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Lions-Quest Skills for Action: Teens, Alcohol, and Other Drugs (TAOD)

Module 2 Lions-Quest TAOD Section
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Lions-Quest: Skills for Action: Teens, Alcohol and Other Drugs

Lions-Quest or TAOD was developed by Lions Quest International, now owned and administered globally through Lions Clubs International Foundation. Part of a series of grade-level appropriate curriculum (the middle school version is a SAMHSA model program), the high school version is evidence-based with a small research study affirming the effectiveness of the curriculum as a stand alone program (See page 60, Grant Application). TAOD consists of 15 sessions, and includes age-relevant information (e.g. legal consequences of DUI as well as risk of harm), and peer-driven activities performed by students such as information gathering and completion of a school-wide community service project.

The fidelity program was modified with the assistance of the developer, prior to implementation. Noted above, the full fidelity version consists of 15-sessions. As with Project Success, we must view implementation in the context of the school setting. Prior to TAOD, BPS' high schools had not adopted a high-school level prevention curriculum. Reasons were related to the way students selected classes and schedules (e.g. self-selection) and high school goals (e.g. meeting graduation and college admission requirements). As well, with Florida's School Grade Program, more emphasis has been placed on students' preparing for and passing state, standardized tests (Florida Comprehensive Assessment Tests, or FCAT). These issues left little time for the delivery of prevention education in high schools.

To encourage high school teachers to deliver TAOD, the developer worked with District-level Safe & Drug-Free School resource teachers to integrate TAOD critical sessions with Florida Sunshine State Standards, such that TAOD could be taught as part of standard curriculum in Health Education, Life Management, or Personal Fitness classes. By integrating the prevention curriculum with state standards, teachers also were meeting requirements to ensure students were capable of passing FCAT (which is based on state-standards). Teachers from the first round of targeted schools were then trained to integrate the TAOD program with respective classes. This will be discussed more fully in the Results section of the report.

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Measures

The survey utilized for the Lions-Quest TAOD program component was developed by Lions-Quest International, amended by the program evaluators with the author's permission to include additional items relevant to project objectives. The resulting Lions-Quest Skills for Action survey consisted of 103 questions. Questions were contained in a reusable test booklet. Students recorded responses on a separate, machine-readable answer sheet. Students participating in project surveys were first required to have written parent/guardian consent to participate in data collection. Students ages 12 and older were then given the opportunity to execute Youth Assents or refuse participation. Students with parent consent and Youth Assent were included in surveys. Surveys were delivered in group settings (classrooms, cafeterias or media centers). Students completed measures three (3) times: an initial pretest delivered before program inception; a posttest immediately following program end; and a six-month post follow-up at the end of the school year. The Tables on the next page display survey subscales, number of items in each subscale, item-reliability (based on Cronbach's Alpha or Kuder Richardson-20), and scoring interpretation. Table 3 contains the GPRA subscale measures, and Table 4 program measure subscales.

Table 3. Lions Quest GPRA outcome measure scale characteristics.

Scale	Items	Reliability	High score means …
HARM	5	NA	Higher percentage of respondents reported that ATOD (i.e., alcohol, binge drinking, cigarettes, marijuana, and cocaine or crack) use is either "somewhat harmful" or "very harmful" to their health. [Dichotomously scored]
FEEL	6	NA	Higher percentage of students said that their friends would be either "somewhat upset" or "very upset" if they used drugs (i.e., alcohol, cigarettes, smokeless tobacco, marijuana, and cocaine or crack). [Dichotomously scored]
BINGE	1	NA	Higher percentage of students reported drinking 3 or more drinks in a row on at least one occasion within the past 2 weeks. [Dichotomously scored]

Note: As appropriate to the scale, reliability estimates were based on Cronbach's Alpha or Kuder Richardon-20.

Table 4. Lions Quest outcome measure scale characteristics.

