prior to the delivery of the prevention program. Since pre-program scores were not equal between groups (treatment condition), pretest scores were used as a covariate in any further analyses to adjust for differences between groups and reduce error within groups.

Impact on Protective Factors

The mean scores for each of the three behavior subscales were examined using a Multivariate Analysis of Covariance (MANCOVA) repeated measures design. Posttest and the 4-month follow up scores were adjusted using pretest scores as the covariate. Observed and adjusted behavior scores by treatment condition and time of checklist administration are

provided in Table 2. A significant multivariate effect was observed for the treatment condition (Wilks' Lambda .923, $df = 3, 1047$, $F = 29.09$, $p \leq .0001$).

Table 2. Observed and Adjusted Teacher Checklist Behavior Scores by Treatment Condition and Time

		Treatment					Control			
		Observed		Adjusted			Observed		Adjusted	
Behavior Scales	**Time**	**M**	**SD**	**M**	**SE**		**M**	**SD**	**M**	**SE**
Personal & Social Skills	Posttest	3.64	.778	3.71	.020		3.57	.661	3.50	.021
	Follow Up	3.68	.827	3.75	.023		3.59	.717	3.51	.024
Prosocial Behaviors	Posttest	3.71	.866	3.79	.025		3.45	.722	3.37	.026
	Follow Up	3.75	.863	3.82	.027		3.53	.780	3.46	.028
Inappropriate Behaviors	Posttest	4.13	.910	4.20	.036		4.12	1.01	4.05	.037
	Follow Up	3.98	1.04	4.04	.044		3.92	1.18	4.04	.045

M = Mean; SD= Standard Deviation; SE = Standard Error of the Measure.

Shown in Table 3 are the results of the follow up Univariate Analysis of Covariance (ANCOVA) conducted to identify which of the three behavior subscales were contributing to differences between the treatment and control group as well as differences between conditions over time (posttest and 4-month follow up).

The results of the post hoc analyses suggest students in the treatment group evidenced, in comparison to students in the control group, significantly higher scores in each of the three behavior scales. Students participating in the *TGFD* program evidenced: 1) more frequent use of personal and social skills, 2) more frequent engagement in prosocial behaviors, and 3) less frequent engagement in inappropriate social behaviors in the classroom. The benefits of the *TGFD* program for students continued to be evidenced at the 4-month follow up for each of the three behavior scales--personal and social skills, prosocial behaviors, and inappropriate social behaviors.

Table 3. Multivariate Analysis of Covariance and Univariate Analysis of Covariance on the Teacher Checklist Behavior Scores by Treatment Condition

	Wilks'	df	F	p
Multivariate Between Effects				
Treatment Condition	.874	6, 1041	25.05	.0001
Univariate *F* tests Adjusted for Pretest Scores for Treatment Effects by Time				
Posttest (Time 2)				
Personal & Social Skills		1, 1046	50.97	.0001
Prosocial Behaviors		1, 1046	128.69	.0001
Inappropriate Social Behaviors		1, 1046	7.83	.0052
4-Month Follow Up Test (Time 3)				
Personal & Social Skills		1, 1046	50.36	.0001
Prosocial Behaviors		1, 1046	85.88	.0001
Inappropriate Social Behaviors		1, 1046	7.47	.0064

Wilks' = Wilks' Lambda test of multivariate differences; df = degrees of freedom; F = F test statistic; p = probability level.

Treatment Effects by Student Characteristics

To examine whether the prevention program had different effects for students based on gender, socioeconomic status (reduced/free lunch services), and ethnic background, correlated *t*-tests were computed using pretest and posttest scores of teacher observations of students' behaviors. The findings suggest that both girls and boys had significantly higher scores on the posttest in comparison to the pretest in each of the three behavior scales ($p \leq .0001$). Both economically disadvantaged and non-economically disadvantaged students experienced significant improvement in the three behavior scales ($p \leq .0001$). In addition, White, African American and Hispanic students had significantly higher scores on the posttest in comparison to the pretest in each of the three behavior scales ($p \leq .01$). Overall, the findings suggest that

students participating in the *TGFD* program experienced significant improvement in Personal and Social Skills, Prosocial Behaviors, and Inappropriate Social Behaviors regardless of gender, socioeconomic status, or ethnic background.

Student Survey

Impact of Attrition on Posttest Survey Scores

The initial survey sample contained 1052 students with matching pretest and immediate posttest scores. The survey sample contained 92 (8%) fewer respondents than the teacher checklist sample. The difference in sample size for the student survey is attributed to absences on one or more of the two survey administration dates. Teachers on the other hand could complete checklists regardless of whether students were present in the classroom.

