



# SHORT-TERM IMPACT OF STARS

(Student's Today Aren't Ready for Sex)

**2000**



Submitted By:  
David Dowler PhD

A partnership between the  
Oregon Health Division,  
Program Design and Evaluation Services

&

Ronald Taylor, Project Director  
Ellen Pimental, Project Coordinator  
Adult and Family Services Division,  
Project Management Team

For further information contact  
Ronald Taylor (503) 945-6086  
Ronald.Taylor@state.or.us  
or  
Ellen Pimental (503) 945-6133  
Ellen.Pimental@state.or.us

## *Table Of Contents*

Executive Summary	1
Introduction	4
Section One: Student Surveys	5
Methodology	5
Results	7
Sample Characteristics (Demographic variables)	7
Results for the Total Sample	8
Conclusions and Limitations	16
Section Two: Teen Leaders, Adult Facilitator, and Teacher Surveys	19
Methodology	19
Results	20
Teen Leaders	20
Adult Facilitators	21
Teachers	21
Appendices	
Appendix 1: Methods	23
Appendix 2: Flow Chart for STARS Sample	28
Appendix 3: Frequencies: Schools and Sample Strata	29
Appendix 4: Frequencies: Student Surveys	30
Appendix 5: Frequencies by Student Demographic/Risk Characteristics	38
Appendix 6: Frequencies: Teen Leader, Adult Facilitators, Teachers Surveys	40
Appendix 7: Student Surveys Time 1, Time 2	53

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<i>School</i>	<i>City</i>	<i>School</i>	<i>City</i>
Brixner Junior High School	Klamath Falls	McLoughlin Middle School	Medford
Condon Elementary School	Condon	Mt. Tabor Middle School	Portland
Estacada Elementary School	Estacada	North Marion Middle School	Aurora
Falls City Elementary School	Falls City	Pilot Butte Middle School	Bend
Fernwood Middle School	Portland	Portsmouth Middle School	Portland
Harrisburg Middle School	Harrisburg	Rogue River Middle School	Rogue River
Howard Street Charter School	Salem	Siuslaw Middle School	Florence
LaGrande Middle School	LaGrande	Walker Middle School	Salem
LaPine Middle School	LaPine	West Elementary School	Stanfield
Lincoln Middle School	Oakland	Willamina Junior High School	Willamina

# Executive Summary

## Overview of STARS Program

STARS (Students Today Aren't Ready for Sex) is an abstinence education teen pregnancy prevention program aimed at sixth and seventh graders that is taught by peers (Teen Leaders are 4-6 years older). These Teen Leaders deliver the message, "It is best for teens not to have sex." It is a skills-based program that provides young adolescents with practical skills in how to say "no" to unwanted pressure. The curriculum is typically presented once a week in a classroom setting over a five week period.

### Study Methods

This report presents results from a group of surveys administered in the Spring of 2000 to evaluate the short-term impact of the STARS program. Two surveys were administered directly before and after the STARS program (Time 1 and Time 2) with the same group of 1,396 sixth and seventh graders taken from a random sample of 20 schools across Oregon. The sampling design guided the selection of schools so the results would be representative of all students participating in the STARS program around the state. Three additional surveys collected views about the program from Teen Leaders, Adult Facilitators, and Teachers.

### Results from Student Surveys

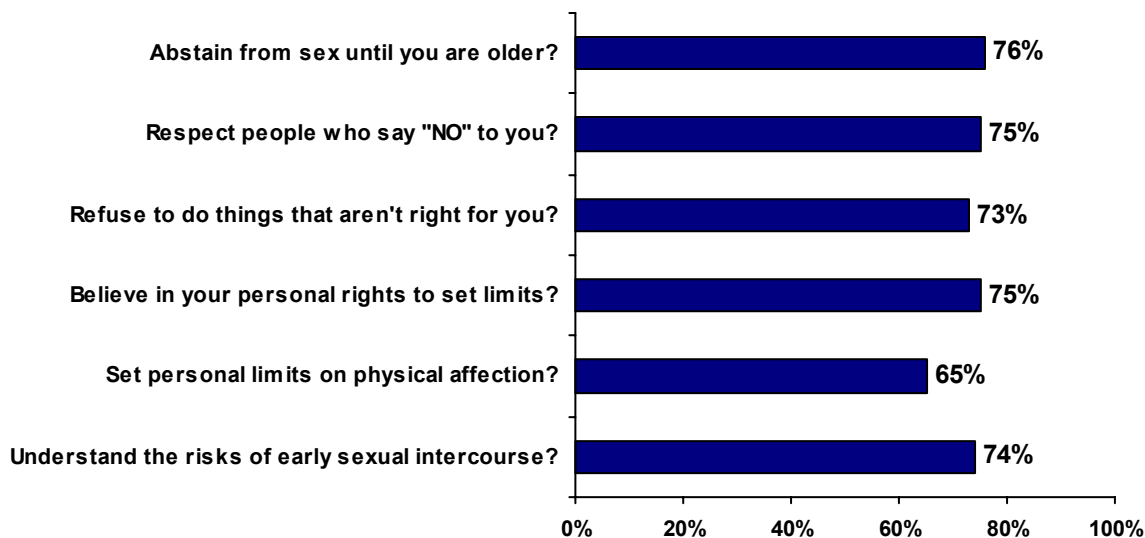
**School and Student Participation.** The final sample shows a high participation rate among schools (81%) and students (95% participation pre-STARS survey and 91% post-STARS survey), indicating a satisfactory representation of the target population. Smaller schools and schools from less urban areas were slightly over-represented in the sample.

### Survey Results

**Student Satisfaction with STARS.** Students gave high praise to the program on six items asking for how much STARS helped them across a variety of program-related goals (roughly 3/4 of the students said STARS helped them "a lot" on five of the six questions).

#### How much did STARS help you to:

(Percent answering "a lot")



**Overall Student Results.** Results for the total sample of students showed clear improvement in many of the targeted knowledge and attitude outcomes.

- A. Students on average were much more likely to give the desired response after participation in STARS on survey items related to knowledge of sexuality, media messages, and norms for peer sexual behavior (the desired response went up between 10 to 52 percentage points for each item).
- B. More students responded in the desired way after STARS on four of five questions related to refusal skills (ranging between an increase of 5 to 31 percentage points per item).
- C. Students' projected response to peer pressure to have sex improved after STARS (improvements ranged between 10 to 19 percentage points per item).
- D. There was no evidence of a program effect on students' intention to be sexually involved in the future. This, in part, may be due to the high number of students at Time 1 (almost 90%) who said that they would wait until they were older to have sex.

**Use of STARS Skills to Respond to Peer Pressure.** Very few students reported having been pressured to do something (have sex, use drugs or alcohol, something else you didn't want to do) since being in the STARS program. This is quite understandable since the post-STARS survey was administered within two weeks after completion of STARS. For the small minority of students reporting they had faced some type of peer pressure, many had used their newly learned STARS refusal skills.

**Advice to Hypothetical Student Considering Sex.** Roughly 90% of the students at both times said they would advise a fellow student considering sex not to do it. After participation with STARS there was a tendency for reasons not to have sex to shift toward more concrete consequences, such as the possibility of disease and/or pregnancy.

**Results for Different Groups of Students.** The various study outcomes were analyzed separately across breakdowns by gender, grade, race/ethnicity, school region and size, current school rank, educational plans, and family situation. Results show that:

- A. Overall very few subgroup differences emerged, suggesting that STARS works equally well for all groups of students.
- B. Girls were slightly more likely than boys to change toward the desired response on three items measuring projected response to pressure to have sex, and one item related to behavioral intention - wanting to wait until older to have sex.
- C. Students living with their mom and dad were more likely than students in some other family situation to change toward the desired response on two items measuring projected response to pressure to have sex, and one behavioral intention item—wanting to wait until older to have sex.
- D. There was a greater likelihood of positive change for those with higher self rank in school performance on one item measuring projected response to pressure to have sex.

**Student Characteristics.** Students who completed both surveys had the following characteristics:

- A. Two-thirds were in the 6<sup>th</sup> grade and one-third were in the 7<sup>th</sup> grade.
- B. Half were female and half were male.
- C. 77% were White, 7% Latino, 5% American Indian, 4% African American, 3% Asian/Pacific Islander, and 3% Multi-Cultural.
- D. Almost 60% lived with their mother and father, 15% lived with either their mother or father plus another adult, and more than 20% lived with just one parent.

## **Conclusions**

Overall the STARS program appears to be working as intended to improve student knowledge and attitudes important for personal decisions to delay sexual involvement. These results appear to be true as measured immediately after the end of the program. The next evaluation challenge will be to assess whether the program has an influence on knowledge, attitudes, and especially behaviors at intermediate and long-term points in time.

### **Results from Teen Leader, Adult Facilitator, and Teacher Surveys**

Surveys were distributed at the end of the program to participating Teen Leaders, Adult Facilitators, and Teachers at the 20 schools used for the student surveys. Though not a formal evaluation of outcomes, results offer useful supplemental information about the delivery of the STARS program. The Teen Leader surveys numbered 92 (46% response rate), while Teacher surveys numbered 48 (85% response rate) and Adult Facilitator surveys numbered 23 (65% response rate).

Considering the three surveys together, a clear pattern emerged suggesting a high degree of satisfaction with the training of Teen Leaders, the delivery of the program by Teen Leaders, the engagement of students in the program, and the supportiveness of the Adult Facilitators. Teen Leaders particularly liked the STARS program because it helped them develop leadership skills, it showed they could make a difference, and because they enjoyed working with the sixth and seventh graders. Sixty percent said their participation had played a very important role in their life, and 99% said they would encourage their friends to apply to be a STARS leader.

The results pointed to a few concerns for the program. Teen Leaders expressed concern about missing their own classes. Other results showed concerns around the lack of teacher participation, the perceived need for follow-up sessions, and the need for a better reflection of student racial/ethnic diversity in the Teen Leaders.

## Introduction

### Purpose of this report

This report is an evaluation of surveys administered to participants of the STARS project in the Spring of 2000. The first section presents results of student surveys administered before and after implementation of the STARS program in 20 schools throughout Oregon. The second section presents results from surveys administered to Adult Facilitators, Teachers, and Teen Leaders from the same 20 schools after implementation of STARS.

