

**First Year Impacts of the *Heritage Keepers*[®]
Life Skills Education Component**

FINAL REPORT

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U.S. Department of Health and Human Services
Office of the Assistant Secretary for Planning and Evaluation
Hubert H. Humphrey Building, Room # 438F.7
200 Independence Avenue, SW
Washington, DC 20201

Prepared by:

Melissa A. Clark
Barbara Devaney
Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, NJ 08543-2393

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Melissa Clark
Barbara Devaney

mclark@mathematica-mpr.com
bdevaney@mathematica-mpr.com

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FIRST-YEAR IMPACTS OF THE *HERITAGE KEEPERS*[®] LIFE SKILLS EDUCATION COMPONENT

H*eritage Keepers*[®] is an abstinence education program developed by Heritage Community Services of South Carolina. The program is one of the more than 900 programs receiving federal funding under the Title V, Section 510 Abstinence Education Program, which provides \$50 million annually in block grants to support education programs that promote abstinence until marriage. States must match this funding at 75 percent, which results in a total of up to \$87.5 million annually for such programs.

The *Heritage Keepers*[®] Program provides a systemic approach to abstinence education through three main components: (1) the *Heritage Keepers*[®] Abstinence Education Component; (2) the *Heritage Keepers*[®] Life Skills Education Component; and (3) the *Heritage Keepers*[®] Community Education Component.¹ The first two components, Abstinence Education and Life Skills Education, serve middle and high school students in school-based settings. Abstinence Education is the core component, designed to serve all students in an entire grade. Life Skills Education is a voluntary component, designed to help youth develop life skills thought to be supportive of sexual abstinence and to reinforce the messages of the Abstinence Education Component through a character-based curriculum.

This report examines the impacts of providing the additional Life Skills Education Component to middle and high school youth in Edgefield, South Carolina. All the youth participating in the Life Skills Education Component have also participated in the other components of the *Heritage Keepers*[®] Program, most notably the core Abstinence Education Component. This report thus examines the impact that the Life Skills Education Component has on students, *over and above* any impact of the other components of the *Heritage Keepers*[®] Program. It presents first-year impacts on the health, family life, and sex education services youth receive and on intermediate outcomes thought to be related to teen sexual activity and other risk-taking behavior. A future report, based on an additional wave

¹ Throughout this report, we refer to the broader umbrella program as “the *Heritage Keepers*[®] Program,” and refer to each of the three components by their specific names—the Abstinence Education Component, the Life Skills Education Component, and the Community Education Component.

of follow-up data, will examine the impacts of the Life Skills Education Component on the behaviors themselves.

This analysis of the first-year impacts of the Life Skills Education Component is part of a broader multiyear evaluation of selected abstinence education programs funded by the Title V, Section 510 Abstinence Education Program. The broader evaluation comprises (1) an assessment of the implementation and operational experiences of 11 selected abstinence education programs (Devaney et al. 2002), and (2) an analysis of the impacts of 5 targeted abstinence education programs on youth attitudes and behaviors. A recent report presented first-year impacts on service receipt and intermediate outcomes for 4 of the 5 targeted abstinence education programs included in the Title V, Section 510 evaluation (Maynard et al. 2005).

The evaluation of the Life Skills Education Component is included in a separate report for two main reasons. First, the study sample enrolled considerably later than for the other four programs, and so the data collection and analysis are on a later schedule than for the other sites. Second, the design of the evaluation of the Life Skills Education Component is very different from the design for the other four sites included in the impact evaluation. The impact evaluation in those four sites measures the difference in outcomes between program youth who received an abstinence education curriculum and program services and control youth who did not receive those services. Thus, the impacts from the evaluation of those four programs represent the effects of the overall abstinence education program versus “services as usual,” which typically did not include abstinence education or community-wide initiatives to promote abstinence (Maynard et al. 2005).

In contrast, the evaluation of the Life Skills Education Component is designed to measure the impacts of adding an abstinence-focused life skills program to a classroom-based abstinence education curriculum. All students in the grade levels examined in the study participated in the mandatory core Abstinence Education Component, and all may have had some exposure to the Community Education Component as well. A subset of these students applied to participate in the Life Skills Education Component, and of these applicants, students were randomly assigned to a program group that was offered the opportunity to participate or a control group that was not offered the opportunity to participate. Therefore, the impacts presented in this report represent the incremental impacts of the Life Skills Education Component over and beyond any impacts of the classroom-based core Abstinence Education Component to which all youth were exposed, and of the Community Education Component, to which youth may have been exposed.

The rest of this report provides an overview of each of the components of the *Heritage Keepers*[®] Program, describes the impact evaluation design for the Life Skills Education Component, examines changes in the services received by youth assigned to receive the Life Skills Education Component relative to the control group, and presents first-year impacts of the Life Skills Education Component on intermediate outcomes that may be related to teen sexual activity.

BACKGROUND

The *Heritage Keepers*[®] Program is provided at multiple sites in more than 20 counties in South Carolina. Services are provided through regional offices in Greenville, North Augusta, Florence, Walterboro, and Charleston. The *Heritage Keepers*[®] Program in Edgefield, the focal site for this evaluation, operates under the auspices of the North Augusta regional office.

The program provides a systemic approach to abstinence education through three main components: (1) the mandatory core Abstinence Education Component for middle and high school students; (2) the Community Education Component, which includes parent education, faith community initiatives, a media outreach, and Family Assets and Character Councils; and (3) the Life Skills Education Component, which is the subject of this evaluation.

The Abstinence Education Component is a 450-minute curriculum (*Heritage Keepers*[®] Abstinence Education I and II[®]) delivered by Heritage Community Services staff to middle and high school students, beginning in sixth grade and continuing, ideally, through high school. This curriculum aims to increase knowledge and awareness of pregnancy and STD risks and to empower adolescents to abstain from sexual activity outside of marriage. Appendix A to this report includes an overview of the Abstinence Education curriculum.

The Abstinence Education core curriculum is based on the “A-H definition” of abstinence-education programs (Title V Section 510 (b)(2)(A-H) of the Social Security Act), which specifies that an abstinence education program receiving federal funding must:

- A** Have as its exclusive purpose teaching the social, psychological, and health gains to be realized by abstaining from sexual activity
- B** Teach abstinence from sexual activity outside marriage as the expected standard for all school-age children
- C** Teach that abstinence from sexual activity is the only certain way to avoid out-of-wedlock pregnancy, sexually transmitted diseases, and other associated health problems
- D** Teach that a mutually faithful, monogamous relationship in the context of marriage is the expected standard of sexual activity
- E** Teach that sexual activity outside the context of marriage is likely to have harmful psychological and physical effects
- F** Teach that bearing children out of wedlock is likely to have harmful consequences for the child, the child’s parents, and society
- G** Teach young people how to reject sexual advances and how alcohol and drug use increases vulnerability to sexual advances
- H** Teach the importance of attaining self-sufficiency before engaging in sexual activity

Although programs do not have to place equal emphasis on each component of these guidelines, they cannot be inconsistent with any of the guidelines. In particular, they cannot provide instruction in or promote the use of contraceptives, as this would be inconsistent with the A-H guidelines.

The Community Education Component includes several elements. The Parent Education Element is designed to educate parents regarding the benefits to their children of abstaining from sexual activity outside marriage. The program can be delivered in parents' homes, in a small group setting, or in a public meeting. Parents are encouraged to form a network to discourage risky behaviors and to support abstinence outside of marriage. The Faith Community Element identifies and educates religious workers and leaders, and provides abstinence education materials for program expansion. The Media Element includes educating media personnel regarding the benefits of abstinence outside of marriage, as well as using various media—including in-school communications systems—to promote abstinence among students and the public. Family Assets and Character Councils are developed through regional trainings for community leaders representing various public and private institutions. The Community Education Component also fosters additional collaborations and partnerships across the state with public and private institutions as well as with initiatives sharing similar goals and objectives, such as an entertainment initiative called Message in the Music, a statewide effort promoting positive rap music.

The Life Skills Education Component, which is the focus of this impact analysis, is a multiyear character-based approach to enhancing life skills hypothesized to be supportive of abstinence. The curriculum sessions address skills related to self, family and peers, and the community. Overall the program is designed to foster personal responsibility, with the goal of empowering students to avoid risky behaviors and maximize their potential and opportunities. Each lesson focuses on a specific character trait (for example, integrity), and includes a story about utilizing this trait, as well as self control and personal responsibility, to overcome adversity and challenges. Beginning in fall 2003, the curriculum was modified to explicitly relate each topic back to the underlying message of abstinence until marriage. The program is intended to create a more positive peer culture within the school and, over time, to change the overall school and peer culture to be more supportive of abstinence. Appendix B of this report provides an overview of the Life Skills Education curriculum.

Youth apply to participate in the Life Skills Education Component. Program staff typically select participants from among the applicants. As part of their efforts to influence school culture, program staff attempt to include a broad representation of the youth in the schools as well as students who are seen as trendsetters.² The Life Skills Education Component is delivered by Heritage Community Services staff and is implemented in some schools during regular class hours and in others as an after-school club. In Edgefield, the sessions are offered after school in the middle schools and during lunch in the high school.

² For the purposes of this evaluation, however, youth who applied to the program were randomly assigned to a program group that was offered the opportunity to participate or to a control group that was not. Implications of this difference in program selection are discussed below.

The sessions meet weekly throughout the school year and typically last at least 45 minutes, although when delivered during the lunch period, sessions are limited by the length of the lunch period.

THE EVALUATION OF TITLE V, SECTION 510 ABSTINENCE EDUCATION PROGRAMS

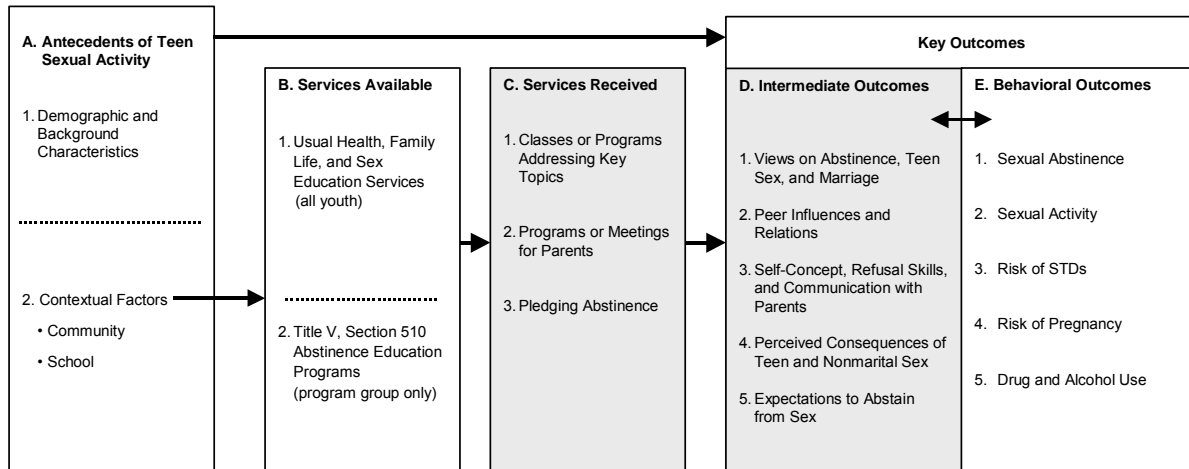
In 1997, Congress authorized a rigorous evaluation of abstinence education programs. In response, the Assistant Secretary of Planning and Evaluation, U.S. Department of Health and Human Services contracted for an independent evaluation of the Section 510 abstinence education programs. The evaluation entails (1) an extensive implementation and process analysis focused on 11 Section 510 abstinence education programs, and (2) rigorous impact studies of 5 selected programs.