At the time of the 4-month follow up, attrition rates did not vary across the treatment or control condition, with an 11% (60 out of 533) loss of respondents for the treatment group, and an 11% (57 out of 519) loss of respondents for the control group (see Table 1, Section I). A two-way MANOVA was computed using the treatment and attrition conditions as independent variables, and students' pretest scores on the protective factors as dependent variables. As shown in Table 4 (Section II), no significant main effects or interaction effect were found for the treatment, attrition, or treatment by attrition conditions. The findings for attrition offers some confidence that the loss of student data at the 4-month follow up was not biased relative to students' initial scores on the protective factors. Loss of student respondents for the third testing period may be attributed primarily to random miscoding errors, mobility across classrooms or schools, and absenteeism during the follow up testing period.

Table 4. Characteristics of Treatment and Control Groups for the Student Survey Pretest Scores and 4-Month Follow Up

	Pretest n = 1052		Follow Up n = 935	
I. Variable	Treatment	Control	Treatment	Control
Female	50%	49%	49%	52%
White	64%	78%	62%	78%
African American	20%	15%	21%	15%
Hispanic	14%	5%	15%	5%
Other	2%	2%	2%	2%
Free/Reduced	46%	45%	46%	45%

II. Test of Equivalence of Attrition Rates by Treatment Condition

	Wilks'	*df*	*F*	*p*
Multivariate Between Effects				
Treatment	.997	5, 1044	0.57	.7199
Attrition	.997	5, 1044	0.52	.7643
Treatment x Attrition	.996	5, 1044	0.81	.5451

Pretest Mean Scores	**Study Sample** n = 935		**Attrition Group** n = 117 (11% loss of total)	
	Treatment	Control	Treatment	Control
Emotional Competence	3.92	3.93	3.89	3.93
Social & Resistance	3.29	3.46	3.42	3.42
Goal & Decision Making	4.30	4.20	4.21	4.24
Perceptions of Harm	3.82	3.82	3.85	3.83
Attitudes Toward Drugs	4.52	4.59	4.52	4.46

III. Test of Prescore Equivalence on the Student Survey

	Wilks'	*df*	*F*	*p*
Multivariate Between Effects				
Treatment	.973	5, 929	5.17	.0001

(Means scores for treatment and control conditions reported above under '*Study Sample'*)

Note. Dependent variables measured on a rating scale ranging from 1.00 to 5.00. Scores were reverse coded with a score of 5.00 indicating the most positive response. Other = Asian/Pacific Islander, American Indian and Multiracial; Wilks' = Wilks' Lambda test of multivariate differences; df = degrees of freedom; F = F test statistic; p = probability level.

Student Survey Pretest Score Equivalence

Student responses to the survey were examined using a one-way MANOVA procedure with the treatment condition (treatment and control) as the independent variable, and pretest scores on the protective factors as the dependent variables. A significant between groups effect was observed between pretest scores for the treatment and control group (see Table 4, Section III). Follow up ANOVAs were computed to determine which protective factors were contributing to the differences between the treatment and control group. The findings suggest that students in the control group had significantly more positive perceptions of their Social and Resistance Skills in comparison to students in the treatment group ($F = 13.14$, $p = .0003$). No significant differences were observed between treatment and control students prior to program delivery in the protective areas of Emotional Competency Skills, Goal Setting and Decision Making Skills, Perceptions of Harmful Effects of Drug Use, and Attitudes Toward Drugs.

Impact on Protective Factors

The mean scores for each of the five protective subscales were examined using a MANCOVA repeated measures design. Posttest and the 4-month follow up scores were adjusted using pretest scores as the covariate. Observed and adjusted protective factor scores by treatment condition and time of survey administration are provided in Table 5. A significant multivariate effect was observed for the treatment condition (Wilks' Lambda .923, $df = 3, 1047$, $F = 29.09$, $p \leq .0001$).

Follow up ANCOVA's were conducted to identify which of the five protective subscales were contributing to differences between the treatment and control group (see Table 6). The results of the post hoc analyses suggest students in the treatment group evidenced, in comparison to students in the control group, significantly higher scores in four of the five protective areas. Students participating in the *TGFD* program evidenced more positive scores in: (a) perceptions of emotional competency skills; (b) perceptions of social and peer resistance skills; (c) perceptions of goal setting and decision making skills; and (d) perceptions of the harmful effects of tobacco, alcohol and marijuana use. Third and fourth graders in both groups had very high scores (4.51-4.67) before and after program delivery regarding the inappropriateness of drug use (Attitudes Toward Drugs). This is not an unexpected outcome considering elementary students are less likely to be exposed to peers who smoke, drink or experiment with other drugs. School

and family efforts to support children's continued disapproval of drug use will help prepare them for when they enter higher grade-levels where peer ATOD use is more prevalent and attitudes toward use more tolerant.

