

Teen Pregnancy Prevention Replication Study: Summary of the Short-Term Impacts of *Safer Sex Intervention*

| RESEARCH BRIEF |

Overview

This research brief highlights early findings from the evaluation of the *Safer Sex Intervention (SSI)*, a clinic-based intervention intended to reduce the incidence of sexually transmitted infections (STIs) and increase condom use among high-risk sexually active female adolescents.

These findings are based on a follow-up survey administered to study participants nine months after they enrolled in the study and designed to examine the impact of *SSI* on adolescent sexual behavior as well as on cognitive and psychological aspects of adolescent functioning that might influence that behavior.[1] The study examined data from three different replications of *SSI*, pooling the data to examine the overall program impact.

Summary of Findings

After 9 months *SSI* had a favorable impact on certain risky sexual behaviors, attitudes toward protection, intentions to use condoms, and refusal skills. We found no evidence that *SSI* affected knowledge of sexual risks or motivation to delay childbearing.

1 The original study of *SSI* examined outcomes at the end of the intervention, which was six months after it began.

Early findings suggest that SSI was successful in addressing some potential antecedents of sexual risk behavior and had a favorable impact on certain reported sexual risk behaviors.

Evidence on the longer-term effectiveness of *SSI* will be gathered at the long-term follow-up, 18 months after the program began.

Background

In the United States, pregnancy occurs at a rate of 57.4 per 1,000 adolescent females, and 1 in 4 sexually active adolescent females has a sexually transmitted infection (STI).[i,ii] Both of these outcomes can negatively affect the well-being and future prospects of youth. Reducing rates of unplanned teen pregnancy and sexually transmitted infections (STIs) are priorities for the Department of Health and Human Services (DHHS).

The federal Teen Pregnancy Prevention (TPP) Program, administered by the Office of Adolescent Health (OAH), includes funding for interventions that address the issue of teenage pregnancy and STIs by replicating program models that have

shown some evidence of effectiveness in reducing these outcomes and related behaviors. However, until recently, that evidence has typically been based on findings from one study, conducted some time ago, often in a single community. We know little about whether those findings hold up when the program is replicated.

The Teen Pregnancy Prevention (TPP) Replication Study

The purpose of the Teen Pregnancy Prevention (TPP) Replication study funded by OAH and jointly overseen by the Office of the Assistant Secretary for Planning and Evaluation (ASPE) is to test whether three program models, each previously shown to be effective in single studies, continue to demonstrate effectiveness when implemented with fidelity (that is, adherence to the core components of the program) across different settings and populations.

The study is evaluating three replications of three evidence-based program models intended to reduce risky sexual behaviors in teens and, as a consequence, reduce the incidence of teen pregnancy and STIs. The strategy of selecting multiple replications of a program model increases the generalizability of the findings. In addition, the greater analytic power obtained by pooling the data from all three replications allows us to assess behavioral impacts such as pregnancy, and to examine differences in program impacts for subgroups of interest. Both of these analyses require much larger sample sizes than those generally found in single-site studies.

The three program models being tested are the *SSI, ¡Cuídate!,* and *Reducing the Risk (RtR)*. Nine grantees that received funding under the TPP Program were selected to participate in rigorous experimental tests of the evidence-based programs they were implementing.

Study Reports

The report accompanying this research brief is one in a series of reports that will present findings from the TPP Replication Study. Two additional reports will present early findings from the evaluations of the other two program models (*¡Cuídate!* and *RtR*). A subsequent set of three reports will present detailed findings on the implementation of all three program models, and a final set of reports will present findings on the longer-term impact of each of the models.

This brief and the report it summarizes focus on the short-term impacts of *SSI*.

What is the *Safer Sex Intervention*?

SSI is a clinic-based sexual health intervention for female adolescents delivered in one-on-one, face-to-face sessions with a female health educator. The intervention is tailored to the individual and features motivational interviewing, medically accurate information, and discussion about safer sex behaviors. It also emphasizes skills to protect against risk, promote self-efficacy, and enhance self-esteem.

Motivational interviewing, which is at the heart of the intervention, allows for personalized counseling that captures the participant's attention and takes into account individual needs and challenges. Through its use, the health educator helps the participant identify her own specific needs, motivations, and intentions. The participant is gradually able to identify specific obstacles to behavior change and, supported by the health educator, make a plan to address them.