### Overview of STARS program

STARS ( Students Today Aren t Ready for Sex ) is an abstinence-education teen pregnancy prevention program aimed at sixth and seventh graders that is taught by peers (Teen Leaders are 4-6 years older). These Teen Leaders deliver the message, It is best for teens not to have sex. It is a skills-based program that provides young adolescents with practical skills in how to say no to unwanted pressure. The curriculum is typically presented once a week in a classroom setting over a five-week period.

It focuses on:

- How the media influences choices about sexual involvement;
- Exploration of misconceptions about peer norms and behavior related to sex;
- Different types of relationships and why peer pressure is the most difficult type of pressure to handle;
- Learning assertiveness skills in resisting pressure to have sex.

The program was adapted from the Postponing Sexual Involvement (PSI) Program developed by Dr. Marion Howard at Emory University.

# SECTION ONE: STUDENT SURVEYS

## Methodology

### Design and Measurement

This evaluation assesses student responses before and after administration of the STARS program. Surveys were administered a short time (within two weeks) before and after the program to investigate immediate or short-term gains in program-related knowledge and attitudes. The same students filled out the surveys at both times, and pre- and post-surveys were linked for each student. This is known as a pre/post panel design with no control group. The sample of students was designed to be representative of all students participating in STARS across Oregon.

Surveys were developed and pilot-tested in 1997 and 1998 by an evaluation team under contract with the STARS Foundation. The four page survey assessed students :

- Knowledge about sexuality and peer beliefs and behavior.
- Attitudes toward dealing with peer pressure.
- Behavioral intentions related to sexual involvement.
- Rating of STARS (time 2 only).
- Use of STARS skills (time 2 only).
- Demographic information (age, grade, gender, race/ethnicity).
- Other background / risk information (living arrangement, parents education, current rank in school, educational plans, previous sexual intercourse).

### Sample and Response Rate

The sample was carefully designed so that the responses would be representative of the target population students at Oregon schools that currently participate in the STARS program. A two stage stratified sample design guided sample selection. Further details of the sample selection are available in Appendix 1.

Participation rates at each stage of the sample selection (stage 1 schools, stage 2 students within schools) support the notion that the study sample is representative of the target population. The participation rate for schools was 81% (17 of 21 eligible schools from original sample) and for students was 95% and 91% for time 1 and 2 respectively. A flow chart that details the path to the final sample across both stages of sample selection can be found in Appendix 2.

Table 1 on the following page displays differences in percentages between the target population and the final study sample within the levels of each strata. This shows that the sample is somewhat biased toward (over-representative of) students from small schools

and students from the less urban areas outside the Portland metropolitan and Willamette valley regions.

Table 1: Percentage differences between target population and sample

<b>Strata</b>	<b>Strata Level</b>	<b>% in Population</b>	<b>% in Sample</b>
<b>Region</b>			
	Central	7%	18%
	Coastal	7%	7%
	Eastern	3%	12%
	Portland Metro	39%	18%
	Southern	13%	22%
	Mid Valley	30%	24%
<b>School Size</b>			
	Large	81%	66%
	Small	19%	34%

### Analysis Strategy

#### **Did participation in the STARS program have an impact on student knowledge and attitudes?**

This is the primary question for this evaluation. To answer this question time 2 answers were compared to time 1 to test for significant increases in the desired response.

Outcomes were divided into the following areas:

- Knowledge about sexuality, media influences, and peer norms for sexual behavior (8 items looked at separately and also combined into a knowledge scale).
- Attitudes toward proper response to peer pressure (5 items looked at separately and also combined into an attitude scale).
- Projected personal response to pressure to have sex (3 items).
- Behavioral intention related to sexual involvement (3 items).

Additional outcomes were only asked at time 2:

- Rating of how much STARS helped (6 items).
- Use of STARS skills (3 scenarios).

#### **Are changes in responses different across student subgroups?**

This secondary question evaluates the extent that STARS impact is different for various subgroups as defined by demographic (age, grade, gender, race/ethnicity, school size, school region) and risk characteristics: (living arrangement, current rank in school, educational plans). These subgroups are also used to evaluate possible differences in responses for items only asked at time 2.

Details about the technical aspects of the analysis are provided in Appendix 1.

## Results

### Sample Characteristics

The following section displays percentages for the major demographic characteristics of the 1396 students. Breakdown by school region and school size are displayed under the Methods section.

#### 1. Grade

6th	63%
7th	37%

#### 3. Gender

Female	50%
Male	50%

#### 2. Age

11	19%
12	53%
13	26%
14	2%

#### 4. Race/ Ethnicity (65 missing: 5%)

African American	4%
Latino	7%
White	77%
Asian/ Pacific Islander	3%
American Indian	5%
Multi Cultural	3%

Other student information was collected on the following risk characteristics. This information could theoretically influence outcomes with the STARS program and is presented in tables below:

#### 5. Current Self-Rank in School

Near bottom	3%
Below middle	6%
In middle	41%
Above middle	31%
One of best	18%

#### 7. Living Arrangement

Mom and dad	59%
Mom or dad plus other adult	15%
Mom alone	19%
Dad alone	4%
Neither natural parent	2%

#### 6. Future Plans

Quit school ASAP	1%
Finish high school	6%
Some college	12%
Finish college	49%
Post college	32%

#### 8. Living Arrangement (by 2)

Mom and dad	59%
Other arrangement	41%

## Results for the Total Sample

1. Knowledge about sexuality, media influences, and peer norms for sexual behavior.
2. Attitudes toward proper response to peer pressure.

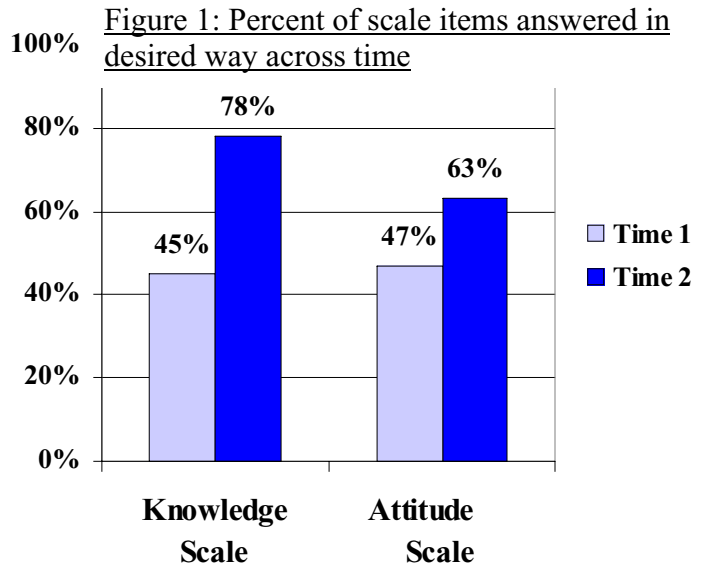
On the first page of the survey, students were asked what do you think? on a list of statements to which they responded true, false, or don't know. These items and the percent of students answering the desired way for time 1 and time 2 are displayed in Table 2 along with a grouping of these items into 2 summary scales. Don't know responses were considered undesirable answers for these calculations. Desirable answers (T=true and F=false) are indicated in the table. Full percentages are presented in Appendix 4.

Table 2: Percent giving desired response, items 1-13

<b>1. Knowledge Scale</b>	<b>Time 1</b>	<b>Time 2</b>	<b>Change</b>
Items 1-8 (combined into Knowledge Scale )			
1. A girl can get pregnant the FIRST time she has sex. (T)	61%	97%	+36%
2. Most boys in middle school are too young to get a girl pregnant. (F)	40%	77%	+37%
3. Over 80% of Oregon middle school students are NOT having sex. (T)	42%	86%	+44%
4. Overall songs, TV shows, and magazines show both the negative and positive things about kids having sex. (F)	20%	38%	+18%
5. AIDS and other sexually transmitted diseases (STDS) don't affect many teens. (F)	75%	85%	+10%
6. Used right, condoms are 100% effective in preventing pregnancy and sexually transmitted diseases (STDs). (F)	50%	83%	+33%
7. Most teens think it is best to wait to have sex until they are older. (T)	51%	85%	+34%
8. Abstinence is the only 100% sure way to avoid getting pregnant or getting sexually transmitted diseases (STDs). (T)	24%	76%	+52%
<b>2. Attitude Scale</b>			
Items 9-13 (combined into Attitude Scale )			
9. You ALWAYS have the right to say NO when someone asks you to do something sexual that you don't want to do, no matter who that person is. (T)	97%	97%	0%
10. The best thing to do when someone asks you to do something you don't want to do is to give reasons and excuses to put them off. (F)	23%	54%	+31%
11. When you want to be respected, it is important to give lots of reasons for what you feel. (F)	12%	17%	+5%
12. If someone keeps pressuring you after you say NO a couple of times, it is good to ask them why they keep pressuring you. (T)	65%	95%	+30%
13. No matter how you say NO, most people will get their feelings hurt and probably be mad at you. (F)	42%	53%	+11%

This table provides evidence that the STARS program has a major impact on student knowledge and attitudes for all but one of these items ( $p < .001$ ) immediately after the program. Item 9 shows no change but the vast majority answer in the desired way at time 1. Items considered as part of a Knowledge scale appear more easily influenced by the program, as 7 of 8 items show increases of 32 percentage points or more. Comparatively, 2 of 5 of the items related to proper response to peer pressure (Attitude scale items) show similarly large increases. It is clear that item 11 represents a confusing issue for many students (whether it is important to give lots of reasons for what you feel) as very few answer this in the desirable way at time 1 and there is very little improvement. Similarly, relatively little improvement occurs for item 13 which may indicate that the program could do more with the mistaken notion that saying no usually leads to hurt feelings and anger. The large change for question 8 (+52%) could be in part due to the clarification of the term abstinence rather than a shift in attitudes: full percentages on that item show that don't know responses move from 64% to 14% from time 1 to time 2.