Table 5. Observed and Adjusted Student Protective Scores by Treatment Condition and Time

		Treatment					Control			
		Observed		Adjusted			Observed		Adjusted	
Protective Scales	**Time**	**M**	**SD**	**M**	**SE**		**M**	**SD**	**M**	**SE**
Emotional Competency	Posttest	4.08	.572	4.08	.025		3.94	.593	3.94	.026
Skills	Follow Up	3.99	.606	4.00	.027		3.95	.606	3.95	.027
Social and Resistance	Posttest	3.62	.684	3.63	.029		3.50	.684	3.49	.030
Skills	Follow Up	3.59	.633	3.59	.028		3.54	.635	3.54	.028
Goal Setting and	Posttest	4.50	.583	4.50	.027		4.24	.662	4.24	.027
Decision Making Skills	Follow Up	4.33	.734	4.33	.033		4.21	.711	4.21	.033
Perceptions of Harmful	Posttest	4.07	.593	4.07	.593		3.96	.588	3.95	.025
Effects of Drugs	Follow Up	4.05	.561	4.06	.025		4.04	.584	4.03	.026
Attitudes Toward Drugs	Posttest	4.73	.558	4.64	.536		4.67	.510	4.67	.022
	Follow Up	4.63	.562	4.63	.025		4.62	.538	4.62	.025

M = Mean; SD= Standard Deviation; SE = Standard Error of the Measure.

The benefits of the *TGFD* program for students continued to be evidenced at the 4-month follow up in the area of Goal Setting and Decision Making Skills. Towards the end of the school year, treatment and control students tended to hold similar levels of attitudes toward drug use, emotional competency skills, social and peer resistance skills, and perceptions of the harmful effects of drug use. Attitudes toward non-drug use were highly positive for students in both groups at the beginning and end of the year. And it is possible students in the control group gained greater knowledge of the effects of drug use during school events and health lesson units.

The degrading of benefits over time for third and fourth graders in the treatment group in the areas of Emotional Competency and Social and Resistance skills is a concern. The loss of heightened benefits to protective areas serves as a reminder that intrapersonal and interpersonal skills like other academic skills requires ongoing, periodic review and practice in the classroom setting. Diagrams of treatment and control group scores on the five protective factors by time are provided in Figures 5-9.

Table 6. Multivariate Analysis of Covariance and Univariate Analysis of Covariance on the Student Survey Protective Scores by Treatment Condition

	Wilks'	*df*	*F*	*p*
Multivariate Between Effects				
Treatment	.920	10, 923	8.01	.0001
Univariate *F* tests Adjusted for Pretest Scores for Treatment Effects by Time				
Posttest (Time 2)				
Emotional Competence		1, 932	17.11	.0001
Social & Resistance		1, 932	11.41	.0001
Goal & Decision Making		1, 932	47.35	.0001
Harmful Effects of Drugs		1, 932	12.78	.0004
Attitudes Toward Drugs		1, 932	0.33	ns
4-Month Follow Up Test (Time 3)				
Emotional Competence		1, 932	1.64	ns
Social & Resistance		1, 932	2.20	ns
Goal & Decision Making		1, 932	7.14	.0077
Harmful Effects of Drugs		1, 932	0.56	ns
Attitudes Toward Drugs		1, 932	0.15	ns

Wilks' = Wilks' Lambda test of multivariate differences; df = degrees of freedom; F = F test statistic; p = probability level; ns = not significant.