The overall objective of the impact analysis is to estimate the impacts of Title V, Section 510 abstinence education programs on teen sexual activity. The impact study design is based on a logic model—depicted in Figure 1—of how abstinence education programs might be expected to achieve long-term goals of reducing teen sexual activity and its consequences. The study addresses five main questions:

1. Do abstinence education programs change the health, family life, and sex education services youth receive (Box C)?
2. Do they change intermediate outcomes that are expected to be related to sexual activity and other risk-taking behaviors (Box D)?
3. What are the impacts on teen sexual activity and other risk-taking behaviors (Box E)?
4. Do program impacts vary among subgroups identified by their background characteristics or by the school and community context in which the programs operate (Box A)?
5. To what extent are program impacts on teen sexual activity and other risk-taking behavior explained by the key mediating factors (Box D)?

This first-year impact analysis of the Life Skills Education Component focuses on the first and second study questions and the shaded boxes in Figure 1. It examines the extent to which the Life Skills Education Component affects the health, family life, and sex education services that youth received during the first year after enrolling, and it provides estimates of the first-year impacts on intermediate outcomes that may be related to teen sexual activity and other risk behaviors. These intermediate outcomes include measures of views on abstinence, teen sex, and marriage; peer influences and relations; self-concept, refusal skills, and communication with parents; perceived consequences of teen and nonmarital sex; and expectations to abstain from sexual intercourse.

Figure 1. Conceptual Framework for the Impact Evaluation of the Title V, Section 510 Abstinence Education Programs



Answering the final three questions reliably requires longitudinal data on youth well into their teen years and is the subject of a future evaluation report. Like most Section 510 abstinence education programs, the *Heritage Keepers*[®] Program targets youth during their pre-teen or young teen years, before many have had sexual intercourse.³ As a result, not only have few engaged in sexual activity prior to their exposure to the program, but it is expected that few would make the decision to engage in sex with or without the program during the first year or two following program enrollment. Furthermore, the Life Skills Education Component is a multiyear intervention designed to change the peer environment within schools and to provide support for the maintenance of attitudes and actions that youth are taught through the mandatory core Abstinence Education Component all youth received, and its full effects may not be apparent until several years have elapsed. For both these reasons, it is important to have longitudinal follow-up of the study sample over a several-year period before it will be reasonable to judge the effectiveness of the Life Skills Education Component in delaying sexual initiation.

Experimental Design

An underlying principle of the impact evaluation design for the Title V, Section 510 evaluation is the importance of obtaining rigorous scientific evidence on program impacts. Estimated impacts must be unequivocally attributable to the program services and not to any other uncontrolled differences between program participants and nonparticipants. The impact evidence must also be able to withstand the scrutiny of a diverse group of policymakers, researchers, and advocates.

³ As discussed below, the study sample for this analysis consists of three sixth-grade cohorts—one that enrolled in spring 2001, one that enrolled in fall 2001, and one that enrolled in fall 2003—and one ninth-grade cohort that enrolled in fall 2001.

Estimating program impacts in a rigorous and unbiased manner requires determining what the outcomes of participants would be in the absence of the Life Skills Education Component. The ideal way to obtain definitive evidence on program impacts is through the use of an experimental design, in which youth in the study sample are randomly assigned to either a program group that is offered the opportunity to participate in the program or a control group that is not. Because of the random assignment, the program and control group youth are similar in all respects, other than their access to the program services. Therefore, unbiased estimates of program impacts can be generated by comparing mean values of outcome measures for the program group with those for the control group.

Implementing an experimental design to evaluate the full *Heritage Keepers*[®] Program was not possible, primarily because both program and school staff felt strongly that all students should participate in the core Abstinence Education Component. Program staff felt that the Abstinence Education Component was a critical part of their efforts to alter the school environment to be more supportive of abstinence. They believed that if only a subset of youth received the core Abstinence Education curriculum, the underlying *Heritage Keepers*[®] message would be diluted and program impacts diminished. The Edgefield school district also relied on the Abstinence Education Component to fulfill state sex education requirements; as a result, school staff in Edgefield were willing to support the *Heritage Keepers*[®] Program and evaluation only if the Abstinence Education Component was delivered to all students.

Working with staff from Heritage Community Services to implement a rigorous impact evaluation yet maintain program integrity, we developed a design that involved random assignment of youth to one of two groups: (1) a program group that received the core Abstinence Education Component combined with the Life Skills Education Component; and (2) a control group that received the core Abstinence Education Component but did not participate in the Life Skills Education Component. Since both program and control group students in the study sample participated in the mandatory Abstinence Education Component and may also have been exposed to some elements of the Community Education Component, the results presented in this report represent the incremental impacts of the Life Skills Education Component *over and beyond* any impacts of the core Abstinence Education or Community Education Components. They do not represent the impact of the full *Heritage Keepers*[®] Program relative to no exposure to abstinence education.

An inherent difficulty with this research design is that, since the Life Skills Education Component attempts to influence school culture to be more supportive of abstinence, there may be potential spillover effects. That is, if the Life Skills Education Component had some influence on students in the control group simply through changes in school culture or effects on their peers in the program group, estimated impacts of the program's effects may be understated.

Program and Study Enrollment

In the summer preceding each enrollment year, school and program staff identified those students who would be eligible to participate in the Life Skills Education Component

in the upcoming fall and distributed a program application packet to each of them. These packets included a description of the Life Skills Education Component and the study, as well as an application and consent form to be signed by a parent or guardian indicating whether the child could participate in the study. Roughly 40 to 60 percent of sixth-graders and 50 percent of ninth-graders in each school returned consent forms and applied to join the Life Skills Education Component each year. Once the consent-gathering process was completed, youth who applied to join the Life Skills Education Component were randomly assigned to a program group, which was allowed to participate in the program, or to a control group, which was not allowed to participate.

Following study enrollment, youth in the program group participated in the Life Skills Education Component. In addition, all youth in both the program and control groups participated in the mandatory Abstinence Education Component sometime during the school year, after study enrollment had occurred. Students were divided into single-sex groups of approximately 10-20 students, and each group received the 450 minute curriculum sometime during the school year. The Abstinence Education classes were scheduled to accommodate student schedules, and were typically delivered over 5 consecutive days in 90-minute sessions, although they were sometimes spread over as many as nine consecutive days in 50-minute sessions. By the end of the school year all youth had received the Abstinence Education Component.

Survey Data Collection

This report relies on two waves of survey data collection: The “Wave 1” survey collected baseline information, and the “Wave 2” survey typically collected information near the end of the first year after enrollment in the program or control group. All surveys were completed in small groups at the schools, using pencil-and-paper mode. Active parental consent was required for all youth participating in the study.

The survey administration methods were designed to protect student privacy and to elicit honest reporting of attitudes and behaviors. The surveys were self-administered under the supervision of trained, professional interviewers employed by the evaluation contractor and not by the school or program. No personal identifying information was included on the survey instruments, and all surveys were removed from the school immediately upon completion. School and program staff were not allowed to see survey responses.

Characteristics of the Study Sample

The sample for the first-year impact analysis of the Life Skills Education Component includes 646 middle and high-school youth who enrolled in the study over three study years—spring 2001, fall 2001, and fall 2003 (Table 1). This sample is 91 percent of all 709 youth who were randomly assigned to the program and control groups. The remaining 9 percent of youth did not complete the first follow-up survey and thus are not included in the sample for the first-year impact analysis. Slightly more than three-quarters of the sample were middle school students, and the rest were high school students.

Table 1. Study Sample and First-Year Impact Analysis Sample for the Life Skills Education Component

	Enrolled in Study Sample	First-Year Impact Analysis
Total	709	646
Program Group	368	339
Control Group	341	307
Middle School	528	494
Program Group	276	261
Control Group	252	233
High School	181	152
Program Group	92	78
Control Group	89	74

Source: Tracking System for the *Survey of Teen Activities and Attitudes* (Mathematica Policy Research, Inc.).

Slightly over half the youth in both the middle and high school samples were female (Table 2). All the youth in the middle school sample were in sixth grade when they enrolled in the study sample, and the vast majority (98.3 percent) in the high school sample were in ninth grade when they enrolled.

In general, youth in the study sample have background characteristics associated with early initiation of sexual activity. In both the middle and the high school samples, the majority of students are black, non-Hispanic (51.8 percent of the middle school sample and 63.7 percent of the high school sample). About half the students reported that their parents were unmarried, and about one-fifth reported being unsupervised after school. Many youth reported experiencing selected life stressors in the past year. For instance, 15.8 percent of the middle school sample and 11.9 percent of the high school sample reported that their parents had gotten divorced or separated in the past year, and 11.4 percent of the middle school sample and 13.1 percent of the high school sample reported that their parent had lost a job in the past year. A quarter of the middle school students had moved in the past year.

The youth also have some characteristics that may be associated with reduced likelihood of early sexual activity. Almost 40 percent of the middle school youth and a third of high school youth had parents with rules about dating. A relatively high percentage of students (42.5 percent of the middle school sample and 45.8 percent of the high school sample) reported that they were “highly religious.” Only 1.9 percent of middle school youth reported having peers with high levels of risk taking.

Prior to participating in the Life Skills Education Component, the views that youth reported on teen and nonmarital sex suggest that most were relatively supportive of abstinence. Only 11.4 percent of the middle school sample and 15.7 percent of the high school sample reported that they believed sex is always okay if teens are in love.

Table 2. Characteristics of Study Sample Included in the First-Year Impact Analysis of the Life Skills Education Component (Percentages Unless Otherwise Noted)

	Middle School	High School
Age (Mean)	11.5	14.4
Gender (Percentage Female)	53.9	55.7
Race/Ethnicity		
White, non-Hispanic	39.1	33.0
Black, non-Hispanic	51.8	63.7
Hispanic	4.9	2.7
Other	4.3	0.6
Family Situation and Supervision		
Parents married	50.6	50.7
Unsupervised after school	16.2	19.9
Parents have rules about dating	39.9	30.5
Selected Life Stressors in Past Year		
Family moved	25.3	15.4
Parents got divorced or separated	15.8	11.9
Parent lost a job	11.4	13.1
Unmarried sister got pregnant	7.9	7.4
Family went off welfare	9.7	3.8
Social and Cultural Influences		
Highly religious	42.5	45.8
6 or more hours of TV a day	22.5	22.9
High risk-taking among peers	1.9	16.9
Gone on date alone	17.4	41.1
School Activities and Performance		
Number of club-type activities	2.2	1.9
Earned D or F in math	14.2	15.8
Views on Teen Sex		
Believes sex is always OK if are in love	11.4	15.7
Believes condoms usually or always prevent STDs	29.6	17.7
Confident could resist sexual advances	n.a.	55.9
Sexual Activity and Other Risk-Taking Behaviors		
Had sexual intercourse	n.a.	32.0
Used marijuana	1.8	16.1
Uses alcohol more than once a month	2.9	11.9
Sample Size	494	152

Source: *Wave 1 Survey of Teen Activities and Attitudes* (Mathematica Policy Research, Inc. 1999) administered at or near the time of sample enrollment to youth in the Title V, Section 510, Abstinence Education Program study sample.

Note: Data shown are weighted means.

n.a. = not available. This information was not asked of youth in grade six and below.

The reported rates of sexual activity and other risk-taking behaviors among youth were fairly low at the time of their enrollment in the student sample. One-third of the high school sample reported that they had already had sexual intercourse (youth in the middle school sample were not asked about sexual activity because of their young ages). Only 1.8 percent of the middle school sample and 16.1 percent of the high school sample reported that they had used marijuana; and 2.9 percent of the middle school sample and 11.9 percent of the high school sample reported that they use alcohol more than once a month.

Analysis Variables

Outcome Variables. The impact analysis focuses on two general types of outcome measures (Table 3):

1. ***Service Receipt Variables***, which include five binary measures of service receipt by youth, one binary measure of parental participation, and three measures of how helpful youth perceive these services to be.
2. ***Intermediate Outcomes***, which measure views on sexual abstinence and marriage, relations with peers, relationship and communication skills, perceived consequences of teen sex, and expectations about abstinence.

