# EXECUTIVE SUMMARY

The Heritage Keepers® Life Skills Education Component is a character-based program designed to enhance life skills thought to be supportive of sexual abstinence and to empower students to avoid sexual activity and other risky behaviors. Life Skills Education is one of three main components of the Heritage Keepers® abstinence education program, which also includes a core Abstinence Education Component and a Community Education Component. In Edgefield, South Carolina, Life Skills Education is delivered as a voluntary supplement to the mandatory Abstinence Education Component that all middle and high school youth receive and is intended to reinforce that component's message of abstinence from sexual activity as the expected standard for school-age children.

This report examines the effect of the Life Skills Education Component on middle and high school youth in Edgefield. All youth participating in Life Skills Education had also participated in the core Abstinence Education Component and may have participated in the Community Education Component. Thus, this report examines the incremental impact of the Life Skills Education Component on youth already participating in the other components of *Heritage Keepers*<sup>®</sup>. It does not examine the impact of the full *Heritage Keepers*<sup>®</sup> Program. The report presents estimates of the incremental impacts of Life Skills Education on potential mediators of teen sexual activity as well as on teens' sexual abstinence, their risks of pregnancy and of contracting sexually transmitted diseases (STDs), and other behavioral outcomes two to four years after study enrollment.

This report is part of a broader, Congressionally authorized multiyear evaluation of selected abstinence education programs funded by the Title V, Section 510 Abstinence Education Program. This broader evaluation comprises (1) an implementation and process analysis that documented the experiences of 11 organizations and communities that received Title V, Section 510 block grants (Devaney et al. 2002); and (2) a rigorous, experimentally based evaluation of the impacts of five selected Title V, Section 510 abstinence education programs, including the Life Skills Education Component, on sexual abstinence and related outcomes. A previous report presented findings for the other four programs in the impact evaluation (Trenholm et al. 2007). The evaluation of the Life Skills Education Component differs from the evaluation of the other four programs, in that it estimates the incremental effects of providing an abstinence-focused life skills program to students already receiving a

core abstinence education program rather than the effects of a complete abstinence education program.

# THE HERITAGE KEEPERS® PROGRAM

Heritage Keepers® is an abstinence education program developed by Heritage Community Services of South Carolina and funded by the federal Title V, Section Abstinence Education Program, one of the major sources of federal funding for abstinence education. As with all programs funded by Title V, Section 510, Heritage Keepers® must be consistent with all eight points of the "A-H" definition of abstinence

Components of the <i>Heritage Keepers®</i> Program				
Component	Participation	Annual Contact Hours	Focus of This Report	
Abstinence Education	Required	7.5 hours/ year	No	
Life Skills Education	Voluntary	Up to 28 hours/year	Yes	
Community Education	Voluntary	Varied	No	

education prescribed in the Social Security Act of 1996 (Table 1). In particular, the program cannot promote the use of condoms or other forms of birth control. *Heritage Keepers®* uses a systemic approach to abstinence education that involves schools, parents, and other community stakeholders in promoting sexual abstinence until marriage. The Edgefield program targets middle and high school students, beginning in sixth grade and continuing through twelfth, with the mandatory core Abstinence Education Component, the voluntary Life Skills Education Component, and the Community Education Component.

#### Table 1. A-H Definition of Abstinence Education

- 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

Source: Title V, Section 510 (b)(2)(A-H) of the Social Security Act (P.L. 104-193).

The Abstinence Education Component is delivered by Heritage Community Services staff to middle and high school students, beginning in sixth grade and continuing through high school. In Edgefield, this portion of the Heritage Keepers® Program is mandatory for all students in the middle and high schools. The classes are scheduled to accommodate students' schedules, and are typically delivered by Heritage Community Services staff over five consecutive days in 90-minute sessions. Students are divided into single-sex groups of 10 to 20, with each group attending the Abstinence Education classes at some point during the school year. The 7.5 hour curriculum aims to increase knowledge and awareness of pregnancy and STD risks and to empower adolescents to abstain from sexual activity.