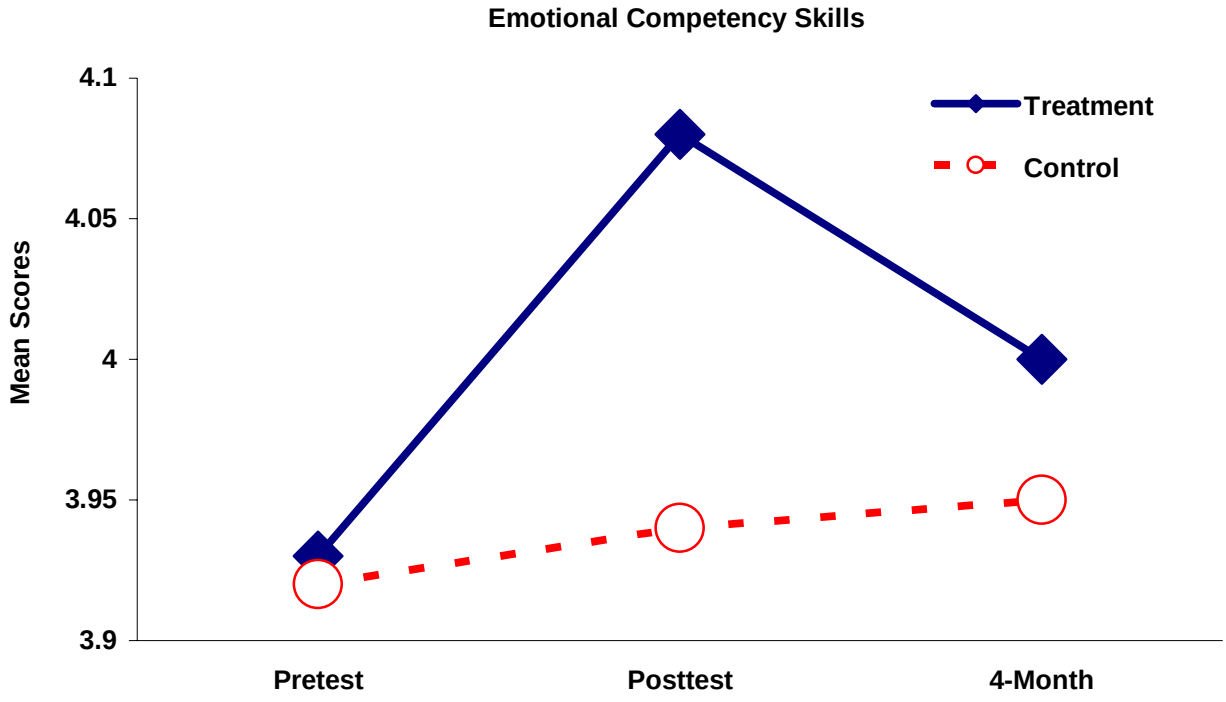

Figure 5. Student Scores on the *Emotional Competency Skills* Scale by Group and Time

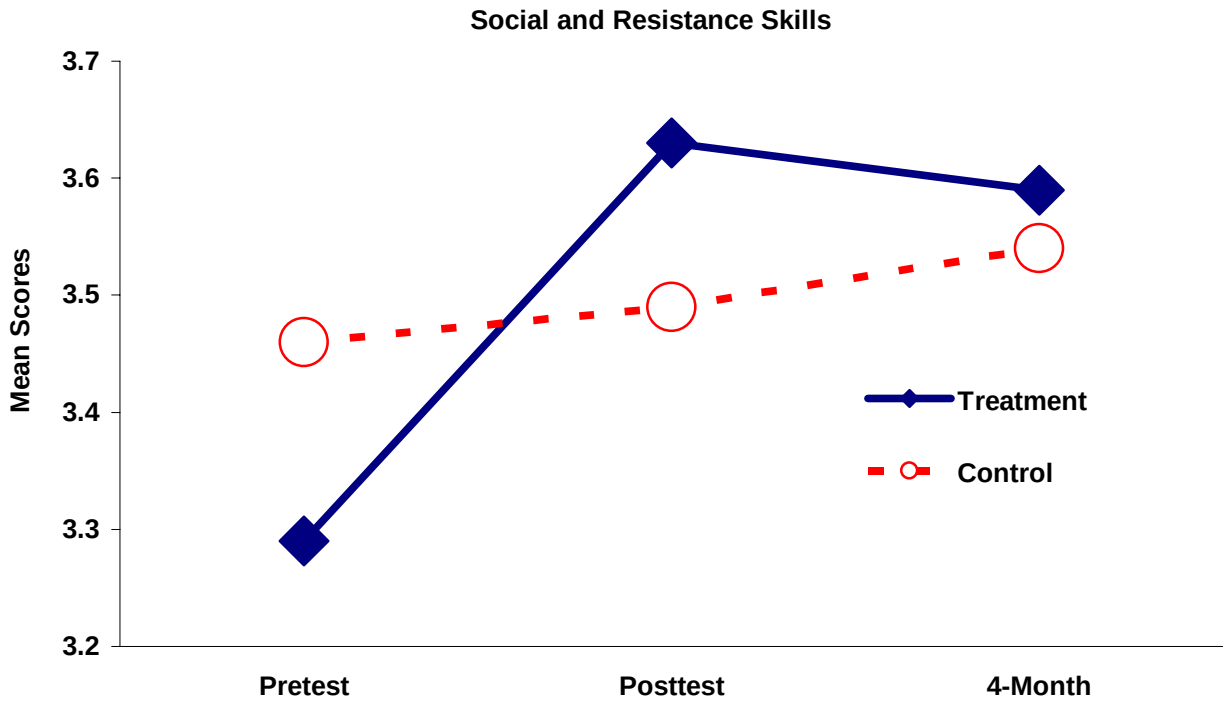

Figure 6. Student Scores on the *Social and Resistance Skills* Scale by Group and Time