To form a set of summary measures, individual items were initially grouped together using two criteria: (1) the items focused on the same outcome area identified by the conceptual framework; and (2) the items had similar wordings and response categories. When forming the measures, the coding on certain items was reversed so that a higher response value always indicated a positive change. For example, the coding on the item, “having a good marriage is unrealistic to me,” was reversed so that strong disagreement received the highest value (of 3) and strong agreement received the lowest value (of 0). By doing so, a positive difference between the program and control groups for a given measure always reflects a positive program impact.

The intermediate outcomes examined are well aligned with the *Heritage Keepers*[®] Program components, as shown in Table 4. As shown by the final column of the table, youth in the program group for the Life Skills Education Component receive services that would be expected to influence each of the intermediate outcomes measured. Of primary interest, however, is the extent to which the control group youth—who did not receive the Life Skills Education Component—also receive services that may influence the intermediate outcomes. The evaluation design, which relies on differences in outcomes between program and control groups, would not be expected to yield significant impacts for outcomes expected to be influenced by the Abstinence Education and/or Community Education Components, even if the overall *Heritage Keepers*[®] Program changes these outcomes. As shown in

Table 3. Key Outcome Measures for Impact Analysis of the Life Skills Education Component

Outcome Variables	Variable Definition
Service Use	
Types of Services Received	
Physical Development and Reproduction	Equals 1 if in class that discussed the menstrual cycle, physical development/puberty, or how girls get pregnant; equals 0 otherwise.
Risk Awareness	Equals 1 if in class that discussed abstinence, pregnancy prevention, STDs, and alcohol/drug use; equals 0 otherwise.
Interpersonal Skills	Equals 1 if in class that discussed dating, how to say no to sex, parent communication, standing up for oneself, or resisting peer pressure; equals 0 otherwise
Marriage and Relationships	Equals 1 if in class that discussed marriage and family life or ways to show care; equals 0 otherwise
Parent Participation	Equals 1 if parents participated in a class that discussed any of the topic areas; equals 0 otherwise.
Helpfulness of Services Received	
Knowledge of Pregnancy and STD Risks	How much the classes helped with understanding (a) how girls get pregnant; and (b) how someone can get AIDS or other STDs. Average of responses, ranges from 0 (no help at all) to 1 (a lot of help).
Peer Relations and Concerns About Growing Up	How much classes helped in dealing with peers or concerns about growing up; ranges from 0 (no help at all) to 1 (a lot of help).
Risk Avoidance Skills	How much classes helped with (a) handling problems and pressures, (b) avoiding things that could cause future problems, (c) talking with parents about important things, (d) resisting pressure to have sex, (e) resisting pressure to drink or do drugs, (f) thinking about the future, and (g) making good decisions. Average of responses, ranges from 0 (no help at all) to 1 (a lot of help).
Pledging Abstinence	
Pledged to Abstain from Sex Until Marriage	Equals 1 if ever taken a public or written pledge to remain a virgin until marriage; equals 0 otherwise.
Intermediate Outcomes	
Views on Abstinence, Teen Sex, and Marriage	
Views Supportive of Abstinence	Average of five individual survey items: (a) having sexual intercourse is something only married people should do; (b) it is against my values to have sexual intercourse as an unmarried teen; (c) it would be ok for teens to who have been dating for a long time to have sexual intercourse [reversed]; (d) it is ok for teenagers to have sexual intercourse before marriage if they plan to get married [reversed]; and (e) it is ok for unmarried teens to have sexual intercourse if they use birth control [reversed]. Responses are coded from 0 (strongly disagree) to 3 (strongly agree) and averaged.
Views Unsupportive of Teen Sex	Average of six survey items: (a) petting can lead to sex; (b) in a relationship, there are many more important things than sex; (c) it is ok to say no to touching; (d) the best way to avoid unwanted pregnancy is to wait until marriage to have sex; (e) it is likely that unmarried teens who have sex will get an STD; and (f) it is likely that teens who have sex before marriage will get pregnant. Responses range from 0 (strongly disagree) to 3 (strongly agree), and averaged.

Outcome Variables	Variable Definition
Views Supportive of Marriage	Average of two survey items: (a) having a good marriage is important to me; and (b) having a good marriage is not realistic for me [reversed]. Responses are coded from 0 (strongly disagree) to 3 (strongly agree) and averaged.
Peer Influences and Relations	
Friends' Support for Abstinence	Average of three items: (a) number of five closest friends who think sex at your age is ok [reversed]; (b) number who think someone should wait until marriage to have sex; (c) number who have had sexual intercourse [reversed]. Responses are recoded to four interval measures: 0 (none), 1 (one or two); 3 (three of four); 5 (all of them) and averaged.
Peer Pressure to Have Sex ^a	Equal to 1 if youth felt pressure from friends to have sex; equal to 0 otherwise.
Self-Concept, Refusal Skills, and Communication with Parents	
Self-Efficacy, -Esteem, and -Control	Average of four scales: (a) self-efficacy; (b) self-esteem, (c) locus of control, and (d) self-control. Responses are coded 0 to 3 and averaged.
Refusal Skills ^a	Average of five items asking whether the respondent could (a) stick with decision not to have sexual intercourse; (b) talk with (girl/boy)friend about the decision; (c) avoid getting into a situation that might lead to sexual intercourse; (d) say no to having sexual intercourse, and explain reasons; and (e) stop seeing (girl/boy)friend if s/he keeps pushing. Responses range from 0 (no), 1 (maybe), or 2 (yes), and are averaged.
Communication with Parents	Average of three items: (a) during past year, have you asked your parents a question about sex; (b) how often during past year have you talked with parents about what's right/wrong or good/bad about sex; and (c) how comfortable are you talking with your parents about sex. Responses range from 0 to 2, and are averaged.
Perceived Consequences of Teen and Nonmarital Sex	
Perceived General Consequences of Teen Sex	Average of three items (a) sexual relationships create more problems than they are worth for teens; (b) sexual relations make life too difficult for teens; (c) a teen who has had sex outside of marriage is better off waiting until marriage to have it again. Responses range from 0 (strongly disagree) to 3 (strongly agree) and averaged.
Perceived Personal Consequences of Teen Sex	Average of four items: The extent to which sex as an unmarried teen makes it hard to (a) study and stay in school, (b) have a good marriage and a good family life in the future, (c) develop emotionally and grow morally; and (d) whether sex as an unmarried teen is a problem if no pregnancy results. Responses are coded from 0 (not hard/no problem) to 2 (very hard/big problem) and averaged.
Expectations to Abstain	
Expect to Abstain ^a	Response to questions on how likely youth will have sex as an unmarried teen (if never had sex) or how likely will have sex in the next year (for those who have had sex). Responses are 0 (will do it); 1 (might do it); 2 (will abstain).
Expect to Abstain as an Unmarried Teen ^a	Constructed from the item asking sample members who have not yet had sex how likely it is that they will have sex as unmarried teens. Responses are 0 (will do it); 1 (might do it); 2 (will abstain). For sample members who have already had sexual intercourse, a value of 0 is assigned.

^aMeasure available for high school sample only.

Table 4, both program and control group youth were exposed to program components that are expected to influence many of the intermediate outcomes measures, especially: views toward abstinence, teen sex, and marriage; perceived consequences of teen and nonmarital sex; and expectations to abstain. For the outcome domains on (1) peer influences and relations and (2) self-concept, refusal skills, and parent communication, youth in the Life Skills Education Component program group would be expected to differ from their control group counterparts, as the Life Skills Education Component placed a greater emphasis on these outcomes than did the Abstinence Education Component.

Table 4. Alignment of Program Curricula and Components with the Constructs Underlying the Intermediate Outcome Measures

Descriptor of Measure	Received by Program and Control Group		Received by Program Group
	Abstinence Education Component	Community Education Component	Life Skills Education Component
Views on Abstinence, Teen Sex, and Marriage			
Views Supportive of Abstinence	●	●	●
Views Unsupportive of Teen Sex	●	●	●
Views Supportive of Marriage	●	●	●
Peer Influences and Relations			
Friends' Support for Abstinence	⊙	⊙	●
Peer Pressure to Have Sex	⊙	⊙	●
Self-Concept, Refusal Skills, and Communication with Parents			
Self-Efficacy, -Esteem, and -Control	⊙	○	●
Refusal Skills	⊙	○	●
Communication with Parents	⊙	●	●
Perceived Consequences of Teen and Nonmarital Sex			
General Consequences	●	⊙	●
Personal Consequences	●	⊙	●
Expectations to Abstain			
Expect to Abstain ^a	●	○	●
Expect to Abstain As an Unmarried Teen	●	○	●

Source: Implementation and process analysis data, including reviews of program curricula and classroom observations (Devaney et al. 2002).

^aFor youth who reported having had sex, the measure refers to the next year. For youth who reported not having had sex, the measure refers to the expectation to abstain as an unmarried teen.

● Denotes strong alignment; ⊙ Denotes moderate to strong alignment; ○ Denotes little to no alignment.

Control Variables. Explanatory variables, developed from the Wave 1 survey, cover a wide range of influences on youths' attitudes and experiences. They include measures of individual demographics; household demographics; cultural influences; major life events; school influences; peer influences; health and sex education; familial influences; norms, values, and intentions; and risk-related behavior.

The distributions of these variables, shown in Appendix C, indicate only small differences between the program and control groups. Moreover, these differences generally are well within the range expected by random chance. This is not surprising given the experimental design, but it still provides added assurance of the successful implementation of the randomization—an assurance that is important for the credibility of the estimates of the impacts of the Life Skills Education Component.

Statistical Methods

Impact Estimates. Impacts are estimated as the difference in the mean values of the outcome measures for the program group and the control group. Means are regression-adjusted to improve the precision of estimated impacts and to control for any preexisting differences between the program and control groups that might, by chance, exist in spite of random assignment. Because the study sample includes two distinct subgroups of middle school (sixth-grade) and high school (mostly ninth-grade) youth, the impact analysis is conducted separately for these two subgroups.

In addition to overall impact results for middle and high school youth, this report presents estimates for some additional subgroups. Subgroups are of interest for two reasons. First, to the extent that impacts are evident for the entire sample, it is valuable to determine the source for these impacts and whether they differ between key subgroups. Second, even if there is no compelling evidence of overall impacts, it is important to determine whether impacts might be present for particular subgroups.

The first subgroup is defined by enrollment cohort—middle school youth enrolled in spring and fall 2001 versus those enrolled in fall 2003 cohort. (The 2003 cohort included only middle school youth, not high school youth.) The main reason that impacts might differ across enrollment cohorts is that the Life Skills Education Component might change in the nature, intensity, and quality of services. At the time of initial study enrollment, the Life Skills Education Component was new in the Edgefield school district. Over time, program staff gained experience delivering the component, and community leaders and school staff became more knowledgeable about and involved in providing services. In addition, the Life Skills Education curriculum was revised in 2003 so that curriculum topics were linked more explicitly to the underlying program theme of abstinence until marriage. As a result, impacts may have changed as the Life Skills Education Component matured.

The second subgroup is defined by the degree to which study youth reported views more or less supportive of abstinence before they participated in the Life Skills Education Component. These subgroups—youth more supportive of abstinence versus those less

supportive—are of interest because they provide information on how impacts vary between youth more or less predisposed to the program’s message at the outset.

Hypothesis Testing. For each impact estimate, a two-tailed *t*-statistic tests the null hypothesis that there is no difference between the regression-adjusted means for the program and control groups. The associated p-value, which reflects the probability of obtaining the observed impact estimate when the null hypothesis is true, is used to determine whether the component had a measurable (“statistically significant”) impact. Impact estimates with p-values of 0.10 or less (on two-tailed tests) are denoted by asterisks and referred to in the text as statistically significant and as evidence of an impact. Three levels of significance are displayed, as shown in Table 5.