Scale	Items	Reliability	High score means …
Hrmhlt	5	.72	ATOD (i.e., alcohol, binge drinking, cigarettes, marijuana, and cocaine or crack) use is very harmful to health
Hrmpop	5	.89	ATOD (i.e., alcohol, binge drinking, cigarettes, marijuana, and cocaine or crack) use is very harmful to popularity
Hrmrlx	5	.84	ATOD (i.e., alcohol, binge drinking, cigarettes, marijuana, and cocaine or crack) use is very harmful to being able to relax
Ffeel	6	.90	Friends would feel very upset is they knew you used drugs (i.e., alcohol, cigarettes, smokeless tobacco, marijuana, and cocaine or crack).
Sayno_d	3	.83	Very hard to say no to alcohol
Sayno_t	12	.91	Very hard to say no to drugs (i.e., alcohol, cigarettes, marijuana, and cocaine or crack)
Fitin	3	.88	Disagree that drug use (i.e., alcohol, 3+ drinks, or cigarettes) helps fit in
Bfuse	5	.75	Best friend does not use drugs (i.e., alcohol, cigarettes, smokeless tobacco, marijuana, and cocaine or crack)
Fuse	5	.80	Fewer number of friends use drugs (i.e., alcohol, cigarettes, smokeless tobacco, marijuana, and cocaine or crack)
Suse	4	.82	Fewer number of students my age use drugs (i.e., alcohol, cigarettes, marijuana, and cocaine or crack)
Know	32	.73	Higher score on Lions Quest knowledge scale
Offer	4	.76	Received more offers of drugs (i.e., alcohol, cigarettes, marijuana, and cocaine or crack) in the past 30 days.
Accept	4	.75	Accepted more offers of drugs (i.e., alcohol, cigarettes, marijuana, and cocaine or crack) in the past 30 days.
Influence	2	.80	Friends more likely to seek your advise or talk about their problems
N3mnth	5	.65	Will not use drugs (i.e., alcohol, cigarettes, smokeless tobacco, marijuana, and cocaine or crack) in next 3 months
Binge	1	NA	Greater frequency of drinking 3 or more drinks in a row during the past 2 weeks.
Alc30	1	NA	More frequent alcohol use in past 30 days
Atod30	5	.67	More frequent drug use in past 30 days (i.e., alcohol, marijuana, cocaine, smokeless tobacco, or other illegal drugs) [DNI cigarettes]
Atodlife	5	.67	More frequent lifetime drug use (i.e., alcohol, smokeless tobacco, marijuana, cocaine or crack, or other illegal drugs) [DNI cigarettes]

Note: As appropriate to the scale, reliability estimates were based on Cronbach's Alpha or Kuder Richardon-20.

Results

Process Findings

As with other program components, it is important to examine the process development of the TAOD implementation. We examine the intervention in terms of:

- Fidelity to the intervention or modified intervention;
- Time and Resources; and
- Readiness and qualifications of facilitators and instructors.

We also examine the intervention in the context of fidelity to the management plan including to the original design put forth in the grant application and adherence to grant timeline.

Fidelity to the Intervention or Modified Intervention

Discussed in an earlier section of this report (Brief Description of the Interventions), TAOD was modified for implementation in BPS high schools by the program developer and district resource teachers.

The original program consisted of 15 topical sessions. Topical sessions were reviewed in the context of Florida's Sunshine State Standards for Health Education (which includes Personal Fitness, Life Management, and Safe & Drug Free Schools [SDFS]). Of the 15, eight sessions were identified by the developer as key to the intervention. These sessions were re-ordered and interwoven with existing curricula. Before programs incepted, educators from three school sites received training from the developer and SDFS resource teachers to implement the modified curriculum. Teachers were given the option to implement the full curriculum (15 sessions) or the modified curriculum (8 sessions). Teachers also were given the option to implement the program over the full 15-week semester, an 8-week partial semester (one session per week), over a 4-week session (2 per week) or a 2 week time period (daily delivery). Evaluation observations and key informant interviews documented the methods employed by various instructors.

The table below compares the developer's fidelity model to the grant's modified model (Modification). These models were in turn compared to actual implementation by eight instructors drawn from three target sites.

Table 12. Comparing Fidelity Model to Modification, and Actual Implementation by Site and Instructor (Ins 1 – 8)

(1)	Developer's Session No. (2)	Grant Modification (3)	Site 1 (4)		Site 2 (5)				Site 3 (6)	
			Ins 1	Ins 2	Ins 3	Ins 4	Ins 5	Ins 6	Ins 7	Ins 8
Implementation →	**15 weeks**	**8 weeks maximum**	**4 wks.**	**4 wks.**	**10 wks.**	**2 wks.**	**2 wks.**	**2 wks.**	**2 wks.**	**2 wks.**
Topic[1] ↓										
Getting Started	1		(1)	(1)		No information provided by these instructors				
Adolescence	2									
Meaning of chemical dependency	3	(Session 3)	(4)	(4)					(2)	(1)
Tobacco effects	4				(4)					
Alcohol Problems	5	(Session 4)	(6)	(6)	(5)				(3)	(2)
DUI	6	(Session 5)			(6)				(4)	(4)
Illicit Drug Harm	7				(8)					
Relationship of Use to future opportunities	8	(Session 6)	(7)	(7)	(1)				(5)	(5)
School/Community Problems/Resources	9	(Session 1)	(2)	(2)	(2)				(1)	(6)
Laws	10		(5)	(5)	(7)					
Advertising influencers	11	(Session 7)	(8)	(8)	(9)				(6)	(3)
Dealing with pressure to use	12	(Session 8)	(9)	(9)					(7)	(3)*[2]
Positive ways to have fun	13									
Taking Action	14	(Session 2)	(3)	(3)	(3)					
Closure	15									
Community Service Project	Community Service Project	Community Service Project	√	√	√				√	√