Figure 1 depicts the average percent of items answered in the desired way for the Knowledge and Attitude scales across time ( $p < .001$  for change). For example, on average students answered 45% of the Knowledge scale items in the desired way at time 1 (3.6 items out of 8). This rose to an average of 78% at time 2 (6.2 out of 8). This summarizes the large differences between time 1 and time 2 that were detailed for the individual items in Table 2.



### 3. Projected personal response to pressure to have sex.

Three questions asked at time 1 and time 2 were tied to the following scenario: What if someone you liked a lot wants you to have sex, and you don't feel you are ready. What would you do? Figure 2 on the following page presents the percentage of students who answer yes, I would do this to the following 3 possible responses:

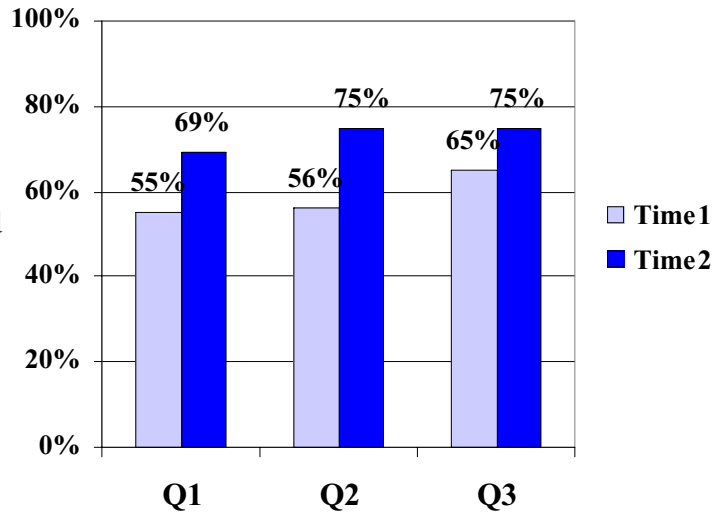
Q1: I would say NO without making excuses or giving reasons.

Q2: If this person kept pressuring me, I would say NO again and tell them how the pressure makes me feel.

Q3: If this person still pressured me, I would suggest something else or walk away even if the person was unhappy or angry.

\*Other possible responses: maybe , no , don t know

Figure 2: Time 1 and 2 percentage with response yes, I would do this \*.



These changes from time 1 to time 2 (+10% to +19%; all significant at  $p < .001$ ) provide evidence that the STARS program improves how the students project they would respond to pressure to have unwanted sex.

4. Behavioral intention for being sexually involved.

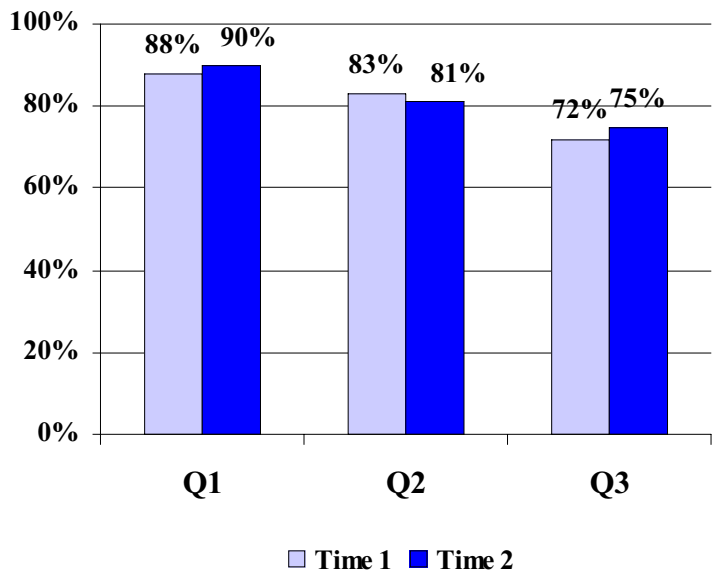
Three questions asked about behavioral intention. Figure 3 displays the change in time for the desired response. There are negligible differences over time, and no clear pattern over the 3 items, which suggest that the STARS program had no influence on behavioral intention as asked by these questions. Complete frequencies for these items are displayed in Appendix 4.

Figure 3: Time 1 and 2 percentage answering desired response: 3 behavioral intention items

Q1. I want to wait until I am older to have sex. (% answering true )

Q2. Before you start high school (in the next 2 or 3 years). If someone wanted to have sex with you, what would you do? (% answering definitely would not or probably would not )

Q3. How likely do you think it is that you will have sex while you are a teenager? (% answering certain I won t or probably won t )



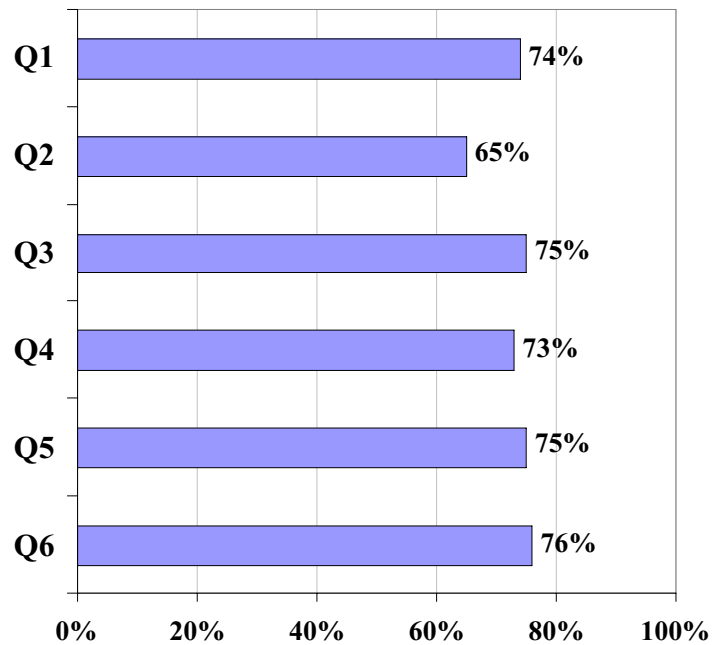
## 5. Rating of STARS.

Six questions at time 2 asked the students to rate how much the STARS program helped them in 6 categories as listed below. Students answered a lot, a little, not much, or not at all. Figure 4 displays the percentage of students who answered a lot for each item, and show very positive ratings for each of the components. The total percent answering not much or not at all was 11% or below for each item (see Appendix 4).

How much did STARS help you to:

- Q1. Understand the risks of early sexual intercourse?
- Q2. Set personal limits on physical affection?
- Q3. Believe in your personal rights to set limits?
- Q4. Refuse to do things that aren't right for you?
- Q5. Respect people who say NO to you?
- Q6. Abstain from sex (not have sex) until you are older?

Figure 4: Percent answering STARS helped them a lot



## 6. Use of STARS skills.

Students were asked whether they had been faced with certain situations involving peer pressure, and if so had they used STARS refusal skills. Figure 5 below presents the responses. It is clear that while very few students report having faced the situations, many of those that do report using the STARS refusal skills. One reason so few students report facing the situations is likely due to so little time having elapsed between the end of STARS and the time 2 survey.

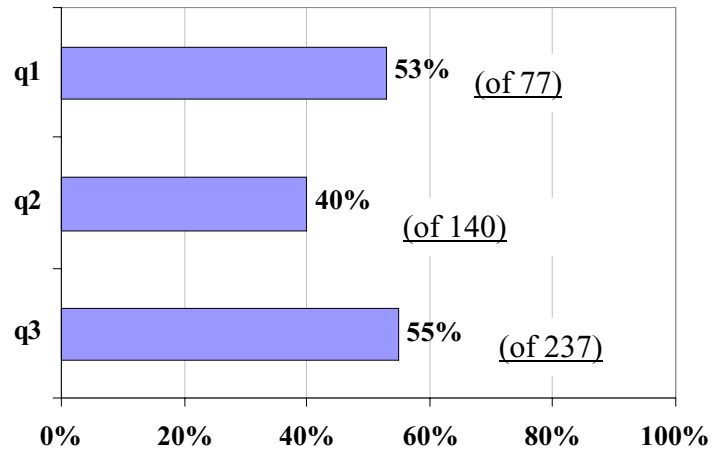
Since being in STARS have you ever been pressured to..

Q1. Get sexually involved when you didn't want to (n=77, 6% pressured)

Q2. Smoke, drink alcohol or use other drugs? (n=140, 11% pressured)

Q3. Do something else that you didn't want to do? (n=237, 19% pressured)

Figure 5: *Of students pressured, % using STARS skills to refuse*



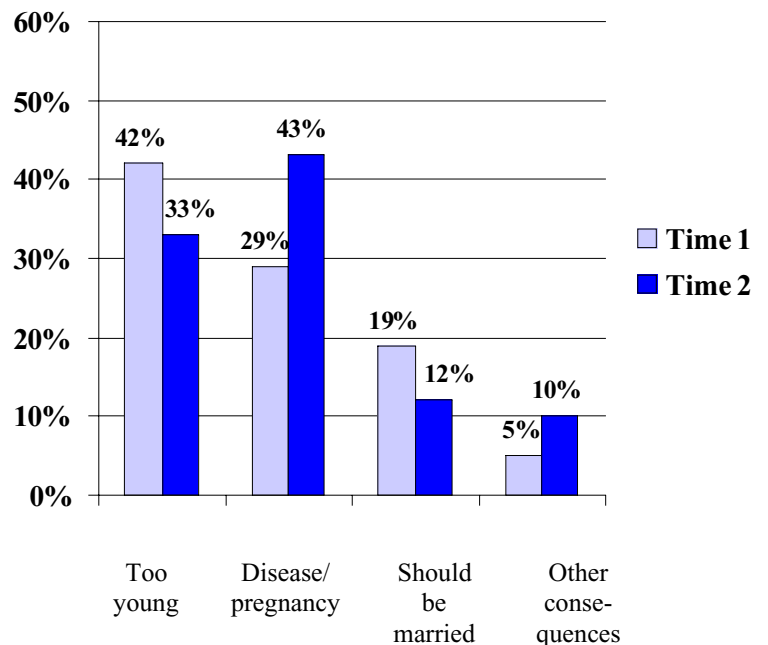
7. Student advice for hypothetical friend considering sexual involvement.