The Life Skills Education Component, the focus of this evaluation, is a voluntary, multiyear, character-based program intended to enhance life skills believed to support abstinence. It is designed to foster personal responsibility, with the goal of empowering students to avoid risky behaviors and to maximize their potential and opportunities. The program is intended to create a positive peer culture within the school and, over time, change the overall school and peer culture to be more supportive of abstinence. The 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. The sessions meet weekly throughout the school year and typically last at least 45 minutes.

The Community Education Component includes a Parent Education Element, designed to educate parents about the benefits of their children abstaining from sexual activity outside marriage; a Faith Community Element, which identifies and educates religious workers and leaders and provides abstinence education materials for program expansion; and a Media Element which educates media personnel on the benefits of abstinence outside marriage and uses various media to promote abstinence among students and the public. Family Assets and Character Councils are developed through regional training for community leaders representing various public and private institutions. The Community Education Component also fosters collaborations and partnerships with public and private institutions as well as with initiatives that share similar goals and objectives.

## **EVALUATION DESIGN**

The impact evaluation of the Life Skills Education Component relies on an experimental design. Youth in the study sample were assigned to either (1) a "Life Skills Abstinence Education (AE) group" that was given the opportunity to participate in the Life Skills Education Component and the other two components of the *Heritage Keepers*® Program (the mandatory Abstinence Education Component and the Community Education Component), or (2) a "control Abstinence Education (AE) group" that could not participate in the Life Skills Education Component but did receive the remaining two components of the *Heritage Keepers*® Program. When coupled with sufficiently large sample sizes, longitudinal surveys conducted by independent data collectors, and appropriate statistical methods, this design is able to produce credible estimates of the incremental impact of the Life Skills Education Component on youth already participating in the other components of *Heritage Keepers*®. This design provided a unique opportunity to look at the effects of a

specific approach for enhancing a core abstinence education curriculum through a supplemental character-based life skills curriculum.

Despite the strengths of the experimental design, its application to the Life Skills Education Component has two potential limitations. First, given that the Life Skills Education Component encourages participating youth to promote abstinence among their peers, the component could result in "spillover" effects for students in the control group, possibly leading impact estimates to be understated. Second, program staff at Heritage Keepers® expressed concern that the design altered the selection process for the Life Skills Component in ways that may have potentially undermined the component's effectiveness. In a typical setting, the component attempts to reach a broad representation of the school youth, but with a focus on selecting "trendsetters" who can most effectively influence the school culture. For the purposes of the impact evaluation, however, all youth who applied for the Life Skills Education Component were randomly assigned to the Life Skills AE group or to the control AE group, a process that differs from a more purposeful-selection approach. There is no way to determine how, or even whether, the random assignment process ultimately changed the mix or attendance of students who were selected to participate in the Life Skills Component, or what effect such a change might have on the impact estimates presented in this report. As a result, caution should be used when generalizing the findings from this study to a more typical setting of the Life Skills Education Component.

# Study Sample

This report is based on a final follow-up survey administered to 604 youth between spring and fall 2005—18 to 55 months after they began participating in the study. Just over half (320) were randomly assigned to the Life Skills AE group; the rest were assigned to the control AE group (Table 2).

**Table 2. Impact Analysis Evaluation Sample** 

	Total (All Three Cohorts)	2003 Middle School Cohort	2001 Middle School Cohort	2001 High School Cohort
Total	604	160	300	144
Life Skills AE group	320	87	159	74
Control AE group	284	73	141	70
Age at Study Entry	12.8	11.4	11.5	14.2
Age at Final Follow-up	16.7	13.4	15.9	18.6

Source: Tracking System for the *Survey of Teen Activities and Attitudes* (Mathematica Policy Research, Inc.) and Wave 1 Survey of Teen Activities and Attitudes (Mathematica Policy Research, Inc. 1999).