Interpreting table:

- Column (1) contains the curriculum's topical sessions (abbreviated to fit column).
- Column (2) describes the sequence and numbers of session in the fidelity curriculum.
- Column (3) demonstrates the modifications made under the grant. The description of the Session and number in parenthesis, e.g. (Session 1), demonstrates the suggested sequence of modified sessions aligned to the developer's session number.
- Columns (4) – (6) indicate Site implementation. Three schools participated in the implementation in school year 05-06. Beneath each Site column, we list Instructors (#1 through 8). In parenthesis, we then list the sequence of actual sessions delivered. A (1) means that particular developer's session was offered first, followed by (2), (3), etc.

[1] Topics Abbreviated
[2] Instructor combined sessions 11 and 12

- Reading across: We identify the suggested implementation time period (i.e. 15 weeks). We then identify the maximum suggested implementation period under the Modification (8 weeks). Under each instructor number (Ins 1 – 8), we list the actual implementation time reported by site and by instructor.
- Note: Instructors 4, 5, and 6 from Site 2 did not respond to requests for information about the sequencing of sessions or actual sessions covered/community service projects completed.

From Table 12 above, we see that of the recommended eight sessions in the Modification, four instructors implemented seven (88%) and two instructors implemented five (63%) sessions. Three instructors added sessions included in the developer's fidelity curriculum that were not required under the Modification. The five instructors providing feedback implemented community service projects with students. While three instructors did not respond to follow-up, this does not mean instructors did not implement the curriculum and/or did not meet fidelity to the modification, only that information about implementation was not provided.

In summary: based on the information available from instructors, none of the instructors implemented the full 15-session curriculum and none fully implemented the Modification (8 sessions). Two delivered more than 8 sessions, by adding sessions not required under the Modification. Three of five instructors addressed DUI, and two did not. Those two however, did address the session on Laws.

Time and Resources

Discussed in an early section, barriers to implementation of prevention programs at the high school level are uniquely tied to time. The priority focus of high schools is to ensure graduation requirements are met, and that students are prepared to enter higher education and/or have employment skills upon graduation. Emphasis on state testing at the 10^{th} grade level, as well as meeting minimum graduation requirements imposed by the State of Florida, eliminate time available to teachers and students to devote to prevention education. As discussed in the process findings for SADD, high schools also have eliminated activity periods in order to increase time available to meet academic/graduation requirements. Since students are required to complete one of three courses under state-standards and guidelines (Health, Life Management, or Personal Fitness), a decision was made to integrate the TAOD curriculum within these courses. Noted previously, essential sessions were identified by the developer and SDFS resource teachers. This approach served to overcome time barriers. By aligning sessions to state-standards teachers were more willing to incorporate TAOD with existing curriculum, as a means to fulfill state-standards within respective courses. These strategies and their effectiveness will be discussed more fully in the Outcome findings for TAOD.

Resources were adequate to meet implementation and evaluation needs. Teachers at the three intervention sites received curriculum materials, as well as worksheets reproduced by the District, and materials and supplies necessary for students to complete community service projects. SDFS resource teachers and the grant's project director visited classrooms and offered support and assistance to classroom instructors.

Readiness and Qualifications of Facilitators and Instructors

The eight instructors participating in the intervention were established health education teachers, delivering curriculum that focused specifically on Health Education, Life Management, and/or Personal Fitness. Classroom observations and key informant interviews conducted by program evaluators showed that these teachers had great knowledge of and familiarity with health education, health promotion, and risk reduction methods and theory. Compared to other district prevention programs observed by evaluators, these instructors appeared to have greater baseline knowledge than other types of classroom facilitators. Instructors were trained twice prior to implementation: in Spring 05 with the developer, and again just before school started in August 05. While feedback from three instructors was missing at the time this report was written, most instructors reported liking the materials. It is worth noting at least four of the eight instructors continued delivering the program after the intervention ended to new groups of students. These instructors also presented and trained teachers from 06-07 intervention sites in April 06.

Fidelity to the Management Plan and Design

The original management plan and program design envisioned Teacher training would take place during the summer 05 (Year 1). In fall 05, the grantee envisioned implementing TAOD in three high schools. We also envisioned in winter 06 (second semester), three additional schools would come on line (Year 2). We anticipated teachers would be trained again in summer 06, with three new schools coming on line in fall 06 and winter 07 (Year 3).

In Year 1, teachers were trained in spring and summer 05.