From a content analysis of comments from a random selection of 350 students, it was possible to highlight the major categories of answers students would give to a classmate considering sexual involvement, and to compare answers across time. Relatively few (16%) either left this blank or replied 'don't know'. The large majority of answers took some form of a 'don't do it' response, and this did not change from time 1 (82%) to time 2 (83%). Another category labeled 'I wouldn't, but it's up to you' brought the total of overall 'don't' responses to roughly 90% at each time. Very few (2% at time 1, 3% at time 2) said they would give an unqualified response such as 'go ahead'.

A further analysis looked into the reasons students gave when they said 'don't' (possible for about 2/3 of these responses). The categories and frequencies from time 1 and time 2 are displayed in Figure 6 below.

This figure depicts a tendency for the reasons to shift from 'too young and should be married' to concrete consequences of early sexual involvement, particularly the risk of diseases and/or pregnancy. This suggests that STARS tends to shift students' rationales for delaying sex slightly toward concrete consequences.

Figure 6: *Reasons to not have sex*



## Differences Across Student Subgroups

This section highlights findings from analyses looking at whether there are differences in changes over time between student subgroups as defined by demographic and risk characteristics. This part of the evaluation is interested in the extent that STARS appears to work the same across student demographic and risk groups (for example: Does STARS work equally well for boys and girls? Or for those who rank themselves below average in school performance versus above average? Etc ). The outcomes presented in the previous section for the total sample were analyzed separately for each of the following demographic and risk characteristics:

### Demographic

- Grade
- Gender
- Race/ Ethnicity
- STARS region
- School size

### Risk

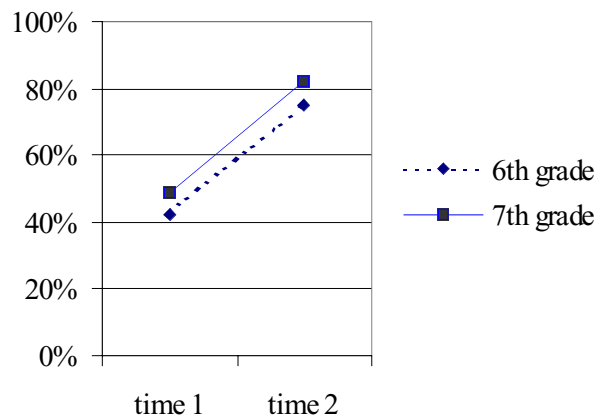
- Current rank
- Education plans
- Family situation (by 2: live with mom and dad or some other arrangement)

1. Knowledge about sexuality, media influences, and peer norms for sexual behavior.
2. Attitudes toward proper response to peer pressure.

Subgroup differences were analyzed by comparing the scores for the knowledge and attitude scales. Although there was evidence for weak relationships between the scale scores and some of the student characteristics, no subgroup differences in change over time met the evaluation criteria as a meaningful difference (see Appendix 1). These findings suggest that STARS is equally effective for students across demographic and risk groups for the knowledge and attitudes measured by these 2 scales.

A typical finding is presented below looking at grade differences for the knowledge scale . There is significant change over time for both groups, and 7<sup>th</sup> graders answer a greater percent of the scale items in the desired way at both time points, but there is no difference in the change over time between 6<sup>th</sup> and 7<sup>th</sup> graders (they both improve +33%).

Figure 7: Change in Knowledge scale scores over time by grade



### 3. Projected personal response to pressure to have sex.

Significant differences emerged for gender, family situation, and current rank in school.

#### a. Gender

A consistent difference between boys and girls occurred for all three of the questions about pressure to have sex. Specifically, comparing boys and girls *who didn't answer in the desired way at time 1*<sup>1</sup>, girls were more likely to change to the desired response at time 2 for all three situations ( $p < .01$ ). This gender difference is displayed in figure 8 below:

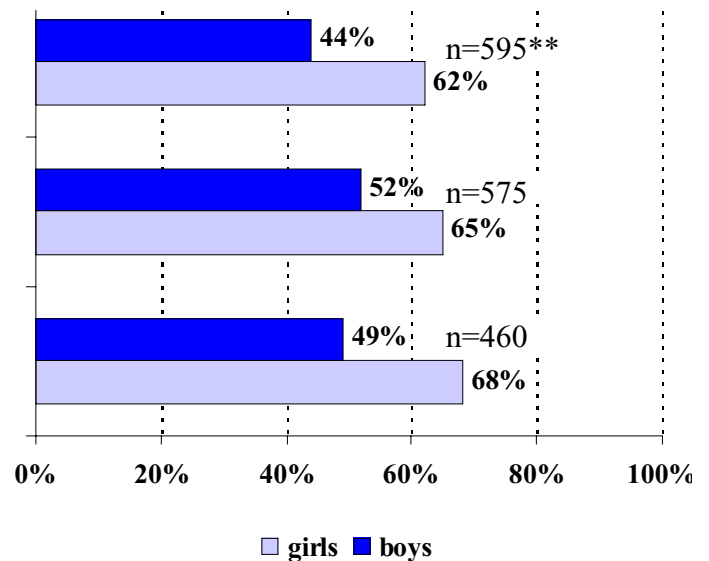
What if someone you liked a lot wants you to have sex, and you don't feel you are ready. What would you do?

Q1: I would say NO without making excuses or giving reasons.

Q2: If this person kept pressuring me, I would say NO again and tell them how the pressure makes me feel.

Q3: If this person still pressured me, I would suggest something else or walk away even if the person was unhappy or angry.

**Figure 8: Response to pressure to have sex: gender**  
Percent who say maybe, no, don't know at time 1, and change to yes at time 2



\*\* Similar to other analyses in this section, comparisons were limited to the 351 boys and 244 girls (total = 595) who answered in the undesired way at time 1, in order to compare how many of this subgroup changed to the desired answer at time 2.

#### b. Living Arrangement and Self-Rank in School

Subgroup differences in change across time also were apparent depending on whether students lived with their mom and dad or with some other arrangement. These differences were significant for Q1 ( $p = .01$ ) and Q3 ( $p = .03$ ) only.

<sup>1</sup> \* These differences are not due to the fact that girls had more room for change at time 1. In fact, at time 1 boys were more likely to answer in the undesired way than girls (e.g. for Q1 at time 1, 351 boys [53%] compared to 244 girls [37%] answered the undesired way of no, maybe, or don't know).

Similarly, current self rank categories differed on Q1 ( $p=.01$ ) and Q3 ( $p=.01$ ). Specifically, those who live with their mom and dad, and those with higher self ranks in school are more likely to change to the desired response *yes, I would do this* at time 2 for situations in Q1 and Q3. These results are displayed in Table 3.

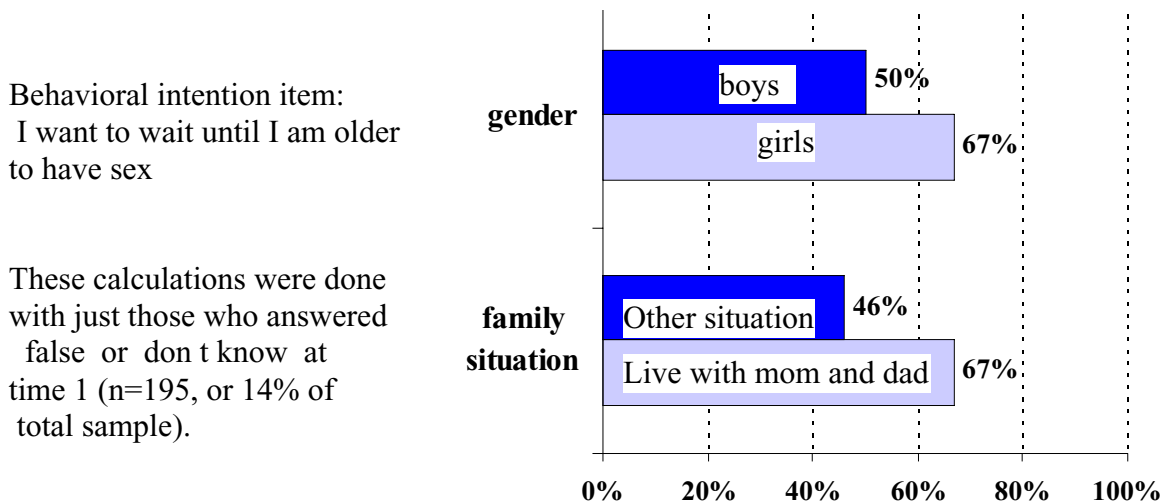
Table 3: Response to pressure to have sex: family situation and current rank.  
*Percent who say maybe , no , don t know at time 1, and change to yes at time 2*

	Family Situation			Current Self Rank				
	Mom and Dad	Other	N	Below middle	Middle	Above middle	One of best	N
Q1: I would say NO without making excuses or giving reasons.	55%	45%	590	47%	46%	53%	64%	592
Q3: If this person still pressured me, I would suggest something else or walk away even if the person was unhappy or angry	61%	52%	454	53%	51%	61%	70%	454

4. Behavioral intention related to sexual involvement.

Small differences emerged for gender and family situation for the item *I want to wait until I am older to have sex* . *These differences should be interpreted cautiously* because so many students at time 1 answered the desired response for the item, and these subgroup differences were done with only those who answered *false* or *don t know* at time 1 ( $n=195$ , 14% of sample). Results are displayed below and show that of those not answering in the desired way at time 1, girls are more likely than boys to change to the desired response ( $p=.02$ ) as are those living with their mom and dad compared to those living in another family situation ( $p=.003$ ).

Figure 9: Behavioral intention: gender and family situation  
 Percent changing from undesired to desired answer



Behavioral intention item:  
 I want to wait until I am older to have sex

These calculations were done with just those who answered false or don t know at time 1 ( $n=195$ , or 14% of total sample).

## 5. Rating of STARS.

Only one subgroup difference emerged when considering the group of 6 items asking students to rate STARS. On a scale that combined these items, scores showed that girls were slightly more positive in their rating of STARS. On the 12 point scale with 12 being the highest rating, girls mean score was 10.3 and boys mean score was 9.4; ( $p < .001$ ).