Table 5. Conventions for Describing Evidence of the Impacts of the Life Skills Education Component

p-value of Impact Estimate	Symbol Used to Denote p-value	Strength of Evidence of Program Impact
$p \leq 0.01$	***	Strong Evidence
$0.01 < p \leq 0.05$	**	Evidence
$0.05 < p \leq 0.10$	*	Limited Evidence
$p > 0.10$	[none]	No Evidence

FIRST-YEAR IMPACTS ON SERVICES RECEIVED

A critical first step in the Title V, Section 510 impact evaluation is an assessment of the extent to which the programs change the health, family life, and sex education services available to participating youth. Changing available services can be viewed as a necessary, but not necessarily sufficient, condition for having impacts on longer term outcomes such as sexual activity. Whether programs change services depends, in part, on the strength of the program’s own services. It also depends on other factors, such as the services youth receive in their schools, churches, and communities.

As described above, estimating impacts on services received entails comparing program and control group experiences. In the context of estimating impacts of the Life Skills Education Component, however, it is important to remember that both the program and the control group received the core Abstinence Education Component. Any difference in program services presumably reflects how the Life Skills Education Component, which only the program group received, serves to reinforce the core Abstinence Education curriculum.

Both program and control group youth reported high levels of participation in health, family life, and sex education classes or programs, and program-control differences in youth participation were not generally statistically significant.

Close to 90 percent of both groups reported participating in a class or program that covered physical development and reproduction, risk awareness, and interpersonal skills; and about 80 percent of both groups reported participating in a class or program on marriage and relationship skills (Figures 2a and 2b). The only significant program-control difference in youth participation was for high school youth in the Life Skills Education Component, who were 4 percentage points more likely than their control group counterparts to report participating in a class or program addressing interpersonal skills (p-value = 0.02).

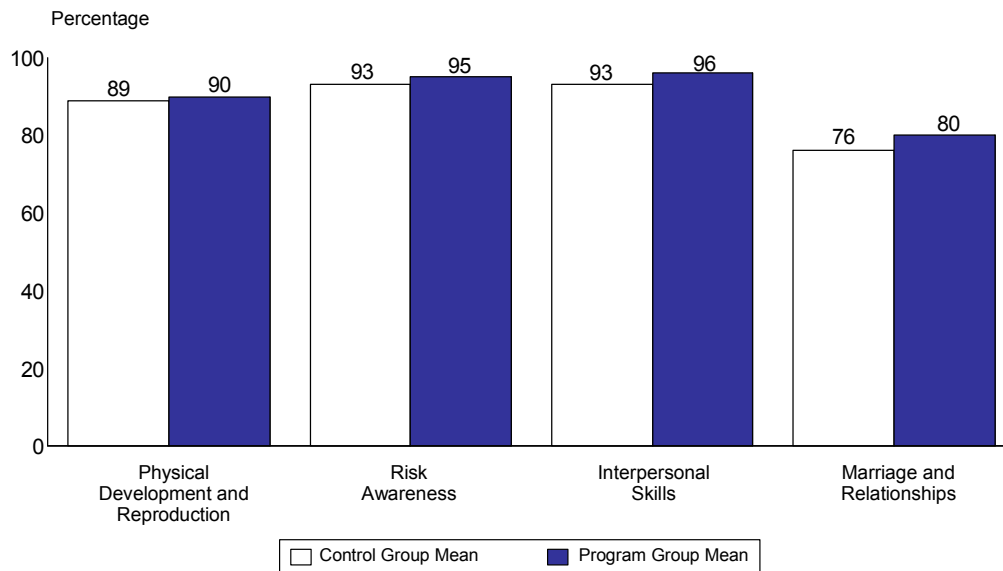
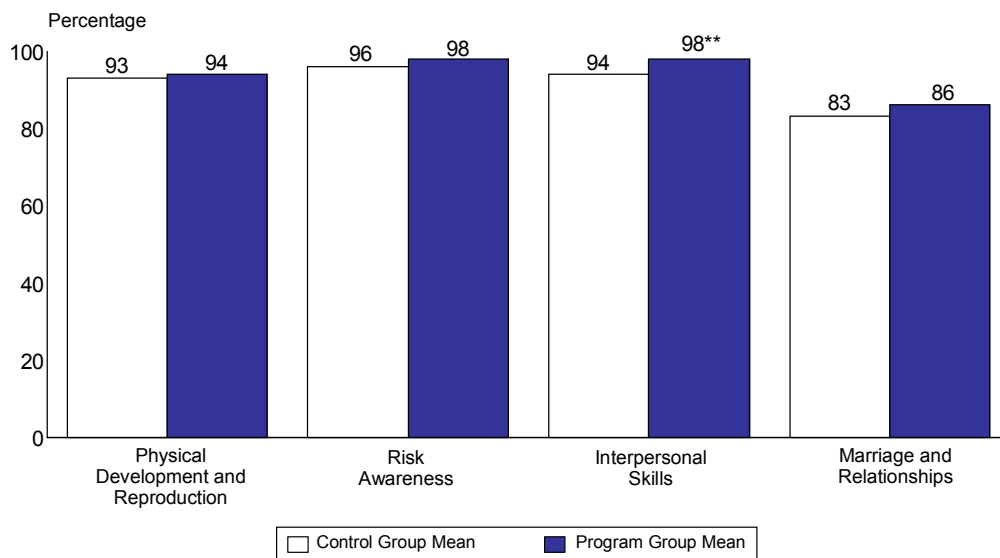
The high level of service receipt by the control group, and the overall lack of impacts on actual participation in classes or programs in these various topic areas, are consistent with the evaluation design for the Life Skills Education Component. Since all students received the core Abstinence Education, which also covered these topic areas, program-control differences would be expected to be small and not statistically significant.

Among middle school youth, the Life Skills Education Component had impacts on the perceived helpfulness of the health, family life, and sex education classes for peer relations and risk avoidance skills, but not for knowledge of pregnancy and STD risks.

Relative to their control group counterparts, middle school youth in the program group reported higher levels of participation in classes or programs they considered helpful with peer relations and concerns about growing up (p-value = 0.09) and in classes or programs they considered helpful for risk avoidance skills (p-value = 0.01) (Figure 3a). These results may suggest that the middle school *Heritage Keepers*[®] Program is providing services to both program and control group, as designed, and that the Life Skills Education Component influences how helpful the middle school program group perceives the services delivered in the Abstinence Education Component to be. However, there are no statistically significant differences in these service receipt measures among the high school sample (Figure 3b).

There are no impacts on the perceived helpfulness of classes with regard to the knowledge of pregnancy and STD risks. In both the middle and high school samples, youth in both the program and control groups reported high levels of helpfulness of classes or programs for knowledge of pregnancy and STD risks (more than 0.79 on a 0-1 scale), and program-control differences were not statistically significant. This result could be related to the fact that the Abstinence Education curriculum all youth received had a heavy focus on the STD risks associated with teen sexual activity.

Youth in the Life Skills Education Component reported higher levels of parent participation in a class or meeting on various topics relating to health and sex education. Youth in the Life Skills Education Component were also more likely to pledge to abstain from sex until marriage.

Figure 2a. Middle School Sample: Participation in Classes or Programs on:**Figure 2b. High School Sample: Participation in Classes or Programs on:**

Source: Wave 2 Survey of Teen Activities and Attitudes (Mathematica Policy Research, Inc. 2000) administered to youth 6 to 12 months after enrollment in the Title V, Section 510 Abstinence Education Program Study Sample.

Note: All estimates are adjusted, based on weighted regression models described in text. For details on the covariates used in these regressions, see Appendix Table C.1.

***p-value (of difference between control and program group) <0.01; **p-value<0.05; *p-value<0.10, two-tailed test.

Figure 3a. Middle School Sample: Participation in Classes Perceived as Helpful for:

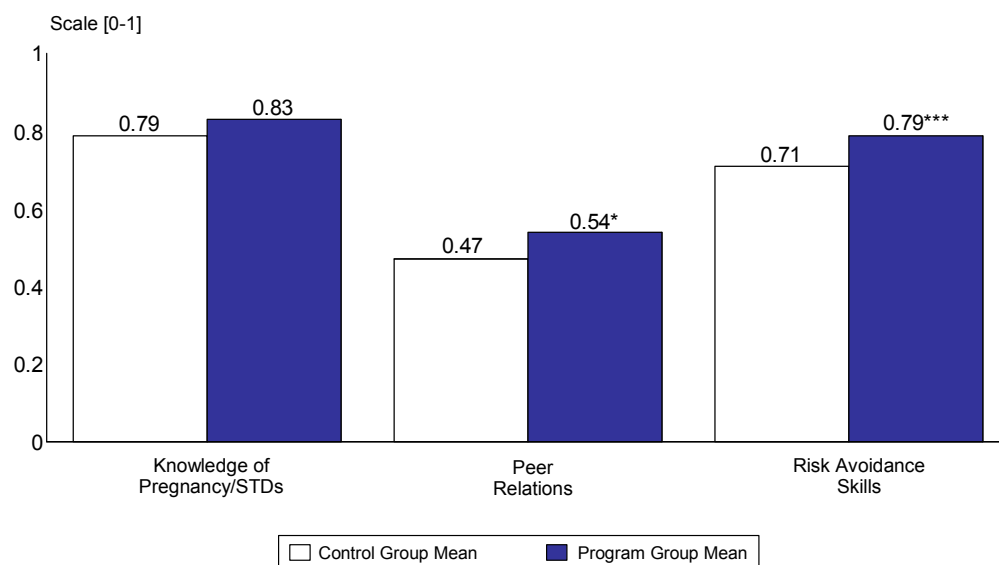
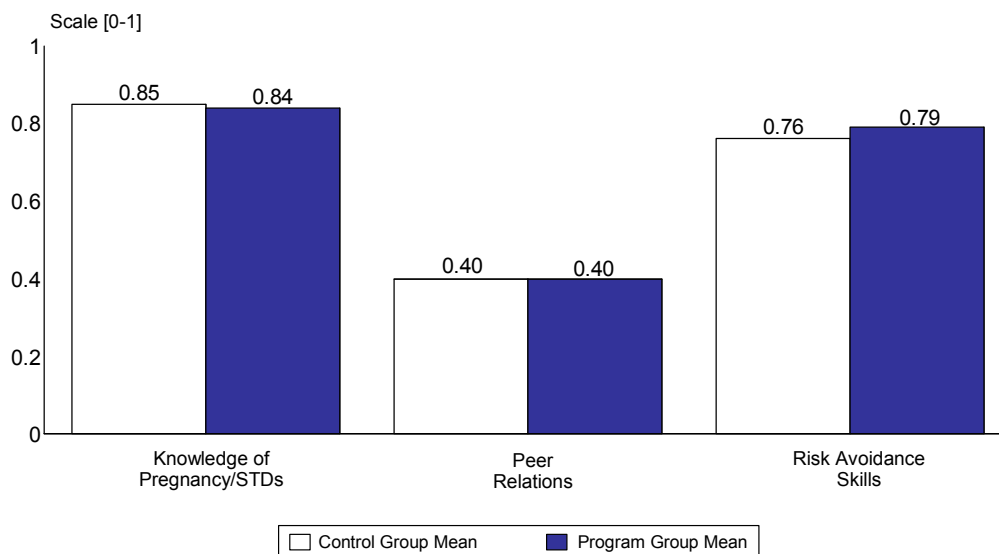


Figure 3b. High School Sample: Participation in Class Perceived as Helpful for:



Source: Wave 2 Survey of Teen Activities and Attitudes (Mathematica Policy Research, Inc. 2000) administered to youth 6 to 12 months after enrollment in the Title V, Section 510 Abstinence Education Program Study Sample.