In Year 2, fall 05, three schools implemented the program (with four additional schools serving as comparison sites). The next round of schools was not initiated in winter semester 06, as envisioned. The grant required a six-month post-follow-up assessment. Students beginning program in second semester would cross over school year and grade levels, before receiving the post follow-up. Other analytical issues having to do with maturation effects could potentially eliminate comparability of various cohorts, over time. Crossing over school years also held implication for retention issues. Teachers from new intervention sites (set to begin in Year 3) were trained in April 06.

In Year 3, fall 06, the four school sites that served as comparisons in 05 begin interventions along with one new intervention site (that did not serve as a comparison site in 05). Five new schools have agreed to serve as comparison sites in 06. Because grant activities were delayed in Year 1 due to IRB issues, it is feasible the grantee will request a fourth year, no-cost extension. If so, then 06 comparison sites (N = 5) will deliver the intervention in fall 07. This will bring a total of 13 schools on-line (with the possibility of two new intervention schools added during the fourth year, as well) by the end of the funding period.

Timeline

While the overall grant timeline was delayed due to IRB activities, TAOD followed its established timeline with the exception of design delays related to inception of cohorts in second semester 2006.

Outcome Findings – TAOD Module 2

Discussed previously, the outcome evaluation design of Module 2 (TAOD) utilized Nonequivalent Control Group Design coupled with elements of other designs. These additions allowed examination of specific validity threats created by the unique combinations of school, grade, and prevention-education delivery format. Campbell & Stanley (1963) referred to these as "patched up" designs.

Sampling selection was based on convenience sampling, with the individual serving as the primary sampling unit. Schools served either as intervention or comparison sites. In school year 2005-06, three schools served as intervention sites and four schools as comparison sites. In the first phase of recruitment, schools were invited to join the project either as an intervention or comparison site. Ninth grade students receiving Health Education, Life Management or Personal Fitness curriculum were then recruited to participate in the evaluation component. Only students with written parent/guardian consent and executed youth assents were included in the evaluation sample. Students retained in the analysis consisted of those students with valid and matching pretest and six-month post follow-up surveys.

Description of the Sample

Students were drawn from seven Brevard County high schools. Three schools served as intervention sites and four as comparison sites. At pretest, 230 Intervention students (I) and 210 Comparison students (C) participated in surveys. Table 13 on the next page displays student demographics. Chi-square analysis demonstrated no significant differences between groups at pretest with respect to race and gender. Race and gender of participants approximated those of the community.

Attrition Analysis

Noted earlier, Chi-square statistics calculated for gender indicated no significant differences between groups for participants completing only the pretest measure [$\chi^2 = 0.72$, $\underline{p} = .40$] or participants who were retained for the follow-up posttest [$\chi^2 = 0.03$, $\underline{p} = .86$]. Results of chi-square statistics for race/ethnicity evidenced findings similar to those for gender. No significant differences across race/ethnicity groups were found for participants completing only the pretest measure [$\chi^2 = 5.29$, $\underline{p} = .26$] or those participants who were retained for the follow-up posttest [$\chi^2 = 2.65$, $\underline{p} = .62$].

Some categories for Race/Ethnicity yielded low expected cell frequencies. As a precaution, these data were converted to a dichotomy (i.e., majority and minority). In support of

the initial analysis, the chi-squares based on the dichotomous race variable also was not significant for the pretest only group [$\chi^2 = 0.02$, $\underline{p} = .97$] and the retained group [$\chi^2 = 0.51$, $\underline{p} = .48$].

Table 13. Demographic characteristics of Intervention and Comparison groups.

	Original Evaluation Sample		Pretest Only		Pretest & Follow-up Posstest	
	I (n=230)	C (n=210)	I (n=82)	C (n=96)	I (n=148)	C (n=114)
Gender						
Male	41.3%	38.1%	42.7%	36.5%	40.5%	39.5%
Female	58.7%	68.9%	57.3%	63.5%	59.5%	60.5%
Race/Ethnicity [a]						
Asian	3.9%	3.3%	3.7%	3.1%	4.1%	3.5%
African Am./ Black	7.0%	7.1%	12.2%	5.2%	4.1%	8.8%
Hispanic	5.7%	6.7%	6.1%	9.4%	5.4%	4.4%
White/Caucasian	80.4%	78.1%	76.8%	77.1%	82.4%	78.9%
Other	3.0%	4.8%	1.2%	5.2%	4.1%	4.4%

* $p \leq .05$; ** $p \leq .01$.

Further, additional analyses (i.e., analysis of variance [ANOVA]) examined whether the two groups differed on their pretest measures (see Table 14). The ANOVAs looked for pretest differences between those who took both the pre and posttest, and those who did not return for the posttest after taking the pretest (i.e., selective attrition). In addition, the ANOVAs examined possible differential selection which occurs when retention rates differ by group (i.e., Intervention or Comparison). Table 14 depicts the results for the pretest comparisons and attrition analyses.