## 6. Use of STARS skills.

Small numbers hampered the subgroup analysis of differences in the use of STARS skills because so few reported being pressured, particularly to get sexually involved, (just 6% of the total sample). With slightly more students reporting pressure to smoke, drink alcohol or use other drugs (11%) or to do something else that you didn't want to do (19%) it is possible to cautiously explore trends for any subgroup differences. With just these latter two scenarios 2 trends emerged:

- a. Those with plans to graduate from high school were less likely to report using STARS skills for refusing smoking/drinking/other drugs ( $p = .02$ ) compared to those with higher educational plans.
- b. Girls were more likely than boys to use STARS skills to refuse something else they didn't want to do ( $p = .04$ ).

## Conclusions and Limitations

This report has presented results from a survey administered to the same students before and after implementation of the STARS program. Below are some general conclusions when considering all of these results together.

### **Results for the Total Sample**

These are the most important results of this report. There is strong evidence that the STARS program has the intended impact on knowledge and attitudes related to sexuality, ideas about peer norms and behavior, and how to deal with unwanted pressure to become sexually involved. The magnitude of the changes, especially with the 13 items making up the knowledge and attitude scales and the 3 items related to personal projection of handling peer pressure provide strong evidence that the immediate impact of the program worked as intended in building the knowledge, attitudes, and skills important in personal decisions to delay sexual involvement.

There was no evidence that the STARS program had an influence on the group of items measuring behavioral intention related to sexual involvement. One explanation for this lack of change may be a ceiling effect. That is, many of these 6<sup>th</sup> and 7<sup>th</sup> graders currently report low levels of intention to be sexually involved, and there simply is not much room for movement farther toward this program goal. Another explanation is that the behavioral intention questions are not sensitive enough to capture program-related

changes in behavioral intention. In fact, it may be very difficult for students to project what they will do in the future, compared with their current knowledge, attitudes, or behaviors. Of course another explanation is that the program doesn't have as large an influence on intention as it does on knowledge and attitudes. It may be that knowledge and attitude change is necessary but insufficient for changes in behavioral intention, and that more intervention or more time is needed to see influences in this area. It may be important to target evaluation activities in order to compare these competing explanations.

As the student ratings of STARS at time 2 show, most participants in STARS are very positive about the program. A large majority of students answered each of the 6 questions in the most positive way, reporting that STARS had helped a lot in understanding, skills, and behavior covered by program goals. The last group of questions asking about the use of STARS skills since the end of the program offered initial evidence that many students facing peer pressure to do things they do not want to do use their new-found program-generated skills.

### **Subgroup Differences**

Considering the number of outcomes and the number of separate demographic and risk characteristics across which the students were broken down and tested, surprisingly few subgroup differences emerged. This points to a major conclusion: for what STARS does well, it does equally well across different student groups defined by gender, grade level, race/ethnicity, school size, geographical region. There is also very little evidence that risk characteristics such as lower educational ambitions, lower school rank, or a non-traditional family situation (i.e., not living with both original parents) unduly influence the impact of the program in any consistent fashion. This is not to say that there are no demographic or risk subgroup differences between knowledge, attitudes, and behavioral intention to be sexually involved. But it does suggest that overall these inherent differences do not appear to greatly influence the impact of the STARS program.

The clearest pattern of differences occurred between boys and girls, with girls slightly more likely to change toward the desired response of projecting the use of proper refusal skills when pressured to have sex, and wanting to wait until older to have sex. In a sense this reflects one of the challenges for the STARS program how to fashion messages and lessons that work as well for boys and girls.

Students from non-nuclear families (those not living with their mom and dad) exhibited slightly less improvement on projected use of refusal skills when pressured to have sex, though for only 2 of the 3 items. This subgroup of students were also slightly less likely to change toward wanting to wait until older to have sex. One other group difference emerged: students with a higher self-rank in school were more likely to improve in their projected refusal to pressure to have sex.

## Limitations

A primary strength of the evaluation for this assessment of STARS is the pre/post survey design that allows for a comparison of answers before and after program implementation. This is an effective way to test whether the program had an impact on targeted knowledge and attitudes. One limitation might be that there was no comparison group and that changes observed in this study could have been caused by some factor that can't be assessed (e.g., differences could be explained by something other than the program, such as a learning effect from simply taking the survey at time 1, or some statewide media influence that could have occurred by chance at the same time). While this design issue is a relevant one, it is unlikely that something other than the STARS program produced the changes observed:

1. Not enough time elapsed for the change to be explained by a coincidental outside event or natural maturation ;
2. The changes observed are relatively large; and
3. A previous pilot study of the STARS program performed in Multnomah county in 1995 used a comparison group and looked at changes over time and there was no evidence of a learning effect from the instrument itself (i.e., the comparison group showed little change compared to the group exposed to STARS)<sup>2</sup>.

Another strength of this evaluation is the sampling procedure and success achieved with the participation rates of schools and students and also the large number of students in the final study sample. Evidence discussed in this report supports the notion that the sample is representative of the target population and therefore that these results are generalizable to all students who participate in STARS.

It is important to understand where this evaluation fits in the spectrum of program evaluation. This report shows significant change in targeted knowledge and attitudes in the short term, right after the end of the program. This evaluation is not meant to assess either intermediate outcomes (retention of improvements in knowledge and attitudes up to several months to a year) or long-term outcomes (particularly targeted behavior change over several years). Intermediate and long-term outcomes are an important part of program evaluation and present the next challenge for evaluating the STARS program, but are beyond the scope of the current evaluation.

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<sup>2</sup> Personal communication with Barbara Glick. To be presented in *Intermediate Outcomes for the Postponing Sexual Involvement Program: A Demonstration Project for Sixth Grade Students*. In preparation for Family Planning Perspectives.

## SECTION TWO: TEEN LEADER, ADULT FACILITATOR, AND TEACHER SURVEYS

### Methodology

#### Design and Measurement

Three separate surveys were designed to measure general impressions about the STARS program from Teen Leaders, Adult Facilitators, and Teachers involved with the program. Surveys were administered at the end of the program, timed to approximate the student time 2 survey. The surveys covered the following areas:

<u>Teen Leaders</u>	<u>Teachers</u>	<u>Adult Facilitators</u>
<ul style="list-style-type: none"><li>• Assessment of training</li><li>• Experience leading STARS in classroom</li><li>• Assessment of Adult Facilitator</li><li>• Overall assessment of program</li></ul>	<ul style="list-style-type: none"><li>• Student engagement with STARS</li><li>• Teen Leaders effectiveness</li><li>• Overall opinion of STARS curriculum</li></ul>	<ul style="list-style-type: none"><li>• Assessment of program</li><li>• Positive aspects of STARS</li><li>• Negative aspects of STARS</li></ul>

#### Sample and Response Rate

The data collection methods and response rates for the three surveys are summarized below. The sampling strategy was identical to the student survey: eligible Teen Leaders, Teachers, and Adult Facilitators were those who participated in the STARS programs targeted for the pre- and post- surveys of the students (at the 20 schools selected for the study, and listed in Appendix 3).

Teen Leaders: Teen Leader surveys were mailed to Adult Facilitators who were requested to hand deliver the surveys to the Teen Leaders at the last STARS session. Participating Teen Leaders mailed back the surveys. Out of 200 surveys handed out, 92 were returned yielding a 46% response rate.

Adult Facilitators: Adult Facilitators participating in the STARS programs at the 20 selected schools were mailed a survey. Out of 40 eligible facilitators, 26 responded yielding a 65% response rate.

Teachers: Teacher surveys were handed out by project staff at the time of the second student survey. Out of 56 eligible teachers, 48 responded yielding a response rate of 85%.

## **Results**

Full results are presented in the form of frequencies that are inserted into a copy of the formatted surveys and displayed in Appendix 6. Results should be viewed as useful feedback about the program and complementary to the more formal evaluation of student outcomes. Results for Teen Leaders should be viewed as more tentative compared to Adult Facilitators and Teachers because the low response rate (46%) implies a reduced chance that the results are representative of the full sample of Teen Leaders. Because of the response rates and small sample sizes, in general it is best to view these results as suggestive or exploratory.

### **Teen Leader Survey Results (n=92)**

#### **Teen Leader Characteristics**

Half of the Teen Leaders responding to the survey were in 11<sup>th</sup> grade, with the remaining roughly split between 10<sup>th</sup> and 12<sup>th</sup> grades. Ninety-one percent were White, 1% Native American, and 8% multi-cultural. Nearly the whole sample (99%) planned on finishing college, with most of these planning on graduate studies. While 17% ranked themselves about average in school, 40% ranked themselves above average and another 42% reported they were one of the best students in their class.

#### **Training for STARS**

Teen Leaders rated the training very highly. On average, 93% agreed or strongly agreed with several items asking about how well the training prepared them for teaching STARS in the classroom. Regarding the amount of information presented and the length of the training, most (84%) agreed they felt the training gave them the information and practice they needed to work in the classroom. At the same time however, a substantial number wished for more practice sessions (40%).

#### **Conclusions about STARS**

In the classroom, most (over 90%) agreed that they had made a difference to the students, and that the students understood the topics. While most (over 90%) felt the Adult Facilitators and parents were supportive, fewer Teen Leaders (roughly 70%) felt this way about their high school teachers and classroom teachers where STARS was being administered. Most (90%) felt they communicated well always or most of the time with the Adult Facilitator, and results showed that facilitators were especially helpful by having session materials available, and assisting when needed during the sessions.

Two items that Teen Leaders reported particularly liking about the STARS program included:

1. It helped develop leadership skills;
2. It showed they can make a difference.

In an open-ended question asking for other things they liked another theme that clearly

emerged was the enjoyment of working with the kids (32 of 67 [48%] comments mentioned this). Regarding what they didn't like about STARS, roughly one third of the leaders agreed that it kept them away from their own classes too much, and it caused teachers to get on them about missing class. Many students (60%) agreed that participating in STARS had played a very important role in their life. A clear theme from open-ended comments indicated that their participation had helped improve personal goals related to STARS content, such as assertiveness skills and clarification around decisions to delay sexual involvement (12 of 52 comments mentioned this).