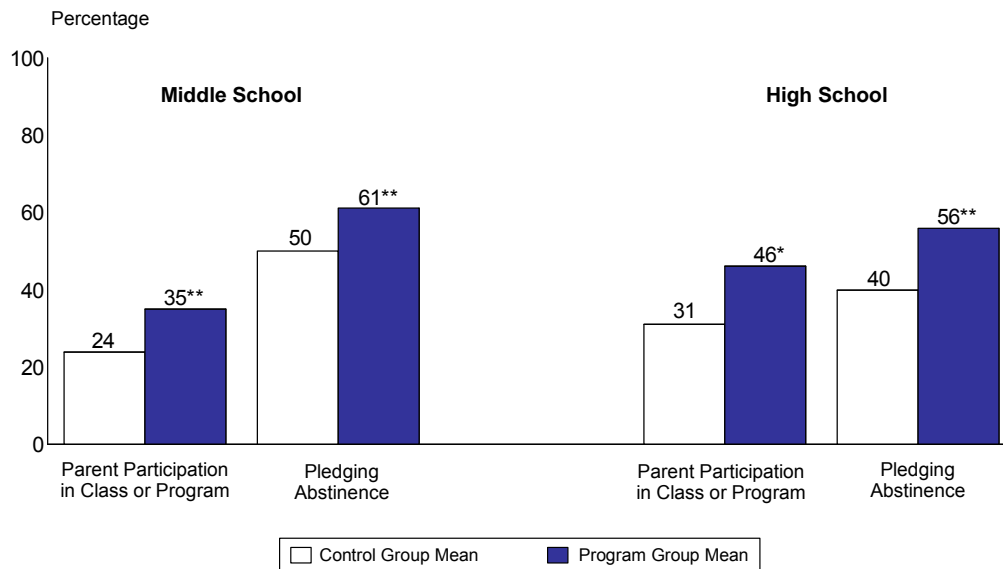
Note: All estimates are adjusted, based on weighted regression models described in text. For details on the covariates used in these regressions, see Appendix Table C.1.

***p-value (of difference between control and program group) <0.01; **p-value<0.05; *p-value<0.10, two-tailed test.

Middle school youth in the Life Skills Education Component were 10 percentage points more likely than their control group counterparts to report that their parents had participated in such a program or meeting (p-value = 0.04) (Figure 4). High school youth in the Life Skills Education Component were 19 percentage points more likely to report that their parents had participated in such a program or meeting than were their control group counterparts (p-value = 0.02).

Middle school youth in the program group were 11 percentage points more likely than their control group counterparts to report having pledged to abstain (p-value = 0.01), and high school youth in the program group were 18 percentage points more likely (p-value = 0.02). These impacts are particularly noteworthy in light of the unusually high pledge rates among youth in the control group in this site—50 percent of control group youth in the middle school sample and 40 percent of control group youth in the high school sample, had pledged to abstain from sex until marriage.⁴ In addition, given that pledging, or

Figure 4. Parent Participation and Pledging Abstinence



Source: Wave 2 Survey of Teen Activities and attitudes (Mathematica Policy Research, Inc. 2000) administered to youth 6 to 12 months after enrollment in the Title V, Section 510 Abstinence Education Program Study Sample.

Note: All estimates are adjusted, based on weighted regression models described in text. For details on the covariates used in these regressions, see Appendix Table C.I.

***p-value (of difference between control and program group) < 0.01; **p-value<0.05; *p-value<0.10, two-tailed test.

⁴ These pledge rates among the control group are considerably higher than those among control group youth in the other four sites studied in the Evaluation of the Title V, Section 510 Abstinence Education Program, which ranged from 8 percent in the *My Choice, My Future!* program in Powhatan, Virginia, to 24 percent in the *Families United Against Teen Pregnancy* program in Milwaukee, Wisconsin (Maynard et al. 2005).

commitment cards, are an explicit activity of the Abstinence Education Component (which both program and control group youth receive), these results suggest that the Life Skills Education Component does serve to reinforce the abstinence message delivered through the core Abstinence Education curriculum.

FIRST-YEAR FINDINGS ON INTERMEDIATE OUTCOMES

Despite increases in the perceived helpfulness of program services and in the proportion of youth pledging to abstain, the Life Skills Education Component did not have significant impacts on 11 of the 12 intermediate outcomes related to sexual abstinence (Table 6). The one exception is a significant impact among middle school youth on their friends' support for abstinence. On average, middle school youth in the program reported higher measures on a scale reflecting support for abstinence among their "five closest friends" (effect size = 0.24; p-value = 0.00).⁵ This positive impact is consistent with the fact that one of the program's aims was to influence youth peer groups. However, the program had no impact among high school youth on friends' support for abstinence or on perceived peer pressure to have sex (a question that was not asked of middle school youth due to their younger ages).

In interpreting these results, it is important to keep in mind that the evaluation of the Life Skills Education Component reflects the impact of this component of the *Heritage Keepers*[®] Program over and above any impact that the core Abstinence Education Component or the Community Education Component had on both program and control group youth. Indeed, as shown in Table 6, both program and control group youth in South Carolina reported views very supportive of abstinence and marriage and very unsupportive of teen sex. In addition, both program and control group youth reported negatively about perceived consequences of teen sex. These high mean values among control group youth could reflect impacts of the Abstinence Education and Community Education Components and/or pre-existing characteristics of youth in Edgefield. Either way, given the high mean values of these measures among the control group, there may have been only limited opportunity for the Life Skills Education Component to influence these outcomes further.

FINDINGS BY ENROLLMENT COHORT

The study analyzed outcomes for three cohorts of middle school youth—those entering the Life Skills Education Component in spring and fall of 2001, and those entering the program in fall 2003. (In contrast, the study analyzed only one cohort of high school youth—those enrolling in fall 2001.) Since the program was relatively new when the earlier cohorts entered, it is informative to examine impacts separately across the early and late cohorts to see how impacts may have changed as the Life Skills Education Component matured. Since high school youth were enrolled only in the earlier cohort, they are not included in this subgroup analysis.

⁵ Even with a Bonferroni adjustment that accounts for the large number of statistical tests being undertaken, this result is statistically significant at the 0.05 level.

Table 6. Life Skills Education Component: First-Year Impacts on Intermediate Outcomes

	Control Group Mean	Program Group Mean	Estimated Impacts		
			Mean Difference	Effect Size ^a	p-value
Views Supportive of Abstinence (0–3)					
Middle School	2.12	2.16	0.04	0.05	0.51
High School	1.84	1.80	–0.03	–0.04	0.73
Views Unsupportive of Teen Sex (0–3)					
Middle School	2.41	2.39	–0.02	–0.03	0.70
High School	2.42	2.38	–0.03	–0.08	0.60
Views Supportive of Marriage (0–3)					
Middle School	2.48	2.49	0.02	0.03	0.77
High School	2.55	2.54	–0.02	–0.03	0.84
Friends' Support for Abstinence (0–5)					
Middle School	3.71	4.02	0.31	0.24	0.00***
High School	2.73	2.72	0.00	0.00	0.99
Peer Pressure to Have Sex (0–3)					
Middle School	n.a.	n.a.	n.a.	n.a.	n.a.
High School	0.26	0.14	–0.12	–0.22	0.18
Self-Efficacy, -Esteem, and -Control (0–3)					
Middle School	2.00	2.05	0.05	0.12	0.12
High School	2.03	1.98	–0.05	–0.11	0.44
Refusal Skills (0–2)					
Middle School	n.a.	n.a.	n.a.	n.a.	n.a.
High School	1.50	1.42	–0.08	–0.14	0.22
Communication with Parents (0–2)					
Middle School	0.95	0.97	0.02	0.03	0.73
High School	1.02	1.00	–0.02	–0.03	0.83
General Consequences of Teen Sex (0–3)					
Middle School	2.24	2.26	0.01	0.02	0.78
High School	2.05	1.95	–0.10	–0.13	0.35
Personal Consequences of Teen Sex (0–2)					
Middle School	1.24	1.29	0.06	0.11	0.17
High School	0.99	1.01	0.02	0.04	0.79
Expect to Abstain^b (0–2)					
Middle School	n.a.	n.a.	n.a.	n.a.	n.a.
High School	1.24	1.13	–0.12	–0.15	0.27
Expect to Abstain as an Unmarried Teen (0–2)					
Middle School	n.a.	n.a.	n.a.	n.a.	n.a.
High School	0.89	0.93	0.04	0.05	0.71

Source: Wave 2 Survey of Teen Activities and Attitudes (Mathematica Policy Research, Inc. 2000) administered to youth 6 to 12 months after enrollment in the Title V, Section 510 Abstinence Education Program study sample).

Note: All estimates are adjusted, based on weighted regression models described in the text. For details on the covariates used in these regressions, see Appendix Table C.1.

^aThe effect size measure is calculated as the ratio of the mean difference to the standard deviation of the outcome measure for the control group.

^bFor youth who reported having had sex, the measure refers to the next year. For youth who have not had sex, the measure refers to the expectations as an unmarried teen.

n.a. = not available. Youth in the middle school sample were not asked these questions because of their young ages.

***p-value (of mean difference)<0.01; **p-value<0.05; *p-value<0.10, two-tailed test.

Impacts on Services Received by Enrollment Cohort. In general, the impacts of the Life Skills Education Component on service receipt were larger among the 2003 cohort than among the 2001 cohorts (Table 7). As with the overall middle school sample, the Life Skills Education Component did not have significant impacts on either the earlier or the later enrollment cohorts on health, family life, and sex education classes/programs, or on participation in classes/programs perceived as helpful with pregnancy and STD risks. However, statistically significant impacts within enrollment cohorts were found on the following outcomes:

- **Positive impact on parent participation in later cohort.** Youth in the Life Skills Education Component in the 2003 cohort reported significantly higher levels of parent participation in classes or programs related to health and sex education than their control group counterparts (effect size = 0.65; p-value = 0.00). There was no significant impact on parent participation among the 2001 cohorts.
- **Positive impact on participation in classes perceived as helpful with peer relations and concerns about growing up in later cohort.** The Life Skills Education Component had a positive impact on participation in classes or programs perceived as helpful for peer relations and concerns about growing up among the 2003 cohort (effect size = 0.35; p-value = 0.02) and no impact among the earlier cohorts.
- **Positive impact on pledging to abstain in later cohort.** The Life Skills Education Component had a positive impact on youths' pledging to abstain from sex until marriage in the 2003 cohort (effect size = 0.31; p-value = 0.02), but not in the 2001 cohorts.

Impacts on Intermediate Outcomes by Enrollment Cohort. As with service receipt, the Life Skills Education Component also generally had larger impacts on intermediate outcomes among middle school youth in the 2003 cohort than among middle school youth in the 2001 cohorts (Table 7).

- **Positive impact on views supportive of abstinence in later cohort.** The Life Skills Education Component had a statistically significant impact on youth views supportive of abstinence in the 2003 enrollment cohort (effect size = 0.29; p-value = 0.04), but not on those in the 2001 enrollment cohorts.
- **Positive impact on perceived personal consequences of teen sex in later cohort.** The Life Skills Education Component had no impact on this measure among youth in the 2001 cohorts and a positive impact on youth in the 2003 cohort (effect size = 0.42; p-value = 0.00).