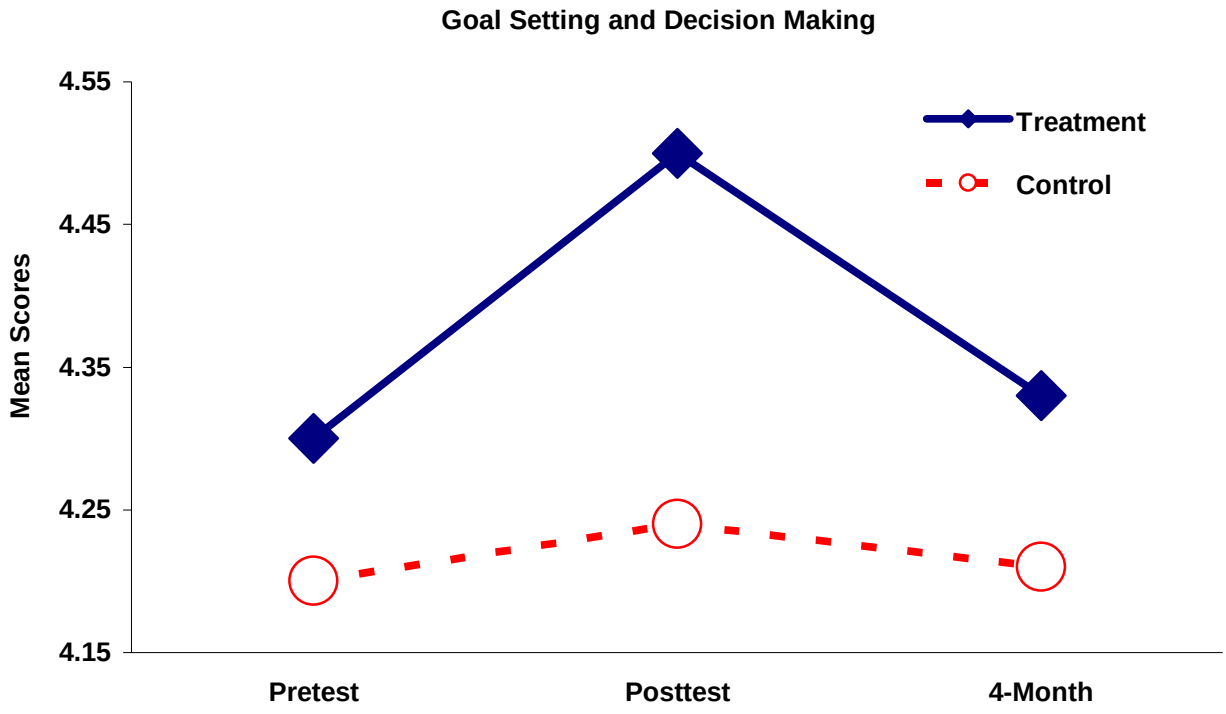

Figure 7. Student Scores *Goal Setting and Decision Making Skills* by Group and Time