Table 14. Pretest equivalence results across groups for retention at follow-up posttest.

Effect	Sample (n)		Group		Retention		Retention X Group	
	I	C	F Group	η^2 Group	F Retain	η^2 Retain	F R X G	η^2 R X G
Hrmhlt *	229	210	3.74	.009	.89	.002	5.71 *	.013
Hrmpop	228	200	2.25	.005	2.44	.006	.60	.001
Hrmrlx	223	205	1.37	.003	.04	.000	1.08	.003
Ffeel *	227	209	1.92	.004	10.65 **	.024	1.96	.005
Sayno_d *	230	209	.76	.002	3.90 *	.009	.84	.002
Sayno_t *	228	206	.03	.000	5.35 *	.021	6.29 *	.014
Fitin	230	209	.05	.000	.04	.000	2.42	.006
Bfuse	201	186	1.97	.005	7.51 **	.019	.04	.000
Fuse	229	210	.00	.000	15.67 **	.035	2.92	.007
Suse	230	210	1.90	.004	7.08 *	.016	4.65 *	.011
Know	228	209	2.82	.006	3.07	.007	.78	.002
Offer *	230	210	.00	.000	12.87 **	.029	4.79 *	.011
Accept *	230	210	.42	.001	8.49 **	.019	5.62 *	.013
Influence	230	210	1.15	.003	3.92 *	.009	.38	.001
N3mnth	230	209	.38	.001	4.84 *	.011	1.81	.004
Binge	229	209	.37	.000	10.07 **	.023	1.94	.004
Alc30	229	209	.12	.000	15.78 **	.035	1.56	.004
Atod30 *	229	210	.68	.002	14.21 **	.032	1.22	.003
Atodlife *	227	205	.47	.001	26.86 **	.059	3.17	.007

Note: * $\underline{p} \leq .05$; ** $\underline{p} \leq .01$

Initial Pre/Post = ATOD30 had clear outlier, when removed became NS as indicated in above table.

* in Subscale title indicate Violation of Levene's Equality of Variance; * or ** in statistic indicates significant result.

Inspection of Table 14 reveals no significant pretest differences between the Intervention and Comparison groups. The lack of Group pretest differences indicates that the initial participant pool was relatively homogenous. However, when we looked for pretest differences between those who dropped out of the evaluation versus those who were retained, most variables

yielded significant differences. With the exception of the three perceptions of harm (e.g., health, popularity, and relaxation), the ability to fit-in, and knowledge, all pretest measures evidenced significant differences. These results can be summarized in the following ways.

Compared with those who were retained, drop-outs were:

- More likely to have friends upset if they found out they were using drugs
- Found it harder to say no to alcohol
- Found it harder to say no to drugs
- Had best friends who were more likely to use drugs
- Had more friends who were likely to use drugs
- Thought that more students their age used drugs
- Received more offers and accepted more offers of drugs
- Were more likely to think they'd use in the next three months
- Had higher use rates (binge, 30 day Alcohol, 30 day ATOD, and Lifetime Use of ATOD)

The widespread disparity between the retained and drop-out groups suggests dramatic selective attrition occurred. Indeed, both the Intervention and Comparison groups retained fewer participants than after the immediate posttest, 80% vs. 64% and 78% vs. 54%, respectively. The drop-outs did not reflect any particular gender or race/ethnicity groups.

Two independent explanations for the decrease in retention came from process data collected. Intervention Site 3 had a high proportion of students who endorsed drugs at pretest. While these students participated in posttest surveys, algorithms detected significant inconsistencies in responses.

A second issue had to do with second-semester teachers refusing to release students for posttest. Keep in mind: students receiving the intervention and/or participating in pretest comparison groups were receiving Health Education, Life Management, or Personal Fitness programs during first semester. These classroom teachers had agreed to participate in the study. These classes, however, only implement in high school over a semester.

In second semester, students in intervention and comparison groups were no longer taking Health Education, Life Management or Personal Fitness, but other courses with different teachers. While participating school site administrators agreed to have students released from these classes to participate in group posttests, classroom teachers did not always comply.

It is feasible students endorsing drug use at pretest, were in remedial classes at year end or required more classroom time to prepare for upcoming exams. It is possible teachers made decisions not to release students for testing because they believed these students required more classroom time. It is also feasible students endorsing drug use self-selected out of testing, even when released. Students at Intervention Site 2 and Comparison Site 2 were most affected by teacher decisions to withhold students from testing. Intervention Site 2 and Comparison Site 2

also had the highest number of students endorsing drugs. It is more than feasible some students self-selected out of the testing process.