From comments about what might improve STARS for the students, two common themes included better videos, and more interaction/involvement with students (e.g., more hands-on activities).

Overall the results point to a high degree of satisfaction from Teen Leaders' participation with STARS, and 99% of the respondents reported they would encourage their friends to apply to be a STARS leader.

### Adult Facilitator Survey Results (n=23)

Twenty-three Adult Facilitators returned their surveys. Most (82%) were female, 32% were teachers, 14% were nurses, 14% were social workers, and 41% did something else professionally.

The facilitators were very positive about many survey items rating the performance of the Teen Leaders and the effectiveness of the program for the students. Slightly less positive indications emerged for the Teen Leader selection process and the training program. The most positive STARS aspects commonly cited included:

1. It develops leadership skills in the Teen Leaders;
2. It helps instill self-confidence in the leaders, and;
3. It increases student awareness of the strength of media messages about sex.

The aspects most commonly cited as least successful included:

1. Lack of involvement by middle school teachers and parents of students and Teen Leaders;
2. Lack of student ethnic diversity being reflected in the Teen Leaders.

### Teacher Survey Results (n=48)

Most of the teachers worked with 6<sup>th</sup> graders (79%) while 19% taught 7<sup>th</sup> grade and 8% taught 8<sup>th</sup> grade (teachers could indicate more than one grade).

Most teachers thought students were engaged in the STARS topics (76%-85% extremely or a lot over 4 areas). Roughly one third or more reported observing differences ( extremely or a lot ) in:

1. Students attitudes about media messages;
2. Student confidence in their right to say no , and;
3. Student awareness of myths and consequences of early sexual involvement.

Only about half reported that the Teen Leaders reflected the ethnic diversity of the students, but relatively high ratings were given across a variety of items asking about Teen Leader effectiveness and behavior in the classroom ( extremely or a lot ratings ranged from 75% to 98% across 7 items).

Regarding the STARS curriculum, there was general agreement (87%) that there should be follow-up sessions and that STARS should be fully integrated into the middle school curriculum (70%). Teachers were asked to provide comments on what should be changed about STARS and of 32 comments, several mentioned that there should be booster sessions or more meetings (9) or that the presentation should be less scripted (6). When asked about what should never change about the program, the overwhelming theme (69% of 42 comments) centered around the use of Teen Leaders in the program. As a general indication of teacher satisfaction with the program, a large majority responded that they probably (13%) or definitely (75%) would recommend that STARS be taught in their classroom again.

### Conclusions from Teen Leader, Adult Facilitator, and Teacher Surveys

Considering the three surveys together, a clear pattern emerged suggesting a high degree of satisfaction with the training of Teen Leaders, the delivery of the program by Teen Leaders, the engagement of students in the program, and the supportiveness of the Adult Facilitators. Teen Leaders particularly liked the STARS program because it helped them develop leadership skills, it showed they could make a difference, and because they enjoyed working with the 6<sup>th</sup> and 7<sup>th</sup> graders. Impressively, 60% said their participation had played a very important role in their life, and 99% said they would encourage their friends to apply to be a STARS leader.

The results pointed to a few concerns for the program. Teen Leaders expressed concern about missing their own classes. Other results showed concerns around the lack of teacher participation, the perceived need for follow-up sessions, and the need for a better reflection of student racial/ethnic diversity in the Teen Leaders.

## *Appendix 1: Methods*

### Sample Selection and Participation Rates

Survey staff first contacted STARS Specialists from Oregon's six STARS regions and created a list of the total population of schools planning to present the STARS curriculum between 2/1/2000 and 5/1/2000 (131 schools). A two stage stratified sample design guided sample selection. Schools were selected in stage 1, and students were selected in stage 2. Department of Education data were used to create estimates of student size for the target grades in each school. Schools were selected in stage one in the following way:

1. The target population of schools were stratified by STARS region (n=6) and by school size (total enrollment). Schools with 137+ students were considered large, and schools with < 137 were considered small. This cutoff was chosen because it represents median student size of the target population.
2. Target sample sizes were created for each of the 12 strata (6 regions, 2 school sizes) based on the desired sample size and population proportions within the 12 strata.
3. Schools were chosen at random within strata until target sample size for the strata was attained.

Students were selected within each school based on attendance the day of survey administration and parents' permission to participate.

The participation rates at each of the 2 stages of sample selection (schools and students within schools) provide a useful gauge of the sample quality and therefore the extent that the sample is representative of the target population. In stage one 17 of the 21 eligible schools agreed to participate, giving a participation rate of 81%. This is a very good participation rate and allows confidence that the schools are representative. Student participation rates were very high: 95% at time 1 and 91% at time 2. The high participation rates at both stages of sample selection support the notion that the sample is representative of the target population. There is little reason to believe that student participation was meaningfully biased because most of the eligible students from Time 1 and Time 2 who did not participate in both surveys were primarily missing because of random reasons. That is, most non-participants did not participate because they could not be matched (meaning there were likely several students in attendance at either but not both days of survey administration). Another reason students did not participate was because their parents did not give their permission.

## Analysis Strategy

### **A general note about interpreting analysis findings.**

Two criteria were used in considering the significance of particular findings:

1. Statistical significance as summarized by a p value  $< .05$ . This indicates that an observed finding or difference (i.e. between time 1 and time 2 scores, or between sample subgroups) is unlikely to have been due merely to chance or coincidence.
2. Practical significance or clinically meaningful as summarized by the magnitude of the difference.

This second criteria adds a reality check so that attention remains on the most relevant findings. The threshold for considering a finding practically significant was an effect size of .15. This is an accepted standard defining a small effect size, and can be viewed as the lower end of what should be considered as significant from a practical standpoint.

For findings that are discussed in this report, only the more traditional criteria of statistical significance is included (the p value).

### **Did participation in the STARS program have an impact on student knowledge and attitudes?**

This is the primary question for this evaluation. To answer this question time 2 answers were compared to time 1 to test for significant increases in the desired response. Outcomes were divided into the following areas:

1. Knowledge about sexuality, media influences, and peer norms for sexual behavior (8 items).
2. Attitudes toward proper response to peer pressure (5 items).

The 13 items used to measure these first 2 outcomes were asked in a way so students would respond true, false, or don't know to specific statements. Survey responses were recoded so that students were assigned desirable or undesirable responses (a dichotomous outcome). Don't know and unanswered questions were coded as undesirable. These 13 items were reduced to 2 separate scales in order to summarize the information across logical domains. For a knowledge scale the first 8 items were summed and then divided by 8 (a mean scale). For an attitude scale measuring opinions about responding to peer pressure 5 subsequent items were similarly summed and divided by 5. Each item and its selection into the knowledge or attitude scale is displayed in the text in Table 2.

To test for significant change over time in specific items the McNemar test was used (a nonparametric technique). Paired t-tests were used to test for differences across time for the 2 scales.

3. Projected personal response to pressure to have sex (3 items).

These 3 items were considered as dichotomous outcomes, with yes responses coded as desirable and maybe, don't know, and no coded as undesirable. McNemar tests were used to test for change over time.

4. Behavioral intention related to sexual involvement (3 items).

Q1 asked for true/false reactions to the statement I want to wait until I am older to have sex, and was re-coded in a dichotomous outcome to depict desirable and undesirable responses (similar to strategy outlined above). The McNemar test was used to test for changes across time. Q2 and Q3 asked about the likelihood of having sex 1) before high school and 2) while a teenager. Responses were divided into a Likert-type 5 point scale, and these responses were considered as continuous for the purposes of analysis. Paired t-tests were therefore used to test for differences across time.

5. Rating of how much STARS helped (6 items).

These items were only asked at time 2 and therefore analysis was limited to the reporting of frequencies as depicted in Appendix 4 and in the text within Figure 4.

6. Use of STARS skills (3 scenarios).

These items were asked with a logical skip pattern so that the item asking about use of STARS skills were directed to only those students who had reported exposure to a type of pressure being asked about in the question. This apparently confused some students because the skip pattern was not always followed. For purposes of the report, frequencies for the item related to use of skills was limited to the students who had reported the type of pressure (which was only 6% to 19% of the total sample, depending on the type of pressure.)

7. Student advice to hypothetical friend considering sexual involvement.

To ease analysis of the open ended comments, content analysis of the students comments were limited to a random sample of 350 students (25%). Comments were divided into several themes that could be summarized as follows:

- Don't do it;
- I wouldn't, but it's up to you;
- Not my decision, up to you;
- Ask your parents/other adult
- Go ahead;
- Some qualified variation of go ahead (if you do use a condom, only if you're really ready, etc.).

Answers that didn't fit these categories typically were equivalent to "don't know" or "I don't want to deal with that" and were considered missing data. A second content analysis was done with students who said "don't" and also included a reason. The reasons were coded into the following areas:

- Too young should wait;
- Disease and/or pregnancy;
- Should wait until marriage;
- Other consequences;
- Other responses.

Shifts in patterns of responses for both types of content analyses across time were explored considering aggregate changes in percentages from time 1 to time 2.

### **Are changes in responses different across student subgroups?**

This secondary question evaluates the extent that STARS impact is different for various subgroups as defined by demographic (age, grade, gender, race/ethnicity, school size, school region) and risk characteristics: (living arrangement, current rank in school, educational plans). These subgroups are also used to evaluate possible differences in responses for items only asked at time 2.

### **Notes on decisions about risk characteristics.**

#### Sexual History

Survey items included questions about sexual history, which theoretically could be considered as a risk factor or otherwise relevant student characteristic. After consideration of the response patterns it was decided not to include this characteristic because of concerns about data validity. Specifically, student responses across time indicated confusion over the terms "sexual intercourse" or less than truthful answers. For example, of 47 (4%) students answering they had previously had sexual intercourse, only 28 answered the same way at time 2. Another consideration was that there were so few students who fit into the risk category of "non virgin" (4% at time 1, 5% at time 2). Additionally, several students did not answer this question (n=77, 6% at time 1). In general this may not be a very useful survey item for this age group, particularly with no clarification of the term "sexual intercourse" on the survey question.