Youth enrolled in the study sample and the Life Skills Education Component in three separate cohorts. The initial cohort of sixth grade students (the "2001 middle school cohort") enrolled in spring and fall 2001. A second cohort of sixth graders (the "2003 middle school cohort") enrolled in fall 2003. A cohort of ninth grade students enrolled in fall 2001 (the "high school cohort"). The three study cohorts vary on several important dimensions. Most notably, the 2003 middle school cohort was considerably younger than the other two cohorts at the time of the final follow-up survey, with an average age of only 13 (Figure 1). Given their young ages, very few youth in this cohort would be expected to have engaged in sexual activity, with or without the Heritage Keepers® Program, by the time of the final follow-up survey. As a result, youth in this cohort could not be included in the analysis of behavioral impacts, although they are included in the analysis of impacts on potential mediators of teen sexual activity.

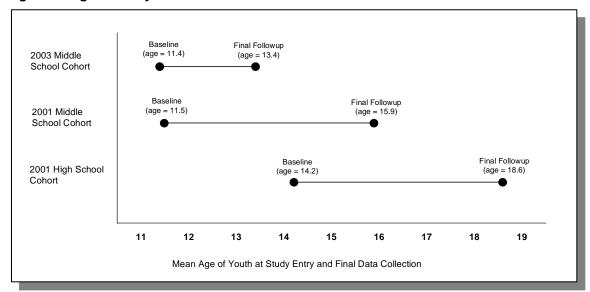


Figure 1. Age of Study Youth at Baseline and Final Data Collection

#### **OUTCOME MEASURES**

The impact evaluation draws on a rich longitudinal data set that includes (1) measures of potential mediators of youth risk behavior, such as refusal skills and knowledge of sexually transmitted diseases; and (2) measures of actual behavior, such as whether youth have remained sexually abstinent.

**Potential Mediators of Teen Sexual Activity.** These outcomes include youths' support for abstinence, their relations with peers and parents, their perceptions of the consequences of teen sex, their self-concept and refusal skills, and their expectations to abstain. In addition, they include youths' knowledge of the risks associated with teen sex and perceptions of the effectiveness of condoms and birth control for preventing pregnancy and STDs.

**Sexual Abstinence and Teen Risk Behaviors.** These measures include rates of abstinence; rates of unprotected sex; number of sexual partners; age at first sex; reported rates of pregnancy, births, and STDs; and cigarette, alcohol, and marijuana use.

### IMPACTS ON POTENTIAL MEDIATORS OF TEEN SEXUAL ACTIVITY

The Life Skills Education Component had positive impacts on several intermediate outcomes hypothesized to mediate teen sexual activity (Table 3). Relative to youth in the control AE group, youth in the Life Skills AE group reported views more supportive of abstinence and less supportive of teen sex, stronger refusal skills, and greater expectations to abstain until marriage. The component had no impact on several other intermediate outcomes examined, including peer support for abstinence or peer pressure to have sex, self-concept, or perceived consequences of teen sex. These findings differ from the impacts estimated one year after youth enrolled in the study (Clark and Devaney 2006), which showed a positive impact on friends' support for abstinence but no impacts on any of the other intermediate outcomes examined.

The Life Skills Education Component had some impact on knowledge of risks associated with teen sex. Namely, it increased the proportion of diseases, from a list of 13, which youth were able to identify correctly as STDs. Youth in the Life Skills AE group identified an average of 71 percent of these diseases correctly (Table 3). This rate is 3 percentage points higher than the average among youth in the control AE group, and the difference is statistically significant. The component did not affect two additional knowledge measures—risks of unprotected sex and potential health risks from STDs.

The Life Skills Education Component had no significant impact on perceptions about the effectiveness of condoms or birth control pills for pregnancy and STD prevention. For example, with respect to condoms, about 30 percent of the youth in both groups reported that, when used correctly, condoms usually prevent pregnancy, and most of the rest, about 55 percent, reported that condoms sometimes prevent pregnancy (Table 4; top panel). A test of the difference in the distributions between the two groups is not statistically significant. Many youth reported that condoms were never effective for preventing STDs or reported being unsure (Table 4; lower panels). For example, with respect to prevention of HIV, close to 40 percent of youth in both groups reported that condoms are never effective and around 20 percent reported being unsure. A test of the difference in the distributions between the two groups is not statistically significant.