Outcome Results – Pre and Follow-up Posttest

Methods

Outcome results for Module 2, TAOD derived from a series of repeated measures analysis of variance (ANOVA) analyses. Each repeated measure ANOVA consisted of two main effects (Time and Group) and one interaction effect (Time X Group). The Pretest and Follow-up Posttest measures served as the two levels of the Time main effect, while Intervention and Comparison formed the two levels of the Group main effect.

With the impact of the attrition analyses previously discussed notwithstanding, the interaction effect held the greatest interest in the present study. A significant Time X Group interaction would indicate that the rate of change, between pretest and follow-up posttest, varied between the Intervention and Comparison Group. The presence of a significant main effect for Group would demonstrate that, regardless of when the measures were obtained (i.e., pretest or posttest), mean scores for Intervention and Comparison groups differed. Similarly, the presence of a significant main effect for Time would demonstrate that, regardless of Group membership (i.e., Intervention or Comparison), mean scores for the pretest and follow-up posttest measures differed.

The abbreviated source table for the repeated measure ANOVAs is presented in Table 15. For each effect, eta-square is referenced as a measure of the effect size. The direction of significant results can be interpreted by examining the summary statistics presented in Table 16.

Although not presented, various statistical assumptions of the underlying models were tested, namely equality of error variance (Levene), equality of covariance (Box), and sphericity (Mauchly). Whereas sphericity was maintained throughout the analyses, several outcome measures evidenced violations of error variance and covariance. As might be expected, these violations aligned closely with the results of the attrition analyses, largely reflecting the disparity in outcome measure pretest standard deviation. While generally robust to such violations, the results should be interpreted in light of the attrition results.

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Results

The tables below display scaled outcome results for students completing both the pretest and six-month follow-up posttest. (See Tables 3 and 4 for scale definitions).

Table 15. TAOD Outcome results for pretest and follow-up posttest across groups.

			Time		Group		Time X Group	
Scale	I N	C N	F_{Time}	η^2_{Time}	F_{Group}	η^2_{Group}	$F_{T\ X\ G}$	$\eta^2_{T\ X\ G}$
Hrmhlt[b c]	148	113	1.72	.007	10.30 **	.038	.13	.001
Hrmpop	147	107	5.70	.022	.03	.000	.75	.003
Hrmrlx	143	109	10.35 **	.040	.78	.003	2.96	.012
Ffeel	146	111	1.58	.006	.03	.000	.20	.001
Sayno_d	148	113	1.30	.005	2.31	.009	.10	.000
Sayno_t[c]	145	111	.10	.000	2.91	.011	1.09	.004
Fitin	148	114	5.35 *	.020	1.81	.007	.10	.000
Bfuse[a]	114	88	2.77	.014	.31	.002	4.82 *	.024
Fuse	148	114	25.74 **	.090	5.14 *	.019	2.47	.009
Suse	147	114	10.51 **	.039	16.13 **	.059	1.50	.006
Know	147	113	.06	.000	2.28	.009	.54	.002
Offer[b c]	147	114	22.72 **	.081	4.28 *	.016	.07	.000
Accept[b c]	148	114	16.50 **	.060	5.80 *	.022	.03	.000
Influence	148	114	9.22 *	.034	.44	.002	2.27	.009
N3mnth[b c d]	147	113	25.26 **	.089	5.98 *	.023	2.63	.010
Binge[b]	147	112	14.20 **	.052	1.82	.007	.06	.000
Alc30	148	112	18.83 **	.068	1.78	.007	.30	.001
Atod30[b c]	148	114	24.39 **	.086	2.34	.009	.00	.000
Atodlife[b]	145	109	60.56 **	.194	1.12	.004	1.49	.008

Note: * $p \leq .05$; ** $p \leq .01$

[a] Lower sample size due to inclusion of only those participants indicating that they have a best friend.

[b] Violation of Box

[c] Violation of Levene at posttest

[d] Violation of Levene at pretest

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The table below provides summary statistics outcome measures Time X Group.