#### Father's and Mother's Education

Too many students had missing data for these survey items to include them as risk characteristics in the analysis (38% and 33% were missing for father's and mother's education, respectively).

#### Analysis of Subgroup Differences

Outcomes #1-6 as described above were considered for this analysis. Subgroup analyses were limited to the summary scales (knowledge and attitude scales) and not done for the 13 separate items that made up these scales. There was no subgroup analysis for the

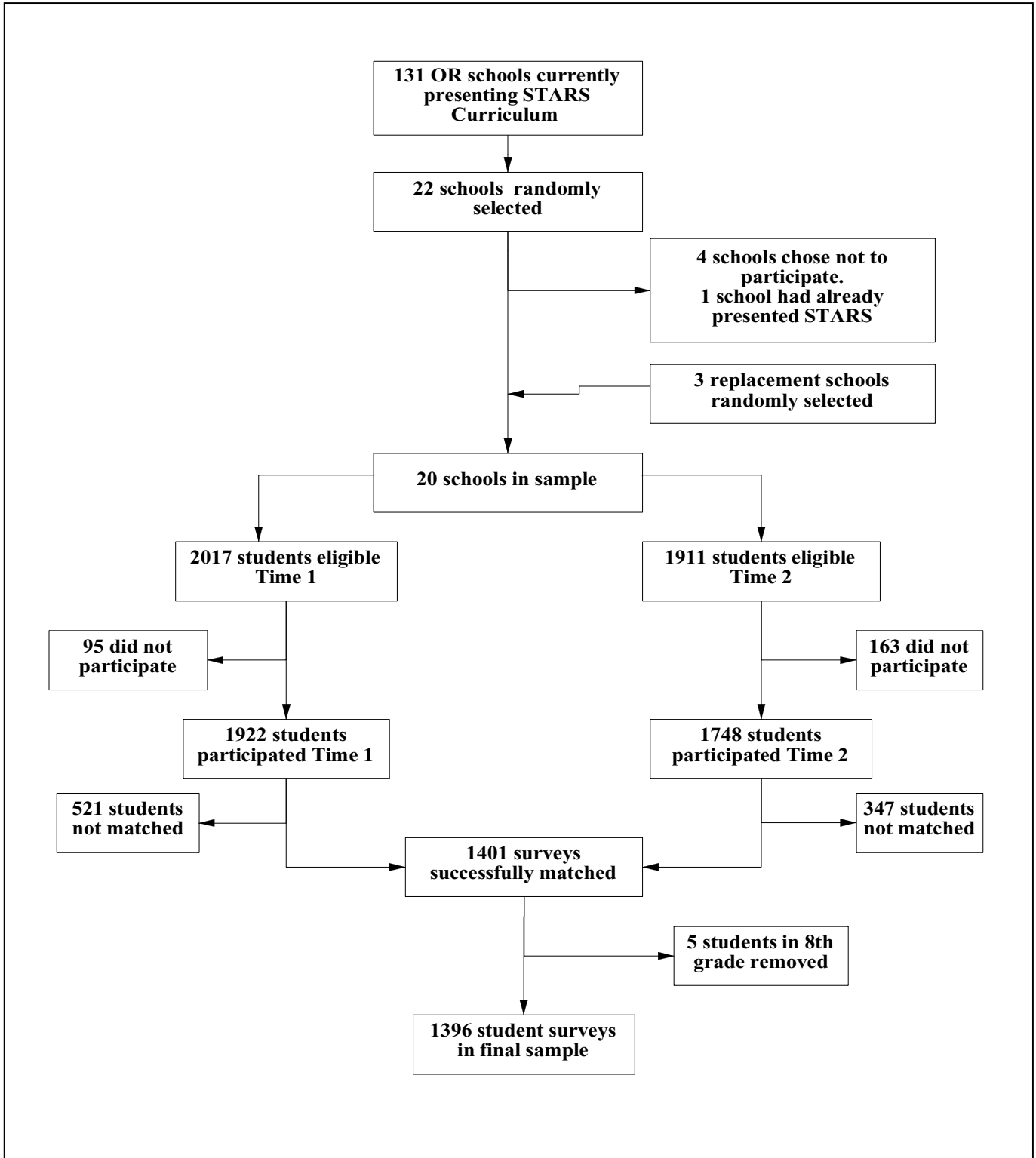
open-ended responses to the question about giving advice to a hypothetical friend considering sexual involvement. Subgroup analysis was also considered as inappropriate for the Q1 under use of STARS skills which asked about responses to pressure to have sex, because of the small number of students that would have been included (n=77). Subgroup analysis of STARS program ratings (outcome #5 above) occurred for a combination of the six items. Specifically, the six items were summed into a scale of 0-12 with higher scores denoting a higher rating (for each item, a score of 2 was given for the response a lot and a score of 1 was given for the response a little ; these scores were then summed for the final scale score).

In general, subgroup analyses were first done for bivariate relationships (testing for a relationship between one demographic or risk characteristic with one outcome). If a bivariate relationship emerged that was statistically ( $p < .10$ ) and practically (effect size  $\geq .15$ ) promising, this was tested in a final multivariate model that included all demographic and risk characteristics emerging from bivariate analyses for one of the outcome measures. Criteria for concluding a characteristic as statistically significant from a final multivariate model was a p value  $\leq .05$ .

Continuous outcome variables ( knowledge and attitude scales, Q2 and Q3 of behavioral intention items) were analyzed for bivariate relationships with risk and demographic characteristics using Analysis of Variance of the difference scores (time 2 — time 1). These findings were confirmed with General Linear Modeling for Repeated Measures (GLM). Multivariate modeling proceeded with GLM. An additional continuous outcome was the STARS rating scale. Bivariate subgroup analysis occurred using a non-parametric technique (Kruskall-Wallis H test) because of a severe skew in the scale scores (resulting from the overall high ratings of most students).

Dichotomous outcomes (Q1 of behavioral intention , 3 items related to response to pressure to have sex) measured across time were analyzed with logistic regression. Analyses were limited to those who had answered in the undesirable way at time 1. Then logistic regression was used to test whether the demographic or risk characteristic significantly predicted change to the desired response. This strategy was followed for bivariate and multivariate models. Dichotomous outcomes at time 2 only (use of STARS skills) were explored for bivariate relationships using Chi Square statistics. Because of small respondent size for these outcomes, this analysis was considered for bivariate relationships only. These findings should be considered cautiously as was discussed in the text.

*Appendix 2: Flow Chart for STARS Sample*



*Appendix 3: Frequencies Across Schools and Sample Strata*

<b>Strata</b>	<b>Selected schools (survey N)</b>	<b>% in target population (131 schools) (n=19,106)</b>	<b>Student % in sample</b>
Portland Metro: large	Fernwood Middle School (76) Mt Tabor Middle School (64) Portsmouth Middle School (60)	35.9%	14.3%
Portland Metro: small	Estacada Grade School (54)	3.4%	3.9%
Eastern OR: large	La Grande Middle School (127)	2.4%	9.1%
Eastern OR: small	West Elementary School (36)	0.7%	2.6%
Southern OR: large	Brixner Junior High School (58) Mcloughlin Middle School (172)	10.1%	16.5%
Southern OR: small	Rogue River Middle School (73)	3.0%	5.2%
Central OR: large	Pilot Butte Junior High School (157)	5.8%	11.2%
Central OR: small	La Pine Middle School (85) Condon Elementary (13)	1.6%	7.0%
Wlmt Valley: large	Walker Middle School (139)	22.1%	9.9%
Wlmt Valley: small	Falls City Elementary School (15) Harrisburg Middle School (43) Howard St Charter School (22) North Marion Middle School (95) Willamina Middle School (15)	7.9%	13.6%
Coastal OR: large	Siuslaw Middle School (63)	4.5%	4.5%
Coastal OR: small	Lincoln Junior High School (29)	2.6%	2.0%

<b>Strata</b>	<b>Strata level</b>	<b>% in population</b>	<b>Survey N</b>	<b>% in sample</b>
<b>Region</b>				
	Central	7%	255	18%
	Coast	7%	92	7%
	East	3%	163	12%
	Portland	39%	254	18%
	South	13%	304	22%
	Valley	30%	329	24%
<b>School Size</b>				
	Large	81%	921	66%
	Small	19%	480	34%

## *Appendix 4: Student Survey Frequencies (N=1396)*

### Grade (9 missing: <1%)

6 <sup>th</sup>	63%
7 <sup>th</sup>	37%

### Age

11	19%
12	53%
13	26%
14	2%

### Gender (10 missing: <1%)

Female	50%
Male	50%

### Race/ Ethnicity (65 missing: 5%)

African American	4%
Latino	7%
White	77%
Asian/Pacific Islander	3%
American Indian	5%
Multi Cultural	3%

### Region

Central	18%
Coast	7%
East	12%
Portland metro	18%
South	22%
Willamette valley	24%

### School Size

Large (137+)	66%
Small (<137)	34%

### Father s Education (526 missing: 38%)

Less than High School	10%
High School graduate	23%
Some college	19%
College graduate	28%
Graduate/ professional degree	21%

### Mother s Education (457 missing: 33%)

Less than High School	7%
High School graduate	27%
Some college	21%
College graduate	29%
Graduate/ professional degree	17%

### Current Rank-- self-report (15 missing: 1%)

Near bottom of the class	3%
Below middle of the class	6%
In middle of the class	41%
Above the middle of the class	31%
One of best students in class	18%

### Future plans (10 missing: <1%)

Quit school as soon as possible	1%
Finish high school and then quit	6%
Get some college after high school	12%
Finish college	49%
	32%

### Live with (15 missing: 1%)

Other arrangement	41%
Mom and Dad	59%

### Live with (15 missing: 1%)

Mom and dad	59%
Mom or dad plus other	15%
Mom	19%
Dad	4%
Neither natural parent	2%

*Appendix 4: Student Survey Frequencies Continued (N=1396)*

**Have you ever had sexual intercourse?**  
 (77 = 6%, 57 = 4% missing)

	Time 1	Time 2
Yes	4%	5%
No	96%	95%

*[Note: answers across time don't follow expected patterns see cross-tabs below]*