Table 3. Estimated Impacts on Potential Mediators of Teen Sexual Activity

<u>-</u>					
	Life Skills AE Group (Mean)	Control AE Group (Mean)	Difference	Effect Size <sup>a</sup>	<i>p-</i> value
Views Toward Abstinence, Teen Sex, and Marriage					
Views supportive of abstinence [0,3] Views unsupportive of teen sex [0,3] Views supportive of marriage [0,3]	2.00 2.42 2.53	1.91 2.34 2.50	0.09 0.08 0.04	0.12 0.19 0.07	0.10* 0.02** 0.39
views supportive or marriage [0,3]	2.55	2.50	0.04	0.07	0.59
Peer Influences and Relations Friends' support for abstinence [0,5] Peer pressure to have sex [0,3]	2.64 0.34	2.77 0.31	-0.13 0.03	-0.08 0.04	0.30 0.64
Self-Concept and Refusal Skills	4.50	4.40	0.07	0.40	0.004
Refusal skills [0,2] Self-esteem and -control [0,3]	1.56 2.12	1.49 2.13	0.07 -0.02	0.13 -0.03	0.06* 0.69
Perceived Consequences of Teen and Nonmarital Sex					
General consequences of teen sex [0,3] Personal consequences of teen sex [0,2]	2.07 1.13	2.06 1.07	0.01 0.06	0.01 0.10	0.85 0.15
Expectations to Abstain from Sexual Intercourse					
Expect to abstain until marriage Expect to abstain through high school <sup>b</sup> Expect to abstain as a teenager	61% 78% 58%	51% 67% 55%	10 11 4	0.20 0.30 0.07	0.01** 0.01*** 0.38
STD Identification					
Overall identification of STDs [0,100]	71	68	3	0.15	0.02**
Knowledge of Pregnancy and STD Risks					
Knowledge of unprotected sex risks [0,100] Knowledge of STD consequences [0,100]	87 58	87 56	0 2	0.00 0.08	0.95 0.29

Source: Wave 4 Survey of Teen Activities and Attitudes (Mathematica Policy Research, Inc. 2005), administered to youth 18 to 55 months after enrollment in the Title V, Section 510 Abstinence Education Program study sample.

Note: Difference in means for the Life Skills AE and control AE groups may not equal the difference shown due to rounding.

<sup>&</sup>lt;sup>a</sup>The effect size measure is calculated as the ratio of the mean difference to the standard deviation of the outcome measure for the control AE group.

<sup>&</sup>lt;sup>b</sup>Estimates exclude the high school cohort, since all were interviewed just prior to high school graduation.

<sup>\*\*\*</sup>p-value (of difference) < 0.01; \*\*p-value < 0.05; \*p-value < 0.10, two-tailed test.

Table 4. Estimated Impacts on Perceived Effectiveness of Condoms for Preventing Pregnancy and STDs

	Life Skills AE Group (Percentage)	Control AE Group (Percentage)	Difference	<i>p</i> -value	
Condoms Prevent Pregnancy					
Usually	28	33	-5		
Sometimes	58	55	3		
Never	7	4	3		
Unsure	7	7	-1		
	Chi-squared test of distributional differences 0.69				
Condoms Prevent HIV					
Usually	11	11	0		
Sometimes	37	29	8		
Never	36	39	-4		
Unsure	16	21	-5		
	Chi-squared test of distributional differences			0.78	
Condoms Prevent Chlamydia					
and Gonorrhea					
Usually	11	9	2		
Sometimes	33	26	7		
Never	34	36	-3		
Unsure	22	29	-7		
	Chi-squared test of distributional differences			0.10	
Condoms Prevent Herpes and HPV					
Usually	10	10	0		
Sometimes	28	24	4		
Never	42	44	-2		
Unsure	20	22	-3		
	Chi-squared	d test of distribution	al differences	0.83	

Source: Wave 4 Survey of Teen Activities and Attitudes (Mathematica Policy Research, Inc. 2005), administered to youth 18 to 55 months after enrollment in the Title V, Section 510 Abstinence Education Program study sample.