Table 16. TAOD summary statistics outcome measures: time by group

			Pretest		Follow-up Posttest	
Scale name	I N	C N	I Mean (SD)	C Mean (SD)	I Mean (SD)	C Mean (SD)
Hrmhlt	148	113	4.66 (.34)	4.46 (.60)	4.59 (.62)	4.42 (.71)
Hrmpop	147	107	3.98 (.87)	4.04 (.82)	3.90 (.93)	3.87 (.93)
Hrmrlx	143	109	4.13 (.93)	4.14 (.93)	4.03 (1.07)	3.83 (1.09)
Ffeel	146	111	3.14 (.83)	3.14 (.78)	3.10 (.86)	3.06 (.81)
Sayno_d	148	113	1.48 (.57)	1.59 (.64)	1.45 (.61)	1.54 (.65)
Sayno_t	145	111	1.26 (.38)	1.38 (.47)	1.28 (.51)	1.33 (.50)
Fitin	148	114	3.92 (1.00)	3.78 (1.04)	3.80 (1.05)	3.62 (1.12)
Bfuse	114	88	1.95 (.33)	2.00 (.40)	1.96 (.42)	1.87 (.30)
Fuse	148	114	4.37 (.64)	4.26 (.62)	4.23 (.71)	4.00 (.80)
Suse	147	114	3.53 (.72)	3.27 (.66)	3.44 (.71)	3.07 (.76)
Know	147	113	.54 (.13)	.52 (.10)	.54 (.17)	.53 (.15)
Offer	147	114	1.27 (.49)	1.41 (.65)	1.45 (.78)	1.62 (.79)
Accept	148	114	1.30 (.49)	1.50 (.68)	1.50 (.90)	1.68 (.85)
Influence	148	114	2.99 (.78)	2.86 (.83)	3.06 (.82)	3.07 (.80)
N3mnth	147	113	3.73 (.39)	3.64 (.50)	3.63 (.51)	3.44 (.65)
Binge	147	112	1.59 (.96)	1.75 (1.17)	1.86 (1.32)	2.05 (1.37)
Alc30	148	112	1.78 (1.14)	1.93 (1.21)	2.05 (1.34)	2.29 (1.46)
Atod30	148	114	1.22 (.36)	1.31 (.52)	1.38 (.64)	1.47 (.66)
Atodlife	145	109	1.30 (.54)	1.35 (.56)	1.48 (.74)	1.60 (.78)

Combining the results from Tables 15& 16, a couple of themes emerge. First, not surprisingly, drug use rose at the follow-up posttest. The increased use was clearly evident in the significant Time effects for Binge, 30-day alcohol, 30-day drugs, and lifetime use. The increase also was reflected in the number of follow-up Offers and Accepts, and the number of participants intending to use in the next three months increased (N3mnth).

Second, Group level effects arose. The Group effects were irrespective of any difference attributable to Time. Overall, Intervention group members (compared to Comparison group members) reported: drugs were very more harmful to their health; that fewer of their friends used drugs; holding perceptions that fewer students their age use drugs; and having fewer offers and acceptances of drugs. Fewer Intervention group members intended to use drugs in the next 3 months than did Comparison group members.

Finally, one interaction effect (Time X Group) was significant. Intervention group members reported a very slight decline in the number of best friends who were using drugs (see BFUSE). By comparison, the number of best friends using drugs, as reported by Comparison group members, increased at a sharper rate.

The table below examines pretest to six-month follow-up posts for the GPRA measures Binge Drinking, Risk of Harm, and Peer Approval of Use (See Table 3 for scale definitions).

Table 17. GPRA outcomes: Pretest to follow-up posttest

		Pretest Baseline		Follow-up Posttest	
Scale name	Group	Ratio	Percent	Ratio	Percent
BINGE	Intervention	10/148	6.8%	16/147	10.2%
	Comparison	15/113	13.3%	24/113	21.2%
HARM	Intervention	147/148	99.3%	142/148	95.9%
	Comparison	109/114	95.6%	108/113	95.6%
FEEL	Intervention	126/146	86.3%	129/148	87.2%
	Comparison	103/114	88.1%	93/111	83.8%

The increase in binge drinking was sharper for the Comparison group than the Intervention group. As a result of the obvious ceiling effect, the perception of harm remained high for both groups. For friends' attitude, less than 1% of Intervention group members reported a change in friends' approval of drug use from pre to six-month post. However, at posttest, 5% more students in the Comparison group evidenced increased peer approval for drug use.

Discussion of Results

While attrition played a role in the findings for TAOD, Module 2, findings from this particular grant component were largely positive. Noted in the Results section of this report, three intervention and four comparison sites participated in the evaluation study. Instructors (N = 8) from intervention sites were trained twice prior to implementation. The first training was provided by the developer. The second training trained instructors to implement a Modified intervention which reduced by half the number of sessions implemented, integrated sessions with existing curricula, and interwove sessions with state-standards. Process evaluation results showed that five of eight instructors provided feedback about implementation, including session/sessions sequence delivery. Of the five providing information, four instructors implemented 88% of the Modification and two implemented 63%. One instructor delivered half of the Modification sessions and supplemented with five additional sessions from the fidelity intervention. The Modification to the original, fidelity intervention designed by Lions-Quest International was made to accommodate time barriers to implementation of prevention programs in high schools. Schools were adequately resourced to provide interventions and participate in the evaluation.