Table 7. Middle School Life Skills Education Component: Estimated First-Year Impacts on Service Receipt and Intermediate Outcomes by Enrollment Cohort

	Spring and Fall 2001 Cohorts		Fall 2003 Cohort	
	Impact	Effect Size ^a p-value	Impact	Effect Size ^a p-value
Service Receipt				
Class on Physical Development and Reproduction	0.03	0.08	-0.01	-0.02
Class on Risk Awareness	0.03	0.11	0.00	0.00
Class on Interpersonal Skills	0.02	0.08	0.04	0.16
Class on Marriage and Relationships	0.04	0.09	0.05	0.11
Parent Participation in Class or Meeting	0.01	0.01	0.29	0.65
Class Helpful for Knowledge of Pregnancy and STD Risks	0.04	0.12	0.03	0.07
Class Helpful for Peer Relations and Concerns About Growing Up	0.03	0.06	0.17	0.35
Class Helpful for Risk Avoidance Skills	0.07	0.21	0.10	0.29
Pledged to Abstain from Sex Until Marriage	0.08	0.16	0.16	0.31
Intermediate Outcomes				
Views Supportive of Abstinence	-0.04	-0.06	0.21	0.29
Views Unsupportive of Teen Sex	-0.06	-0.11	0.07	0.14
Views Supportive of Marriage	-0.04	-0.06	0.13	0.21
Friends' Support for Abstinence	0.29	0.23	0.33	0.25
Self-Efficacy, -Esteem, and -Control	0.04	0.09	0.07	0.17
Communication with Parents	0.04	0.05	-0.01	-0.01
General Consequences of Teen Sex	-0.02	-0.04	0.10	0.16
Personal Consequences of Teen Sex	-0.02	-0.04	0.22	0.42

Source: Wave 2 Survey of Teen Activities and Attitudes (Mathematica Policy Research, Inc. 2000) administered to youth 6 to 12 months after enrollment in the Title V, Section 510 Abstinence Education Program study sample.

Note: All estimates are adjusted, based on weighted regression models described in the text. For details on the covariates used in these regressions, see Appendix Table C.1.

^aThe effect size measure is calculated as the ratio of the mean difference to the standard deviation of the outcome measure for the control group.

***p-value (of mean difference)<0.01; **p-value<0.05; *p-value<0.10, two-tailed test.

As with the overall middle school sample, the Life Skills Education Component did not have significant impacts for either the earlier or the later enrollment cohorts on views unsupportive of teen sex and supportive of marriage; self-efficacy, -esteem, and -control; communication with parents; and perceived general consequences of teen sex.

FINDINGS BY VIEWS ON ABSTINENCE AT ENROLLMENT

It is possible that the Life Skills Education Component has different effects on youth who are more, or less, receptive to the program's message when they enroll. To examine whether this is the case, we analyzed whether the impacts differ among youth who held views more and less supportive of abstinence at the time they enrolled in the study sample. Since the sample size of the high school cohort is small (152 students), high school students are not included in this subgroup analysis.

Impacts on Services Received by Views on Abstinence at Enrollment. Although youth with views less supportive of abstinence at enrollment in principle received the same services as those with views more supportive of abstinence, impacts on measured service receipt may differ between the two groups if their perceptions of quality of the services received differ, if they are more or less likely to attend on a regular basis, or if program staff interact with them differently.

Generally, impacts on service receipt appear stronger for those less supportive of abstinence than for those more supportive of abstinence at the time of enrollment in the Life Skills Education Component (Table 8). Specifically, among the middle school sample the Life Skills Education Component had a significant impact on both (1) parent participation, and (2) perceived helpfulness of classes for peer relations and risk avoidance skills among youth with views less supportive of abstinence at enrollment. However, it had no impact on these measures among youth with views more supportive of abstinence at enrollment. On the other hand, the program's impact on pledging to abstain for middle school youth is attributable primarily to youth with more supportive views of abstinence. The program had no significant impact on pledging among middle school youth with less supportive initial views of abstinence.

Impacts on Intermediate Outcomes by Views on Abstinence at Enrollment. As with the service receipt outcomes, impacts on the intermediate outcomes appear somewhat stronger for those less supportive of abstinence than for those more supportive of abstinence at the time of study enrollment (Table 8). Among middle school youth with views less supportive of abstinence at enrollment, the Life Skills Education Component had a statistically significant impact on three of the eight intermediate outcomes measured for this group—self-efficacy, -esteem, and -control (effect size = 0.22; p-value = 0.05), communication with parents (effect size = 0.25; p-value = 0.06), and perceptions of the personal consequences of teen sex (effect size = 0.25; p-value = 0.07). Among middle school youth with views more supportive of abstinence at enrollment, the program had a statistically significant impact on only one of the eight intermediate outcomes—friends' support for abstinence (effect size = 0.25; p-value = 0.00).

Table 8. Middle School Life Skills Education Component: Estimated Impacts on Service Receipt and Intermediate Outcomes, by Views on Abstinence at Enrollment

	Less Supportive Views			More Supportive Views		
	Impact	Effect Size ^a	p-value	Impact	Effect Size ^a	p-value
Service Receipt						
Class on Physical Development and Reproduction	0.01	0.03	0.86	0.02	0.06	0.58
Class on Risk Awareness	-0.03	-0.13	0.44	0.05	0.20	0.06*
Class on Interpersonal Skills	0.02	0.09	0.55	0.03	0.11	0.32
Class on Marriage and Relationships	-0.01	-0.02	0.91	0.07	0.16	0.17
Parent Participation in Class or Meeting	0.23	0.50	0.00***	0.02	0.04	0.78
Class Helpful for Knowledge of Pregnancy and STD Risks	0.09	0.23	0.12	0.01	0.03	0.81
Class Helpful for Peer Relations and Concerns About Growing Up	0.14	0.28	0.05*	0.04	0.09	0.46
Class Helpful for Risk Avoidance Skills	0.13	0.37	0.02**	0.05	0.16	0.16
Pledged to Abstain from Sex Until Marriage	0.08	0.16	0.25	0.12	0.24	0.03**
Intermediate Outcomes						
Views Supportive of Abstinence	0.16	0.22	0.12	-0.04	-0.06	0.56
Views Unsupportive of Teen Sex	-0.07	-0.13	0.37	0.02	0.03	0.77
Views Supportive of Marriage	-0.04	-0.07	0.66	0.05	0.09	0.42
Friends' Support for Abstinence	0.26	0.20	0.12	0.33	0.25	0.00***
Self-Efficacy, -Esteem, and -Control	0.09	0.22	0.05*	0.02	0.05	0.59
Communication with Parents	0.18	0.25	0.06*	-0.07	-0.10	0.34
General Consequences of Teen Sex	0.00	0.00	0.99	0.02	0.03	0.76
Personal Consequences of Teen Sex	0.13	0.25	0.07*	0.01	0.02	0.84

Source: *Wave 2 Survey of Teen Activities and Attitudes* (Mathematica Policy Research, Inc. 2000) administered to youth 6 to 12 months after enrollment in the Title V, Section 510 Abstinence Education Program study sample.

Note: All estimates are adjusted, based on weighted regression models described in the text. For details on the covariates used in these regressions, see Appendix Table C.1.

^aThe effect size measure is calculated as the ratio of the mean difference to the standard deviation of the outcome measure for the control group. ***p-value (of mean difference)<0.01; **p-value<0.05; *p-value<0.10, two-tailed test.

CONCLUSIONS AND DISCUSSION

This study of the Life Skills Education Component of the *Heritage Keepers*[®] Program in Edgefield, South Carolina examines the first-year impacts of the Life Skills Education Component on the health and sex education services youth received and on intermediate outcomes thought to be related to sexual activity. Since all youth in both the treatment and the control groups participated in the schools' mandatory Abstinence Education Component and may have been exposed to various elements of the Community Education Component, the impact estimates presented in this report represent the incremental effects of providing the Life Skills Education Component to youth. By design, the study does *not* provide evidence on the effects of the classroom-based Abstinence Education Component all youth received, or of the Community Education Component to which the youth may have been exposed.

The results of this study indicate that the Life Skills Education Component had a positive impact on the perceived helpfulness of program services but no impact on reported participation in health, family life, and sex education classes. The program generally had no impact on intermediate outcomes thought to be related to teen sexual activity. The one exception was a positive impact on support for abstinence among middle school youth's five closest friends, which is consistent with the program's goals of influencing youth peer groups. However, there were no impacts on this measure for high school youth or on the other measure of peer influences and relations examined.

There was generally more evidence of impacts on both service receipt and intermediate outcomes among middle school youth in the later (2003) enrollment cohort than among youth in the earlier (2001) enrollment cohorts. This suggests that the program's effectiveness in influencing these outcomes may have improved over time. Larger impacts for the 2003 cohort are also consistent with the revision to the Life Skills Education Component that occurred at that time, when program staff modified the curriculum so that each curriculum topic was related explicitly to the underlying message of abstinence until marriage. In addition, the program had larger impacts on services received among middle school youth with views less supportive of abstinence than among youth with views more supportive.

Limitations of this Study. Several factors are important to keep in mind in interpreting these results. First, mean outcomes for youth in the control group were near the top of the scales for several measures, leaving only limited opportunity for the Life Skills Education Component to further influence these outcomes. The high mean outcomes among the control group could suggest that the core Abstinence Education Component, in which all youth participated, had a positive impact on youth's intermediate outcomes or that youth in the study sample would have had generally high mean levels of these outcomes even in the absence of either component. Either way, given the generally high mean values for intermediate outcomes among the control group, there may have been only limited opportunity for the Life Skills Education Component to influence these intermediate outcomes further.

Second, as mentioned earlier, a potential limitation of the random assignment research design is that there may be unmeasured spillover effects of the Life Skills Education Component. If the program had some influence on students in the control group simply through changes in school culture or effects on their peers in the program group, estimated impacts of the program's effects may be understated.

Third, a rigorous evaluation of the Life Skills Education Component required a random assignment design; however, this design may have changed the selection procedures typically used by program staff. Since the Life Skills Education Component usually does not have sufficient resources to include all eligible youth, program staff typically select a subset of youth for the program. They attempt to select a broad representation of the school youth, but with a focus on including "trendsetters." For the purposes of the impact evaluation, however, all youth who applied for the program were randomly assigned to the program or to the control group. The impact estimates from this report therefore represent the average impacts among all youth who applied to the program. To the extent that the program's impacts differ for different types of youth, the impact estimates for the full program group may not readily generalize to impacts for the types of youth typically selected to be in the program.

The Title V, Section 510 evaluation design may also have affected *Heritage Keepers*[®] Program operations more generally. One of the three components of the *Heritage Keepers*[®] Program is the Community Education Component, which involves parent education, assembly speakers, faith community initiatives, media initiatives, and Family Assets and Character Councils. Because of their inclusion in the national evaluation, program staff sometimes attempted to limit what they perceived as potential contamination of the control group, either by reducing their exposure to the Community Education Component or by not including many of the usual elements of the program in Edgefield in the first place. Either way, this could lead estimated impacts of the Life Skills Education Component to be somewhat overstated relative to impacts under normal program operations if the full the Community Education Component also has positive effects on youth; alternatively, it could lead estimated impacts to be somewhat understated if the Life Skills Education Component is more effective if youth are also exposed to the full intended intensity of the Community Education Component.

Finally, the Life Skills Education Component is a multiyear intervention in which youth are intended to remain for up to six years. The study of the first-year impacts is based on data collected only 6 months to one year after youth enrolled in the study sample, and youth had therefore received only a fraction of the intended intervention. A future study, based on data collected between 2 and 5 years after youth enrolled, will examine the program's impacts after youth have had the opportunity to participate for the full intervention period. Findings from this study will provide evidence on whether the Life Skills Education Component is a useful and effective addition to the core classroom-based Abstinence Education Component all youth receive, and will provide guidance to staff of *Heritage Keepers*[®] and similar programs on how best to allocate their resources to promote abstinence among youth.