Note: Difference in means for the Life Skills AE and control AE groups may not equal the difference shown due to rounding.

<sup>\*\*\*</sup>p-value (of test of distributional differences) < 0.01; \*\*p-value < 0.05; \*p-value < 0.10, two-tailed test.

### IMPACTS ON SEXUAL ABSTINENCE AND TEEN RISK BEHAVIORS

Findings indicate that the Life Skills Education Component had little or no impact on sexual abstinence or activity. Youth in the Life Skills AE group and control AE group reported similar rates of sexual abstinence, number of sexual partners, and age at first sex. Life Skills AE group youth were also no more likely than control AE group youth to have engaged in unprotected sex.

**Sexual Abstinence.** Youth in the Life Skills AE and control AE groups were equally likely to have remained abstinent (Figure 2). About 60 percent of youth in both groups reported remaining sexually abstinent. A slightly higher proportion (66 percent of both groups) reported having been abstinent within the 12 months prior to the final follow-up survey.

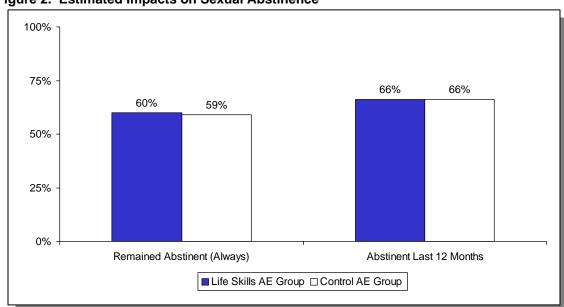


Figure 2. Estimated Impacts on Sexual Abstinence<sup>a</sup>

Source: Wave 4 Survey of Teen Activities and Attitudes (Mathematica Policy Research, Inc. 2005), administered to youth 18 to 55 months after enrollment in the Title V, Section 510 Abstinence Education Program study sample.

<sup>&</sup>lt;sup>a</sup>Estimates exclude the 2003 middle school cohort because of their young ages at the time of the final follow-up survey.

<sup>\*\*\*</sup>p-value (of difference) < 0.01; \*\*p-value < 0.05; \*p-value < 0.10, two-tailed test.

**Unprotected Sex.** Youth in the Life Skills AE group were no more likely than youth in the control AE group to have unprotected sex (Figure 3). Among youth who reported having sex in the last year, roughly equal proportions (14 percent of youth in the Life Skills AE group and 17 percent of youth in the control AE group) reported having used a condom every time, and the difference in the distribution of responses is not statistically significant.

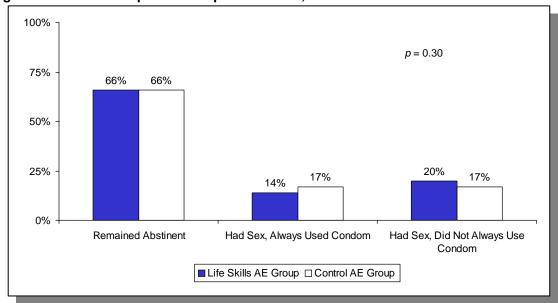


Figure 3. Estimated Impacts on Unprotected Sex, Last 12 Months<sup>a</sup>

Source: Wave 4 Survey of Teen Activities and Attitudes (Mathematica Policy Research, Inc. 2005), administered to youth 18 to 55 months after enrollment in the Title V, Section 510 Abstinence Education Program study sample.

<sup>a</sup>Estimates exclude the 2003 middle school cohort because of their young ages at the time of the final follow-up survey.