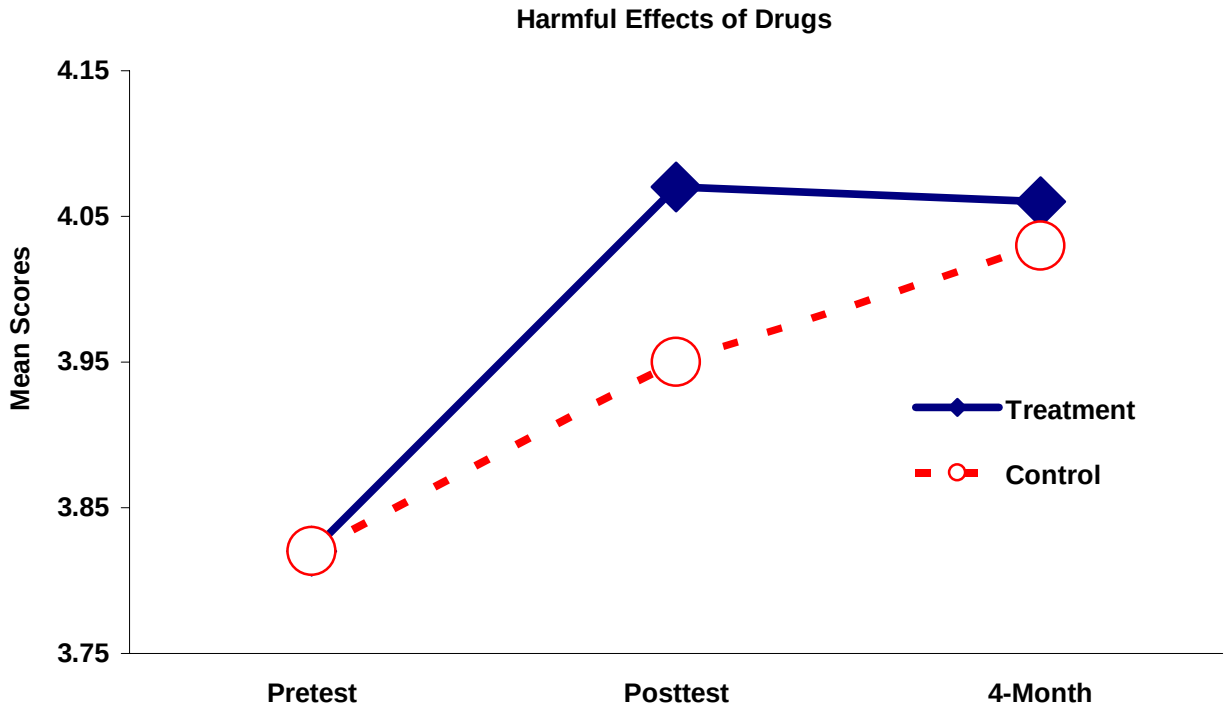

Figure 8. Student Scores *Perceptions of Harmful Effects of Drugs* by Group and Time