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APPENDIX A
OUTLINE OF *HERITAGE KEEPERS*[®]
ABSTINENCE EDUCATION[©]
CURRICULUM

Heritage Keepers[®] Abstinence Education I and II[©] Curriculum¹

Abstinence Education I

Section One

- Abstinence: The New Revolution
- Getting to Know You
- No Apologies video
- My Values
- Rolling the Dice game

Section Two

- Family Formation
- Male Reproductive System
- Female Reproductive System (internal and external)
- Preview of a Birth video
- Sex Is Like Fire
- Marriage
- The Marriage Union

Section Three

- Just Thought You Outta Know video
- STD Facts (Interactive DVD presentation by the Medical Institute for Sexual Health)
- Pink Water/STD Game
- How to Abstain from Sexual Activity
- Perfect Boyfriend/Girlfriend vs. Perfect Husband/Wife

Section Four

- Love, Lust and Infatuation
- Building Relationships Without Having Sex
- Thinking of the Opposite Sex as People
- The Making of a Man/Woman

Section Five

- The SAFE Plan
- Role-playing Resistance Skills
- Imagine Your Wedding
- Your Commitment

¹ The study sample had only been exposed to the Abstinence Education I curriculum at the time the data analyzed in this report were collected.

Abstinence Education II

Section One

- Remember Abstinence?
- Starting Over (secondary virginity)
- Stress-provoking Sex vs. Joy-provoking Sex
- Sex is Not a Game video
- Refuting Reasons for Having Sex
- Reject the Message (STD Review)

Section Two

- Your Social Life Without Drugs and Alcohol and Sex
- Popularity and You: How Far Are You Willing to Go
- Learning Balance Between Popularity and Your Values, Boundaries and Goals
- Young Love Can Be Too Hard (study)
- Dealing with the Opposite Sex
- When Are You Ready to Date
- Keeping Dating Casual
- Being Ladies and Gentleman
- Love vs. Infatuation
- Unhealthy and Dangerous Dating Relationships
- Keeping SAFE

Section Three

- What Is Marriage?
- What Happened to Marriage?
- Cohabitation vs. Marriage
- Wedding vs. Marriage
- Taking Responsibility for Your Future
- Pornography
- Refusal Skills

Section Four

- What Is Communication?
- Clearly Communicating Values, Boundaries and Goals
- Communication Do's and Don'ts
- Why Communication?
- Practicing Listening
- Building Stronger Relationships Through Communication
- Broadcasting a Standard

Section Five

- The Power of the Media
- Media's Profit Motive
- Thinking About the Message
- Media and Sex
- Standing Up Against Negative Media Influence

APPENDIX B
OUTLINE OF *HERITAGE KEEPERS*[®]
LIFE SKILLS EDUCATION[©]
CURRICULUM

Heritage Keepers[®] Life Skills Education[©] Curriculum

Life Skills Education I

Welcome to Heritage Keepers!/What Is a Heritage Keeper
Important Facts About Heritage Keepers
Heritage Keepers and Abstinence

Your Attitude
Character Trait: Respect
Our Heritage: Clebe McClary
Your Attitude and Abstinence

Understanding Yourself
Feelings, Thoughts and Actions
Character Trait: Benevolence
Our Heritage: Margaret of New Orleans
Understanding Yourself and Abstinence

Boundaries Are the Key
My Boundaries
Character Trait: Virtue
Our Heritage: Pee Wee Reese
Boundaries and Abstinence

Good Character and Risky Behavior
Reaching Your Full Potential
Drinking
Smoking
Drugs
Sexual Activity
Character Trait: Responsibility
Our Heritage: Justin Armour
Good Character and Abstinence

Examining My Values
Media
Peers
Family
Character Trait: Integrity
Our Heritage: Strong Values, Then and Now
Examining My Values and Abstinence

Determining My Goals
How About You?
Lifetime Goals
Educational and Career Goals

Goals for This Year
Staying Away from Risky Behaviors
Character Trait: Wisdom
Our Heritage: John Goddard
Determining My Goals and Abstinence

Making Wise Decisions
Decision Making Worksheet
Character Trait: Truthfulness
Our Heritage: Rebecca and Abagial Bates
Making Wise Decisions and Abstinence

Who's in Control of Me?
Personal Control Scorecard
Character Trait: Self-control
Our Heritage: Kay Coles James
Who's in Control of Me and Abstinence

Friends and Peer Pressure
Character Trait: Sincerity
Our Heritage: Clebe and Deanna McClary
Friends, Peer Pressure and Abstinence

Guarding My Body
Character Trait: Self-motivation
Our Heritage: The American Boy
Guarding My Body and Abstinence

Resisting Temptation
The SAFE Plan
Character Trait: Cautiousness
Our Heritage: Jackie Robinson
Resisting Temptation and Abstinence

Young Adult Contract

Life Skills Education II

Your School
Your School and Abstinence
Our Heritage: Make a Difference Day

School PRIDE
School PRIDE and Abstinence
Character Trait: Citizenship

Learning to Communicate
Learning to Communicate and Abstinence
Our Heritage: Helen Keller

Clearly Communicating Values, Boundaries & Goals

Values
Boundaries
Goals
Setting Values, Boundaries and Goals and Abstinence
Character Trait: Caring

Standing Up for Myself

The Real Deal: Stand Up for Your Values, Boundaries and Goals
Standing Up for Myself and Abstinence
Our Heritage: Shoeless Joe Jackson

Handling Challenges

Discouraging People
Discouraging Situations
The True Exception
Handling Challenges and Abstinence
Character Trait: Courage

Representing

Representing and Abstinence
Our Heritage: Teddy Roosevelt

Using Self-discipline

Self-discipline and Abstinence
Character Trait: Personal Responsibility

Your Potential

Your Potential and Abstinence
Our Heritage: Lakita Garth

Goal Setting

Family
Academic
Personal
Goal Setting and Abstinence
Character Trait: Patience

Commitment

Commitments and Abstinence
Our Heritage: Joe McIlhaney, MD

Keeping Commitments

Not Keeping Commitments vs. Keeping Commitments
Commitments and Abstinence
Character Trait: Dependability

Life Skills Education III

Using Proper Manners

- Telephone Manners
- Our Heritage: Pocahontas
- Using Proper Manners and Abstinence
- Thank You Notes
- Manners at Home
- Introductions
- Conversational Manners
- Respecting Elders
- Manners in Sports
- Manners in Public Places
- Table Manners
- Using Proper Manners and Abstinence
- Character Trait: Courteousness

Learning to Apologize

- Our Heritage: Cheryl Wood
- Apologizing and Sexual Activity

Forgiving Yourself

- Forgiving Yourself and Abstinence
- Character Trait: Genuineness

Building Lasting Relationships (Friends and Family)

- Building Relationships with Friends and Family and Abstinence
- Our Heritage: Quaddy and Lucy Jones

Building Lasting Relationships (Authority Figures)

- Building Relationships with Authority and Abstinence
- A Good Relationship Takes...
- Character Trait: Fidelity

Proud to Be Me

- Proud to Be Me and Abstinence
- Our Heritage: Alex Haley

Family Formation

- Family Formation and Abstinence
- Character Trait: Gratefulness

Proud of My Government

- Proud of My Government and Abstinence
- Our Heritage: Patrick Henry
- Proud of My Government and Abstinence
- Character Trait: Justice

Proud to Be an American

Proud to Be and American and Abstinence

Our Heritage: Hallie Meetze Brantley

Proud to Be and American and Abstinence

Character Trait: Foresight

Life Skills Education IV

Developing Strong Character

Fitting in

The “You” at School

The Social “You”

Sex

Drugs and Alcohol

Violence

Putting It All in Perspective

Taking a Stand, Becoming an Advocate

Developing Strong Character and Abstinence

Our Heritage: Booker T Washington

Dealing with Hormones

What You Can Expect as You Transition into an Adult

What Are Hormones?

Hormones and Abstinence

Character Trait: Mindfulness

Your Boundaries: What Will You Let in Your Heart and Mind

Who Controls You?

Media Affects Your Life

Don’t Buy into the Message

Media and Abstinence

Our Heritage: Susan B Anthony

Your Boundaries

Phrases to Help You Stand Up to Sexual Peer Pressure

Secondary Virginity

Your Boundaries and Abstinence

Character Trait: Discernment

Compassion

Ways to Be a Compassionate Citizen

Compassion and Abstinence

Our Heritage: Abraham Lincoln

Communications Review

- Review
- Steps of Communication
- Communication and Abstinence
- Practice Listening
- Character Trait: Gentleness

The History of the Dating Process

- Learning from the Past
- Courtship, from Colonial Times to 1830
- 1830-1880
- 1880-1920
- 1930-1945
- 1945-1960
- 1960-2000
- The History of Dating and Abstinence
- Our Heritage: Abigail Adams

Dating Today

- Current
- Dating Today and Abstinence
- Character Trait: Knowledge

Are You Ready to Date?

- Are You Ready
- A Special Note to the Girls
- A Special Note to the Guys
- Waiting to Date Shows Maturity
- A Dating Checklist
- Tips for Girls and Guys
- Ready to Date and Abstinence
- Our Heritage: Katie Beckham

While Dating

- Healthy Relationships
- Dress for Respect
- Plan Your Dates
- Show Your Date Manners
- Relationships Are Hard Enough Without Sex
- Love, Lust and Infatuation
- Dr. Laura's "Is It Love" Test
- Character Trait: Honor

Saying No to Sex Outside of Marriage

- Sex Before Marriage Is Risky
- Did You Know?
- Rejecting Sexual Advances
- Saying No to Sexual Activity and Abstinence
- NIH Condom Report
- Our Heritage: Lisa Kudrow

Understanding and Protecting Your Body
Be a Whole Person
Your Body Systems
Protecting Your Reproductive System
Protecting Your Skeletal System
Protecting Your Muscular System
Protecting Your Nervous System
Protecting Your Respiratory System
Protecting Your Digestive System
Protecting Your Circulatory System
Protecting Your Body and Abstinence
Character Trait: Individuality

Life Skills Education V

Dealing with Stress and Emotions
Deal with Your Emotions
Stress
Stress and Abstinence
Our Heritage: Jesse Owens

Factors of Stress
Stress-related Health Risks
How to Cope with Stress
How to Stop Stress Ahead of Time

Introduction to Risky Behaviors
Abstaining from Risky Behaviors
The Dangers of Smoking
Risky Behaviors and Abstinence
Our Heritage: Antonia C Novello

The Dangers of Alcohol and Pornography
Alcohol and Sex
You Have a Problem with Alcohol if
Health Risks Associated with Alcohol
Why Pornography Is Dangerous
Alcohol and Abstinence
Drugs, Alcohol and Sex—A Dangerous Combination
Character Trait: Boldness

Saying “No” to Drugs
Drugs: How Can they Affect Me?
MDMA
Steroids
LSD
Ketamine

B.10

Rohypnol
Metamphetamine
Drugs and Abstinence
Our Heritage: Robert Ellington

Saying “No” to Drugs

GHB
PCP
Cocaine
Heroin
Marijuana
Inhalants
Drugs and Abstinence
Character Trait: Judgment

Saying “No” to Violence

What Is Violence?
Why Are Some People Violent?
You Can Control Your Feelings
Abstinence and Saying “No” to Violence
Our Heritage: Erika Harold

Protecting Yourself from Violence

Date Rape
Some Possible Hazards
Some Tips for Ending Conflict
Conflict Resolution Steps
Abstinence and Protecting Yourself from Violence
Character Trait: Discretion

Fueling Your Body

USDA Guidelines
Food Pyramid
What Counts as a Serving?
Nutrition and Abstinence
Our Heritage: Jerry Raymond

Managing Your Weight

Losing Weight
Gaining Weight
Eating Healthy
Proper Brushing
Proper Flossing
Managing Your Weight and Abstinence
Fitness Plan
Character Trait: Self-restraint

Keeping Your Body Healthy

Anorexia Nervosa
Bulimia Nervosa
Binge Eating

Overeating
Warning Signs of Eating Disorders
If You Know Someone with an Eating Disorder
Keeping Your Body Healthy and Abstinence
Our Heritage: Arnold Schwarzenegger