AE = Abstinence Education. All youth in the study sample participated in the core Abstinence Education Component of the *Heritage Keepers*® Program and had the opportunity to participate in its Community Education Component as well.

\*\*\*p-value (from chi-squared test of distributional differences) < 0.01; \*\*p-value < 0.05; \*p-value < 0.10, two-tailed test.

**Age at First Sex.** Youth in the Life Skills AE and control AE groups were of similar ages when they first had sex (Figure 4). For example, 10 percent of youth in the Life Skills AE group, compared with 13 percent of youth in the control AE group, reported having had sex by age 14, a difference that is not statistically significant. Both groups of youth were also equally likely to have had sex by ages 15, 16, and 17.

**Number of Sexual Partners.** Youth in the Life Skills AE and control AE groups did not differ in the number of partners with whom they had sex. Comparing the two groups, the distributions of the number of reported sex partners are similar (Figure 5). About one-fifth of all youth in both groups had sex with three or more partners, and 11 to 15 percent

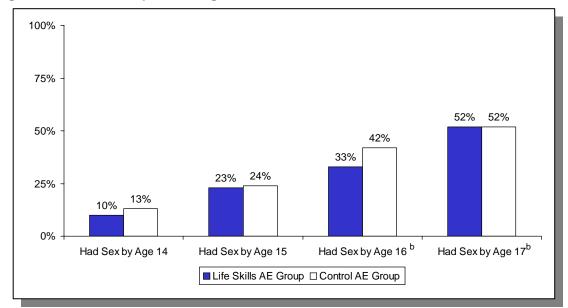
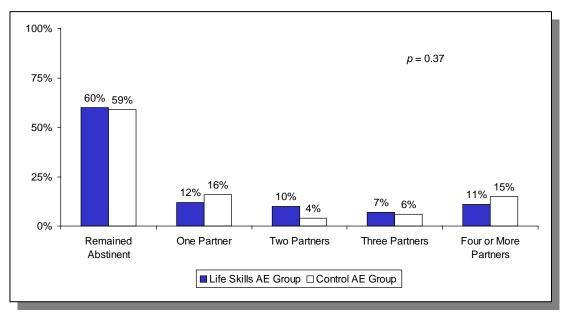


Figure 4. Estimated Impacts on Age at First Sex<sup>a</sup>

Figure 5. Estimated Impacts on Reported Number of Sexual Partners<sup>a</sup>



Source: Wave 4 Survey of Teen Activities and Attitudes (Mathematica Policy Research, Inc. 2005), administered to youth 18 to 55 months after enrollment in the Title V, Section 510 Abstinence Education Program study sample.

<sup>a</sup>Estimates exclude the 2003 middle school cohort because of their young ages at the time of the final follow-up survey.

<sup>&</sup>lt;sup>b</sup>Estimated for high school cohort only.

<sup>\*\*\*</sup>p-value (of difference) < 0.01; \*\*p-value < 0.05; \*p-value < 0.10, two-tailed test.

had sex with four or more; differences in the distribution of number of partners between youth in the Life Skills AE and control AE groups are not statistically significant.

**Pregnancy, Births, and Reported STDs.** Nine percent of youth in the Life Skills AE group reported having ever been pregnant or gotten someone pregnant, compared with 7 percent of youth in the control AE group, a difference that is not statistically significant (Table 5). Despite similar rates of pregnancy, youth in the Life Skills AE group were more likely to report that they (or their partner) had had a baby. Overall, 5 percent of youth in the Life Skills AE group reported having had a baby, compared with 1 percent of youth in the control AE group, a difference that is statistically significant. (No information is available on pregnancy outcomes other than live births.) Only 4 percent of youth in both groups reported ever having had an STD.