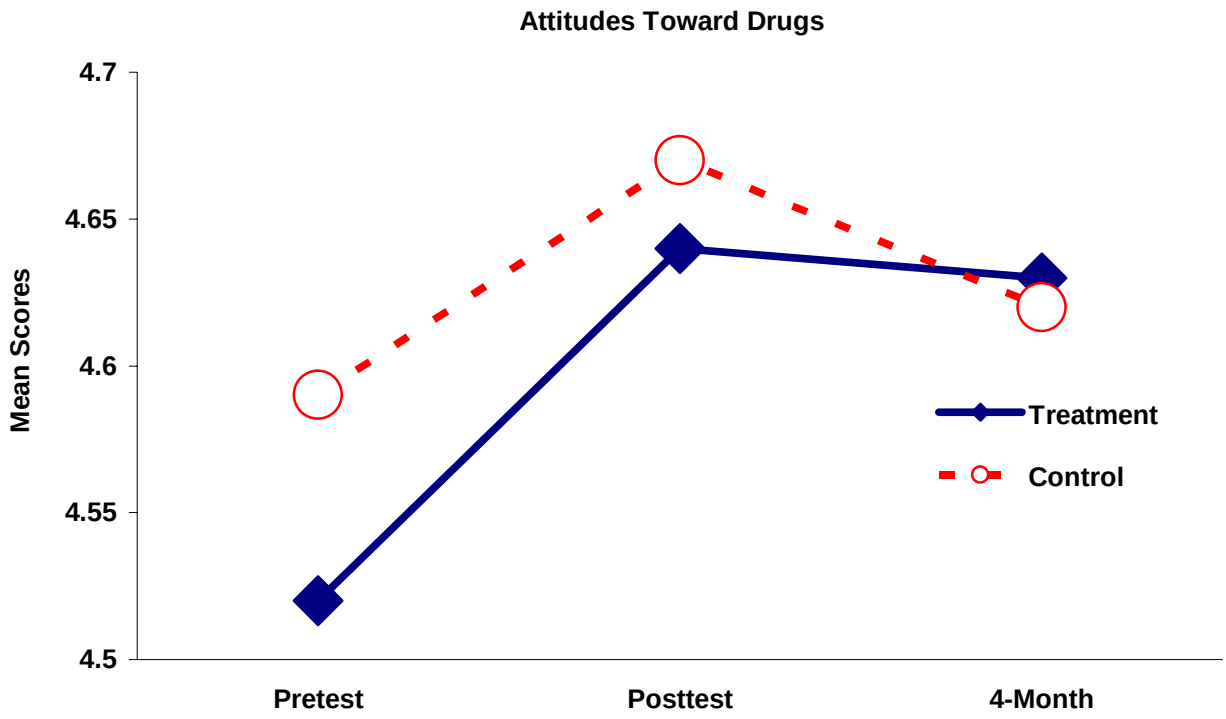

Figure 9. Student Scores on the *Attitudes Toward Drugs* Scale by Group and Time

Treatment Effects by Student Characteristics

To examine whether the prevention program had different effects for students based on gender, socioeconomic status, and ethnic background, correlated *t*-tests were computed using student survey pretest and posttest scores. Students participating in the program had significantly higher scores on the survey posttest in comparison to the pretest ($p \leq .0001$). Overall, the *TGFD* prevention program had a positive impact of students' skills and perceptions regardless of gender, socioeconomic status, and ethnic background.

Additional comparisons were made between student characteristics and the five protective areas. The findings suggest that both girls and boys had significantly higher scores on the posttest in comparison to the pretest for each of the five protective factor subscales ($p \leq .0035$).

Economically disadvantaged students experienced significant improvement in all five protective factor scores ($p \leq .0003$). Student not economically disadvantaged experienced significant improvement in four out of five of the protective factors--Emotional Competency

Skills, Social and Resistance Skills, Goal Setting and Decision Making Skills, and Perceptions of the Harmful Effects of Drugs ($p \leq .0036$).

Posttest scores on the five protective factors were significantly higher in comparison to pretest scores for White and African American students. Hispanic students experienced significant improvement in three of the five protective areas--Social and Resistance Skills, Goal Setting and Decision Making, and Attitudes Toward Drugs.

CONCLUSION

The purpose of the evaluation was to examine the effectiveness of the *Too Good for Drugs-Elementary School* program in impacting children's classroom behaviors, attitudes toward drug use, perceptions of the harmful effects of drug use, emotional competency skills, social and resistance skills, and goal setting and decision making skills.

Six of the district's 22 elementary schools were randomly selected and recruited for participation. Fifty-two classroom teachers participated in the study--26 in the treatment group and 26 in the control group. One thousand one hundred and forty-two (1142) students participated in the study. Forty-nine percent of the students were third graders and 51% fourth graders. Forty-nine percent of the students were female; approximately 71% White, 17% African American, 10% Hispanic, and 2% Other (Asian, American Indian and Multiracial). Forty-five percent of the student sample was categorized as economically disadvantaged based on receipt of reduced or free lunch services.

Teachers in the treatment and control group completed checklists assessing student behaviors prior to delivery of the *TGFD* prevention program, following program delivery, and again 4-months after program delivery. Students in the treatment and control group completed a survey questionnaire prior to delivery of the *TGFD* prevention program, following program delivery, and 4-months later.

Prevention research has identified certain risk factors that increase the likelihood of children and youth engaging in substance use behaviors and certain protective factors that decrease the impact of risk factors. The *TGFD* program incorporates curricula and instructional activities aimed at reducing risk factors and building protective factors. The following risk and protective factors were examined in the study: Socially Appropriate and Inappropriate Behaviors; Emotional Competency Skills; Social and Resistance Skills; Goal Setting and

Decision Making Skills; Perceptions of the Harmful Effects of Drugs; and Attitudes Toward Drugs.

1. Students in the treatment and the control group responded to a survey questionnaire before, following and 4-months after program delivery.

   Student responses to protective survey items at the end of program suggest the following:

   (a) Students participating in the *TGFD* program had statistically significant higher scores or higher levels of **emotional competency skills** in comparison to students in the control group. A sample of item content that represents skills in this category includes: 1) I know many different words to describe what I feel inside, 2) I am responsible for choosing to live a safe and healthy life, and 3) I can do almost anything I put my mind to.

   (b) Students participating in the *TGFD* program had statistically significant higher scores or higher levels of **social and resistance skills** in comparison to students in the control group. A sample of item content that represents skills in this category includes: 1) If someone tried to hand me a can of beer, I would just walk away, 2) If a group of kids called me over to try some marijuana, I would just ignore them, and 3) I know many peer refusal strategies to help me avoid pressure to smoke, drink or use marijuana.

   (c) Students participating in the *TGFD* program had statistically significant higher scores or higher levels of **goal setting and decision making skills** in comparison to students in the control group. Positive effects on goal and decision-making skills were present 4 months later. A sample of item content that represents skills in this category includes: 1) Setting a goal helps me figure out what I want to do, 2) When I set a goal, I think about what I need to do to reach my goal, and 3) I make good decision because I stop and think.