Noted previously, instructors received two trainings prior to implementation. Observations and key informant interviews conducted by the evaluators, however, showed substantial differences between TAOD instructors and instructors of other prevention programs in the District (not funded under this initiative). Specifically, TAOD instructors were established health educators, familiar with health education and health promotion theory, as well as risk-reduction theory and application. In other prevention programs, interventions are sometimes led by science teachers or language arts teachers who may not be grounded in health theory and application. We believe the baseline knowledge TAOD instructors had with respect to theory and risk-reduction may have played an important role with respect to the achievement of certain outcomes. This finding holds suggestive implication for the skills needed to effectively implement prevention programs in schools.

While some project elements of this initiative were delayed due to IRB activities, TAOD stayed on timeline. However, due to issues related to the six-month post follow-up (i.e., attrition and maturation created by crossing over grade level), the second cohort of intervention sites was delayed until fall 06. The grantee modified its implementation plan and anticipates have 50% of schools on line by the end of the 06-07 school year, and nearly 100% on line if the project requests a no-cost, fourth-year extension. Teachers representing Cohort 2 intervention sites in 2006-07 were trained in April 06, and trained by peer-educators: those instructors from the first Cohort, along with SDFS resource teachers. Cohort 2 teachers also received preliminary evaluation findings, demonstrating initial success of the program, when modified. Five schools agreed to participate as comparison sites for Cohort 2 intervention sites.

Attrition may have compromised the full ability of the project to produce outcomes. At posttest, the project lost 36% of the Intervention Group and 46% of the Comparison Group. Attrition analysis demonstrated no pretest differences with respect to gender/race between those who took the pretest and posttest. Differential analysis showed no other pretest differences

existed between the Intervention and Comparison groups. However, attrition analysis (those who dropped vs. those who stayed) showed that students who endorsed drug use and held inappropriate attitudes toward drug use did not participate in posttests in either the Intervention or Comparison groups. These findings suggest dramatic selective attrition occurred. Further drop-outs did not reflect any particular gender or race/ethnicity groups.

These findings also suggest caution should be used when interpreting results for Cohort 1. First and foremost, we see that students in both groups (Intervention & Comparison) significantly increased drug use over time: Binge drinking, 30-day alcohol, 30-day drug use, and lifetime use.

However, when we compared the two groups, Intervention significantly and positively outperformed Comparisons with respect to: Perception of Harm, Friends Using, Holding Appropriate Normative Beliefs about Use, and Fewer Offers/Acceptance of Offers of drugs. Intervention group members also expressed lower intentions to use in the next three months.

Only one Time x Group interaction was detected, again with Interventions outperforming Comparisons. Intervention students showed a very slight (non-significant) decline in the number of best friends using drugs; whereas the Comparison group significantly increased the number of best friends using.

Two other non-significant findings were remarked upon, both moving in the right direction for the Intervention Group: Fewer Intervention students Binged at posttest compared to Comparisons; and more Intervention students perceived Peer Disapproval than Comparisons. Again, these findings were not significant, but indicated movement in the right direction.

Attrition Implications

Students who dropped from the study endorsed drug use and held inappropriate drug use attitudes. We cannot predict whether findings would have changed for the better or worse, had the students who dropped from the Intervention and Comparison study groups actually participated in posttest.

However, because the same types of students dropped from both groups, we can speculate—and we use that word with caution—that the Modified Intervention was effective for students who endorsed low drug use and held somewhat appropriate attitudes toward drug use (i.e., as a form of Primary Prevention). Students in the Intervention group nonetheless increased drug use, however not to the levels evidenced in Comparison groups.

These findings are even more promising when we consider they represent findings from a six-month post follow-up. Meaning, students in the Intervention Group had not had further exposure to the intervention since first semester. And, because no other prevention programs were offered in high school, it is unlikely they would have received additional interventions between the first and last posttest (at school). Typically, for prevention programs to be effective, students must be "boosted" with additional doses in later years (e.g. Life Skills Health Training,

Second Step Violence Prevention). The fact that students remained "improved" at six months is promising.

Grant planners should examine methods to encourage greater participation in posttest assessments by teachers (releasing students) and students who may endorse drug use/hold inappropriate attitudes toward use. While the inclusion of these students might change overall group outcomes, additional analyses might further support the use of the Modified TAOD as a Primary Prevention method for students reporting no/low use, etc. We also might find declines in use by those students initiated (i.e., those who dropped out of the study).

Noted previously, Site 2 did not provide full information about implementation. It is recommended that these data be collected in arrears, with subsequent dosage analysis re-run, factoring in the missing site. Given Cohort 2 (fall 2006) will be larger, it is worthwhile for program planners to devise with the evaluators, methods to better assess on a more frequent and timely basis, the implementation of sessions by intervention sites. Combined with larger samples, these data may go a long way toward explaining effectiveness of the Modified intervention, as well as key components of the intervention (e.g. which sessions contribute most to project outcomes).