Other Risk Behaviors. There are no differences between youth in the Life Skills AE and control AE groups in cigarette, alcohol, or marijuana use (Table 5). About 25 percent of both groups reported smoking cigarettes in the past month, and the difference between the two groups is not statistically significant. Thirty percent of the Life Skills AE group reported drinking alcohol at least once a month, compared with only 24 percent of the control AE group; this difference is also not statistically significant. Similarly, 30 percent of Life Skills AE group youth reported having ever smoked marijuana, compared with 26 percent of the control AE group, and again this difference is not statistically significant.

Table 5. Estimated Impacts on Other Behavioral Outcomes

	Life Skills AE Group (Percentage)	Control AE Group (Percentage)	Difference (Percentage Points)	<i>p</i> -value
Pregnancy, Childbirth, and STDs				
Ever been pregnant	9	7	2	0.48
Ever had a baby	5	1	3	0.07*
Ever had a (reported) STD	4	4	0	0.96
Cigarette, Alcohol, and Drug Use				
Smoked cigarettes (past month)	25	26	-2	0.66
Drinks alcohol (at least once a				
month)	30	24	6	0.14
Used marijuana (ever)	30	26	4	0.33

Source: Wave 4 Survey of Teen Activities and Attitudes (Mathematica Policy Research, Inc. 2005), administered to youth 18 to 55 months after enrollment in the Title V, Section 510 Abstinence Education Program study sample.

Note: Difference in means for the Life Skills AE and control AE groups may not equal the difference shown due to rounding. Estimates exclude the 2003 middle school cohort because of their young ages at the time of the final follow-up survey.

<sup>\*\*\*</sup>p-value (of difference) < 0.01; \*\*p-value < 0.05; \*p-value < 0.10, two-tailed test.

#### **DISCUSSION**

The Life Skills Education Component affected several potential mediators of teen sexual activity, including views toward abstinence and expectations to abstain, but it had no impact on sexual abstinence, sexual activity, or most other risk behaviors examined. Counter to concerns raised by some policymakers and health educators that Title V, Section 510 programs might, through their exclusive focus on abstinence, put youth at increased risk of unprotected sex, the component also had no impact on condom use among sexually active youth.

The positive impacts on potential mediators of teen sexual activity were driven primarily by the 2003 middle school cohort—the youngest at the time of the final follow-up survey (averaging just 13 years of age) and the one that had most recently enrolled in the program. This cohort was also fully exposed to several changes made to the Life Skills Education Component curriculum in 2003, which were designed to strengthen the component's implementation. Given their young ages, very few youth in this cohort would be expected to have engaged in sexual activity, with or without Life Skills Education, by the time of the final follow-up survey. As a result, youth in this cohort could not be included in the analysis of behavioral impacts.

The favorable impacts on several potential mediators of sexual activity for this 2003 middle school cohort raise the question of whether Life Skills Education Component might have eventual positive impacts on sexual abstinence for youth in this cohort. Without behavioral data on these youth as they reach older ages, there is no way to answer this question, and the timeframe for this evaluation did not allow for longer term data collection for youth in this cohort.

In sum, this study estimates the incremental impacts of providing a voluntary abstinence-focused life skills program to youth already receiving a mandatory classroom-based abstinence education curriculum as well as a community-wide initiative to promote abstinence. The study provides important complementary evidence to a previous study in the evaluation of Title V, Section 510 Abstinence Education Programs, which estimated the full effects of four other abstinence education programs. Results indicate that the Life Skills Education Component had positive impacts on potential mediators of teen sexual activity, particularly among the component's most recent cohort, but provide no evidence that the component had incremental effects on behavior among youth already receiving the other components of the Heritage Keepers® Program.

The results from this study suggest the need for continued research on how to combat the high rate of teen sexual activity and its negative consequences. In particular, they highlight the importance of continued evaluation both of full programs designed to address the high rates of teen sexual activity and of specific program components, such as the Life Skills Education Component, which aim to enhance the effectiveness of an underlying program model. The stronger impacts on potential mediators of teen sex among the 2003 middle school cohort illustrate how programs may evolve over time, and suggest how rigorous evaluation can help programs assess their ongoing effectiveness.