   (d) Students participating in the *TGFD* program had statistically significant higher scores or higher levels of **perceptions of harmful effects of drug use** in comparison to students in the control group. A sample of item content that represents skills in this category includes: 1) Drinking alcohol can make it hard to

see, walk and talk, 2) People who smoke cigarettes can quit whenever they want to, and 3) Smoking marijuana improves a person's coordination.

(e) Students in both the treatment and the control group had very positive attitudes about the inappropriateness of drug use. The average scores across groups ranged from 4.62 to 4.67 on a 5.00-point scale, suggesting a ceiling on the potential effects of program treatment. Considering the students in this sample were served in general education settings, the vast majority of third and fourth graders were not engaging in tobacco, alcohol and other drug use.

2. In an effort to triangulate data, teacher judgment concerning student behavior was also examined. Classroom teachers were asked to rate each student's behavior related to personal and social skills, prosocial behaviors, and inappropriate social behaviors across the three testing periods. If teacher responses are consistent with student responses or vice versa, the study's findings could be interpreted with greater confidence.

Teachers' observations of students at the end of program and again at the 4-month follow up suggest the following:

(a) Based on teachers' judgments, students participating in the *TGFD* program had statistically significant higher scores or higher levels of **personal and social skills** in comparison to students in the control group. A sample of item content that represents skills in this category includes: 1) uses a variety of verbal labels for emotions, 2) stops and thinks before acting, and 3) uses positive peer refusal strategies.

(b) Based on teachers' judgments, students participating in the *TGFD* program had statistically significant higher scores or engaged in more **prosocial behaviors** in comparison to students in the control group. A sample of item content that represents skills in this category includes: 1) helps other students, 2) asks other students to play if they don't have someone to play with, and 3) takes turns, plays fair, and follows rules of the game.

(c) Based on teachers' judgments, students participating in the *TGFD* program had statistically significant higher scores or engaged in fewer **inappropriate social behaviors** in comparison to students in the control group. A sample of item

content that represents skills in this category includes: 1) yells at other students, 2) gets into a lot of fights at school, and 3) disrupts instruction and/or procedures.

3. Treatment effects were examined for teachers and students participating in the *TGFD* program across gender, socioeconomic status (free/reduced lunch), and ethnic background. These results offer evidence of the *TGFD* program's utility in serving and meeting the needs of diverse student populations.

Teachers' observations of students in the treatment group at the end of program suggest the following:

(a) The *TGFD* program was effective for participating students **regardless of gender**. Both girls and boys experienced positive improvements in Personal and Social Skills, Prosocial Behaviors, and Inappropriate Social Behaviors.

(b) The *TGFD* program was effective for participating students **regardless of socioeconomic status**. Economically disadvantaged and non-economically challenged students experienced positive improvements in Personal and Social Skills, Prosocial Behaviors, and Inappropriate Social Behaviors.

(c) The *TGFD* program was effective for participating students **regardless of ethnic background**. White, African American and Hispanic students experienced positive improvements in Personal and Social Skills, Prosocial Behaviors, and Inappropriate Social Behaviors. Sample sizes for students from other ethnic backgrounds were too small to include in the analyses.

Treatment student responses to protective survey items at the end of program suggest the following:

(a) The *TGFD* program was effective for participating students **regardless of gender**. Both girls and boys experienced positive improvements in Emotional Competency Skills, Social and Resistance Skills, Goal Setting and Decision Making Skills, Perceptions of Harmful Effects, and Attitudes Toward Drugs.

(b) The *TGFD* program was effective for participating students **regardless of socioeconomic status** in four of five protective factors. Economically disadvantaged students experienced improvement across all five protective areas.

Students not economically challenged experienced improvements in all protective areas with the exception of Attitudes Toward Drugs.

(c) The *TGFD* program was effective for participating students **regardless of ethnic background** in three of the five protective areas. White and African American students experienced improvement across all five protective areas. Hispanic students experienced improvement in Social and Resistance Skills, Goal Setting and Decision Making Skills, and Attitudes Toward Drugs. No changes were observed in the areas of Emotional Competency Skills or Perceptions of Harmful Effects of Drugs.

In summary, the *TGFD* prevention program evidenced a positive effect on third and fourth graders' behaviors in the classroom up to four months following program delivery. The prevention program was also successful in impacting four of the five protective factors associated with strengthening children's abilities to make positive, healthy decisions–emotional competency skills; social and resistance skills; goal setting and decision making skills; and perceptions of harmful effects of drug use. Treatment effects as measured on the student survey tended to degrade over time, stressing the importance of ongoing review and practice of intrapersonal and interpersonal skills in the classroom setting. The *TGFD* program was effective for students regardless of gender, socioeconomic status, and ethnic background.