		Time 2			
		Yes	No	Missing	Total
Time 1	Yes	28	17	2	47
	No	36	1196	40	1272
	Missing	5	57	15	77
		69	1270	57	1396

**The last time you had sexual intercourse, did you or your partner use a condom?**  
 (54=4%, 65=5% missing)

	Time 1	Time 2
Yes	2%	3%
No	2%	2%
Never had sex	96%	95%

**The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy?**  
 (66=5%, 79=6% missing)

	Time 1	Time 2
Never had sex	96%	93%
None	1%	1%
Pills	0%	1%
Shots	0%	0%
Condoms	1%	2%
Withdrawal	0%	0%
Other	0%	0%
Not sure	2%	2%

*Appendix 4: Student Survey Frequencies Continued (N=1396)*

What do you think?	Time 1			Time 2		
	<u>true</u>	<u>false</u>	<u>dk</u>	<u>true</u>	<u>false</u>	<u>dk</u>
1. A girl can get pregnant the FIRST time she has sex.	61%	18%	20%	98%	2%	0%
2. Most boys in middle school are too young to get a girl pregnant.	45%	40%	15%	19%	77%	4%
3. Over 80% of Oregon middle school students are NOT having sex.	42%	15%	43%	86%	5%	9%
4. Overall songs, TV shows, and magazines show both the negative and positive things about kids having sex.	56%	20%	25%	55%	38%	7%
5. AIDS and other sexually transmitted diseases (STDS) don t affect many teens.	7%	75%	18%	7%	85%	8%
6. Used right, condoms are 100% effective in preventing pregnancy and sexually transmitted diseases (STDs).	20%	50%	30%	8%	83%	9%
7. Most teens think it is best to wait to have sex until they are older.	50%	22%	27%	85%	7%	8%
8. Abstinence is the only 100% sure way to avoid getting pregnant or getting sexually transmitted diseases (STDs).	24%	12%	64%	76%	9%	14%
9. You ALWAYS have the right to say NO when someone asks you to do something sexual that you don t want to do, no matter who that person is.	97%	2%	2%	97%	2%	1%
10. The best thing to do when someone asks you to do something you don t want to do is to give reasons and excuses to put them off.	62%	23%	15%	40%	54%	6%
11. When you want to be respected, it is important to give lots of reasons for what you feel.	71%	12%	17%	74%	17%	9%
12. If someone keeps pressuring you after you say NO a couple of times, it is good to ask them why they keep pressuring you.	65%	16%	19%	95%	2%	3%
13. No matter how you say NO , most people will get their feelings hurt and probably be mad at you.	38%	42%	20%	32%	53%	15%
14. It is OK to have sex before marriage.	30%	48%	22%	28%	56%	16%
15. I want to wait until I am older to have sex.	88%	5%	8%	90%	5%	5%
16. I think it is OK to have sex because my friends are doing it.	2%	93%	5%	2%	96%	2%

*Appendix 4: Student Survey Frequencies Continued (N=1396)*

**What would you do in the future?**

<b>What would you do in the future?</b>	<b>Sure won't happen</b>		<b>Probably won't happen</b>		<b>Not sure</b>		<b>Probably will happen</b>		<b>Sure will happen</b>	
Before you start high school (in the next 2 or 3 years), do you think that someone might try to get you to have sex?	<u>Pre</u> 17%	<u>Post</u> 15%	<u>Pre</u> 21%	<u>Post</u> 21%	<u>Pre</u> 41%	<u>Post</u> 36%	<u>Pre</u> 16%	<u>Post</u> 20%	<u>Pre</u> 5%	<u>Post</u> 8%
	<b>Def would not</b>		<b>Probably would not</b>		<b>Not sure</b>		<b>Probably would do</b>		<b>Def would do</b>	
Before you start high school (in the next 2 or 3 years). If someone wanted to have sex with you, what would you do?	<u>Pre</u> 68%	<u>Post</u> 66%	<u>Pre</u> 15%	<u>Post</u> 15%	<u>Pre</u> 13%	<u>Post</u> 13%	<u>Pre</u> 2%	<u>Post</u> 3%	<u>Pre</u> 1%	<u>Post</u> 3%
	<b>Certain I won't</b>		<b>Probably won't</b>		<b>Not sure</b>		<b>Probably will</b>		<b>Certain I will</b>	
How likely do you think it is that you will have sex while you are a teenager?	<u>Pre</u> 47%	<u>Post</u> 52%	<u>Pre</u> 25%	<u>Post</u> 23%	<u>Pre</u> 21%	<u>Post</u> 17%	<u>Pre</u> 6%	<u>Post</u> 6%	<u>Pre</u> 1%	<u>Post</u> 3%

*Appendix 4: Student Survey Frequencies Continued (N=1396)*

**What would you do now?**

<b>What if someone you liked a lot wants you to have sex, and you don't feel you are ready. What would you do?</b>	<b>Yes</b>		<b>Maybe</b>		<b>No</b>		<b>Don't know</b>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
I would say NO without making excuses or giving reasons.	55%	69%	21%	19%	13%	7%	11%	4%
If this person kept pressuring me, I would say NO again and tell them how the pressure makes me feel.	56%	75%	25%	16%	10%	5%	9%	4%
If this person still pressured me, I would suggest something else or walk away even if the person was unhappy or angry.	65%	75%	18%	16%	9%	5%	8%	4%
You wanted to have sex with someone but they said NO, would you keep asking in different ways?		4%		7%		75%		14%
<b>What if someone you liked a lot wanted to have sex and you didn't feel you are ready? What would you have done before STARS?</b>	<b>Yes</b>		<b>Maybe</b>		<b>No</b>		<b>Don't know</b>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
I would say NO without making excuses or giving reasons.		55%		29%		10%		6%
If this person kept pressuring me, I would say NO again and tell them how the pressure makes me feel.		50%		32%		12%		6%
If this person still pressured me, I would suggest something else or walk away even if the person was unhappy or angry.		59%		27%		9%		5%
You wanted to have sex with someone but they said NO, would you keep asking in different ways?		8%		11%		66%		16%

*Appendix 4: Student Survey Frequencies Continued (N=1396)*

**What did you think of STARS?**

<b>How much did STARS help you to:</b>	<b>A lot</b>	<b>A little</b>	<b>Not much</b>	<b>Not at all</b>
1. Understand the risks of early sexual intercourse?	74%	19%	5%	2%
2. Set personal limits on physical affection?	65%	26%	6%	3%
3. Believe in your personal rights to set limits?	75%	17%	6%	2%
4. Refuse to do things that aren't right for you?	73%	18%	5%	4%
5. Respect people who say NO to you?	75%	17%	5%	3%
6. Abstain from sex (not have sex) until you are older?	76%	14%	6%	5%

**Some students say they have been in situations where they could use the refusal skills taught in STARS?**

<b>Since being in the STARS program have you ever been pressured to:</b>	<b>Yes</b>	<b>No</b>	<b>Don't know</b>
<b><u>Get sexually involved when you didn't want to?</u></b>	6%	89%	5%
If Yes, did you use the STARS skills to refuse?	53%	42%	5%
Divided by those who say yes above (n=77)	3%		
<i>Divided by total sample</i>			
<b><u>Smoke, drink alcohol or use other drugs?</u></b>	11%	86%	4%
If Yes, did you use the STARS skills to refuse?	40%	49%	11%
Divided by those who say yes above (n=140)	4%		
<i>Divided by total sample</i>			
<b><u>Do something else that you didn't want to do?</u></b>	19%	74%	8%
If yes, did you use the STARS skills to say NO?	55%	41%	4%
Divided by those who say yes (n=237) above	9%		
<i>Divided by total sample</i>			

*Appendix 4: Student Survey Frequencies Continued (N=1396)*

**Student advice to hypothetical student considering sexual involvement.**

Analysis done with a random 25% (n=350) subset of surveys.

If a classmate about your same age and gender asked you for advice about whether or not to have sex, what would you probably say? (56, 57 missing time 1, time 2: 16%)

NOTE: missing included don't know responses and no responses.

<b>General category of advice</b>	<b>Time 1</b>	<b>Time 2</b>
Don't do it	82%	83%
I wouldn't, but it's up to you	6%	8%
Not my decision, up to you	4%	4%
Ask your parents/ other adult	1%	1%
Go ahead	2%	3%
Some qualified variation of go ahead (if you do use a condom if you're really ready)	4%	2%
<b>Categories for reasons if don't answered</b>	<b>N=158</b>	<b>N=141</b>
Too young	42%	33%
Disease and/or pregnancy	29%	43%
Should be married	19%	12%
Other bad consequence	5%	10%
Other reason	4%	3%

*Appendix 4: Student Survey Frequencies Continued (N=1396)*

Summaries of Selected Outcome Variable

		N	Mean/ %	SD
<b>What would you do in the future? (1=most desirable response, 5= least desirable)</b>				
Before you start high school (in the next 2 or 3 years), do you think that someone might try to get you to have sex?	Time 1	1384	2.70	1.08
	Time 2	1385	2.87	1.14
Before you start high school (in the next 2 or 3 years). If someone wanted to have sex with you, what would you do?	Time 1	1385	1.54	0.90
	Time 2	1379	1.61	1.00
How likely do you think it is that you will have sex while you are a teenager?	Time 1	1369	1.90	1.02
	Time 2	1381	1.85	1.07
<b>What would you do now? % answering <i>Yes I would do this</i></b>				
I would say NO without making excuses or giving reasons.	Time 1	1336	55%	
	Time 2	1369	69%	
If this person kept pressuring me, I would say NO again and tell them how the pressure makes me feel.	Time 1	1318	56%	
	Time 2	1372	75%	
If this person still pressured me, I would suggest something else or walk away even if the person was unhappy or angry.	Time 1	1322	65%	
	Time 2	1359	75%	
<b>What do you think? Interpretation: % of scale items with desirable answer</b>				
Knowledge scale (items 1-8)	Time 1	1396	45%	0.20
	Time 2	1396	78%	0.19
Attitude scale (items 9-13)	Time 1	1396	47%	0.20
	Time 2	1396	63%	0.21