Living Healthy
Screenings/Immunizations
What You Need to Have Checked in the Future
Living Healthy and Abstinence
My Boundaries
My Goals
My Best Refusal Line
Character Trait: Contentment

APPENDIX C

**SUPPORTING TABLES FOR THE FIRST-YEAR
IMPACT ANALYSIS OF THE *HERITAGE*
KEEPERS® LIFE SKILLS
EDUCATION COMPONENT**

Table C.1. Ranges and Means of Control (Baseline) Variables for the Analysis

Variable Descriptor	Range	Means		p-value (Program-Control)
		Program Group	Control Group	
Middle School Life Skills Education Component Sample				
Child Demographics				
Enrollment Cohort: Spring 2001	[0,1]	0.32	0.32	0.93
Enrollment Cohort: Fall 2001	[0,1]	0.36	0.34	0.65
Gender: Girl	[0,1]	0.53	0.55	0.78
Age 10	[0,1]	0.00	0.00	0.34
Age 12	[0,1]	0.32	0.30	0.70
Age 13	[0,1]	0.07	0.05	0.42
Age 14	[0,1]	0.00	0.00	0.96
Age 15	[0,1]	0.00	0.00	0.34
Age: Don't Know	[0,1]	0.00	0.00	0.35
Race/Ethnicity: White	[0,1]	0.37	0.42	0.26
Race/Ethnicity: Hispanic	[0,1]	0.04	0.06	0.41
Race/Ethnicity: Other	[0,1]	0.06	0.02	0.02
Household Demographics				
Household Structure: Biological/Stepparent	[0,1]	0.09	0.10	0.83
Household Structure: Single Biological Parent	[0,1]	0.34	0.37	0.46
Household Structure: Other	[0,1]	0.07	0.08	0.65
Presence of Mother Figure	[0,1]	0.99	0.99	0.51
Presence of Mother Figure: Don't Know	[0,1]	0.00	0.00	0.94
Presence of Father Figure	[0,1]	0.92	0.89	0.28
Presence of Father Figure: Don't Know	[0,1]	0.02	0.05	0.12
Parents Married	[0,1]	0.56	0.45	0.01
Parents Married: Don't Know	[0,1]	0.08	0.07	0.60
Mother Employed	[0,1]	0.73	0.78	0.15
Cultural Influences				
Religiosity: Low	[0,1]	0.05	0.04	0.55
Religiosity: High	[0,1]	0.45	0.40	0.25
TV Viewing: Low	[0,1]	0.31	0.39	0.05
TV Viewing: High	[0,1]	0.26	0.19	0.09
Major Life Events				
Unmarried Sister Got Pregnant	[0,1]	0.09	0.06	0.21
Sibling Dropped Out of School	[0,1]	0.04	0.06	0.32
Other Major Family Event	[0-1]	0.68	0.69	0.93
School Influences				
Perceptions of School	[0-1]	0.79	0.81	0.28
Combined Grade in Math and Reading: Low	[0,1]	0.05	0.03	0.19
Combined Grade in Math and Reading: High	[0,1]	0.54	0.69	0.00
Combined Grade in Math and Reading: Don't Know	[0,1]	0.06	0.04	0.33
Number of After-School Activities	[0-9]	2.25	2.22	0.81

C.4

Variable Descriptor	Range	Means		p-value (Program-Control)
		Program Group	Control Group	
Peer Influences				
Peer Risk Behavior: Medium	[0,1]	0.24	0.19	0.22
Peer Risk Behavior: High	[0,1]	0.03	0.01	0.24
Peer Pressure to Have Sex: Medium	[0,1]	0.25	0.27	0.53
Peer Pressure to Have Sex: High	[0,1]	0.14	0.10	0.19
Health and Sex Education				
Received Sex Education	[0-1]	0.57	0.56	0.65
Knowledge of STDs	[0-11]	3.33	3.42	0.74
Familial Influences				
Relationship with Mother	[0-3]	2.50	2.51	0.88
Relationship with Father	[0-3]	2.20	2.19	0.82
Activities with Mother	[0-8]	4.54	4.33	0.20
Activities with Father	[0-8]	3.27	3.41	0.49
Family Rules on Dating: None	[0,1]	0.26	0.18	0.05
Family Rules on Dating: Strict	[0,1]	0.35	0.44	0.04
Other Family Rules	[0-2]	1.27	1.29	0.63
Argue with Parents About Rules	[0,1]	0.47	0.46	0.89
After-School Supervision: No One	[0,1]	0.17	0.15	0.44
After-School Supervision: Older Sibling	[0,1]	0.07	0.08	0.75
Parents' View on Supervision	[0,1,2]	0.56	0.53	0.53
Communication with Parents	[0-1]	0.62	0.62	0.96
Comfortable Talking to Parents About Sex	[0,1]	0.38	0.33	0.20
Norms, Values, and Intentions				
Consequences of Having Sex: Low	[0,1]	0.23	0.18	0.18
Consequences of Having Sex: High	[0,1]	0.21	0.28	0.08
Own Values Toward Abstinence	[1-4]	3.20	3.25	0.54
Normative Values Toward Abstinence	[1-4]	3.21	3.20	0.84
Locus of Control, Self-Control	[0-3]	1.72	1.81	0.04
Ability to Resist Pressure for Sex	[0-2]	n.a.	n.a.	–
Chance Will Have Sex Next Year	[0,1,2]	n.a.	n.a.	–
Chance Will Have Sex Before End of High School	[0,1,2]	n.a.	n.a.	–
Risk-Related Behaviors				
Smoked Cigarettes	[0,1]	0.05	0.05	0.98
Marijuana Use	[0,1]	0.03	0.01	0.11
Gone on Date Alone	[0,1]	0.20	0.15	0.18
Alcohol Use: Never	[0,1]	0.78	0.82	0.27
Alcohol Use: Few Times Ever	[0,1]	0.19	0.15	0.21
Alcohol Use: More than Once a Month	[0,1]	0.03	0.03	0.85
Involved in Petting	[0,1]	n.a.	n.a.	n.a.
Had Sex	[0,1]	n.a.	n.a.	n.a.
High School Life Skills Education Component Sample				
Child Demographics				
Gender: Girl	[0,1]	0.60	0.51	0.30
Age 13	[0,1]	0.14	0.13	0.94
Age 14	[0,1]	0.56	0.44	0.13
Age 15	[0,1]	0.17	0.34	0.02

Appendix C: Supporting Tables for the First-Year Impact Analysis of the Heritage Keepers® Life Skills Education Component

Variable Descriptor	Range	Means		p-value (Program-Control)
		Program Group	Control Group	
Age >15	[0,1]	0.13	0.09	0.54
Age: Don't Know	[0,1]	0.00	0.00	–
Race/Ethnicity: White	[0,1]	0.33	0.33	0.95
Race/Ethnicity: Hispanic	[0,1]	0.04	0.01	0.31
Race/Ethnicity: Other	[0,1]	0.01	0.00	0.37
Household Demographics				
Household Structure: Biological/Stepparent	[0,1]	0.14	0.12	0.68
Household Structure: Single Biological Parent	[0,1]	0.29	0.34	0.54
Household Structure: Other	[0,1]	0.08	0.08	0.96
Presence of Mother Figure	[0,1]	1.00	1.00	–
Presence of Mother Figure: Don't Know	[0,1]	0.00	0.00	–
Presence of Father Figure	[0,1]	0.91	0.86	0.38
Presence of Father Figure: Don't Know	[0,1]	0.00	0.00	–
Parents Married	[0,1]	0.50	0.52	0.80
Parents Married: Don't Know	[0,1]	0.02	0.08	0.15
Mother Employed	[0,1]	0.79	0.76	0.58
Cultural Influences				
Religiosity: Low	[0,1]	0.02	0.01	0.67
Religiosity: High	[0,1]	0.47	0.45	0.79
TV Viewing: Low	[0,1]	0.27	0.30	0.68
TV Viewing: High	[0,1]	0.18	0.28	0.13
Major Life Events				
Unmarried Sister Got Pregnant	[0,1]	0.09	0.05	0.35
Sibling Dropped Out of School	[0,1]	0.03	0.06	0.31
Other Major Family Event	[0-1]	0.72	0.70	0.34
School Influences				
Perceptions of School	[0-1]	0.77	0.76	0.75
Combined Grade in Math and Reading: Low	[0,1]	0.07	0.04	0.37
Combined Grade in Math and Reading: High	[0,1]	0.43	0.46	0.75
Combined Grade in Math and Reading: Don't Know	[0,1]	0.05	0.03	0.64
Number of After-School Activities	[0-9]	1.89	1.98	0.74
Peer Influences				
Peer Risk Behavior: Medium	[0,1]	0.54	0.57	0.75
Peer Risk Behavior: High	[0,1]	0.18	0.15	0.62
Peer Pressure to Have Sex: Medium	[0,1]	0.61	0.64	0.70
Peer Pressure to Have Sex: High	[0,1]	0.14	0.12	0.74
Health and Sex Education				
Received Sex Education	[0-1]	0.81	0.81	0.97
Knowledge of Stds	[0-11]	7.64	8.05	0.29
Familial Influences				
Relationship with Mother	[0-3]	2.38	2.51	0.06
Relationship with Father	[0-3]	2.17	2.08	0.55
Activities with Mother	[0-8]	4.58	4.29	0.29
Activities with Father	[0-8]	3.37	2.71	0.07

Variable Descriptor	Range	Means		p-value (Program-Control)
		Program Group	Control Group	
Family Rules on Dating: None	[0,1]	0.18	0.29	0.13
Family Rules on Dating: Strict	[0,1]	0.36	0.25	0.18
Other Family Rules	[0-2]	1.13	1.09	0.54
Argue with Parents About Rules	[0,1]	0.51	0.49	0.81
After-School Supervision: No One	[0,1]	0.22	0.17	0.42
After-School Supervision: Older Sibling	[0,1]	0.09	0.03	0.10
Parents' View on Supervision	[0,1,2]	0.69	0.96	0.03
Communication with Parents	[0-1]	0.74	0.75	0.87
Comfortable Talking to Parents About Sex	[0,1]	0.50	0.40	0.25
Norms, Values, and Intentions				
Consequences of Having Sex: Low	[0,1]	0.38	0.30	0.29
Consequences of Having Sex: High	[0,1]	0.10	0.19	0.12
Own Values Toward Abstinence	[1-4]	3.28	3.28	1.00
Normative Values Toward Abstinence	[1-4]	3.05	3.12	0.57
Locus of Control, Self-Control	[0-3]	1.87	1.85	0.83
Ability to Resist Pressure for Sex	[0-2]	1.41	1.37	0.68
Chance Will Have Sex Next Year	[0,1,2]	0.62	0.55	0.56
Chance Will Have Sex Before End of High School	[0,1,2]	0.77	0.64	0.31
Risk-Related Behaviors				
Smoked Cigarettes	[0,1]	0.18	0.13	0.38
Marijuana Use	[0,1]	0.21	0.12	0.13
Gone on Date Alone	[0,1]	0.36	0.46	0.20
Alcohol Use: Never	[0,1]	0.47	0.47	0.93
Alcohol Use: Few Times Ever	[0,1]	0.43	0.40	0.72
Alcohol Use: More than Once a Month	[0,1]	0.10	0.14	0.49
Involved in Petting	[0,1]	0.63	0.62	0.89
Had Sex	[0,1]	0.36	0.28	0.27

Source: *Wave 1 Survey of Teen Activities and Attitudes* (Mathematica Policy Research, Inc. 1999) administered at or near the time of sample enrollment to youth in the Title V, Section 510, Abstinence Education Program study sample.

Note: Statistics based on weighted sample.

n.a. = not available. This information was not asked of youth in grade six and below.