During the 50-60-minute initial session, the health educator guides the participant through a sequence of topics, allowing time for role-play and other activities. Topics include the consequences of unprotected sex, risk perception, preventing pregnancy and STIs, condoms, where to obtain condoms, secondary abstinence, and talking about sex.

Three subsequent 15-30 minute booster sessions, similar in content, are delivered 1, 3 and 6 months after the initial session.

The Evaluation of the *Safer Sex Intervention*

The evaluation was guided by the following questions:

1. Did *SSI* improve teens' knowledge and understanding of pregnancy risks and prevention and the transmission and prevention of STIs?
2. Did *SSI* have positive effects on teens' attitudes toward sexual activity, birth control and condom use, and increase their motivation/intention to avoid risky sexual behavior?
3. Did *SSI* increase teens' confidence in their ability to refuse unwanted sex and to negotiate safe sex?
4. Did *SSI* reduce sexual behavior and sexual risk?

From the grants awarded in 2010, three grantees were selected that could provide a strong test of the program model. In each of the replication sites, the services provided to youth in the intervention group had to be sufficiently different from the services provided to youth in the control group. In addition, grantees needed to be able to recruit enough youth over two years to participate in the study. All three grantees were required to implement the program with fidelity to the core elements of the model (as defined by the program developer and previously evaluated), and fidelity was assessed, monitored and reported to OAH at regular intervals by program staff.[2] In each replication site, the program was delivered by grantee and partner staff trained by the program developer.

Grantees Selected

- ***Hennepin County Human Services and Public Health Department*** *provides programming and research support for early childhood education, improving high school graduation rates, the prevention of adolescent drug and alcohol use, and pregnancy prevention in Hennepin County, MN.*
- ***Knox County Health Department*** *is the local public health agency serving the City of Knoxville and Knox County. The Department's Community Assessment and Health Promotion unit provides primary prevention services in the areas of adolescent pregnancy, sexually transmitted diseases, sexual violence, injury, child safety and childhood diseases.*
- ***Planned Parenthood of Greater Orlando (PPGO)***[a]*, an affiliate of Planned Parenthood Federation of America, Inc., provides reproductive health services and sexual health education in four central Florida counties - Orange, Osceola, Seminole and Brevard.*

a In July 2015, PPGO merged with another Planned Parenthood affiliate to become Planned Parenthood of Southwest and Central Florida.

Across the three sites, *SSI* was implemented in 38 clinics by trained female health educators. Health educators were given dedicated space within the clinic, and clinicians identified and referred eligible adolescent females to them. The scale of the replication varied among the sites.

Study Design

The study used an experimental design in which young women were randomly assigned to a group that received *SSI* or to a group that did not.[3] Young women in each of the replication sites were surveyed three times: at baseline, before the intervention began; nine months after the baseline survey (short-term follow-up); and 18 months after the baseline survey (longer term follow-up). At all three time-points, a web-based Audio Computer-Assisted Self-Interview (ACASI) system was used to capture and store survey responses.

Research Design

Experimental design:

- *Random assignment of individuals within clinics*

Data collected at:

- *Baseline*
- *9 months after baseline*
- *18 months after baseline*

Measures

The surveys collected information from study participants on a variety of topics, including questions that allowed us to measure two sets of outcomes: 1) intermediate outcomes, i.e., measures of cognitive and psychological aspects of adolescent functioning that are believed to lead to behavioral outcomes (such as knowledge, attitudes, motivation, skills and intentions); and 2) behavioral outcomes, i.e., measures of sexual activity and sexual risk behavior.

2 Grantees could and did request adaptations or modifications, but these were only approved if they in no way changed the core program elements, both in terms of content and delivery strategies.

3 The control group received the usual services available as part of the standard of care at each clinic.

Analytic Approach

To test the impact of *SSI* on each of the study's outcomes, we compared the outcomes of treatment and control group members.[4] Because of the number of outcomes we examined, it was important to guard against the danger of false findings that can arise from conducting multiple comparisons. To reduce the chances of this happening, for this short-term analysis, we specified in advance of any analysis two behavioral outcomes of particular importance: sexual activity (sexual intercourse, oral sex, and/or anal sex) in the last 90 days and sexual intercourse without birth control in the last 90 days.[5] Limiting the confirmatory outcomes[6] to a small number of behaviors gives us greater confidence in any findings related to them.

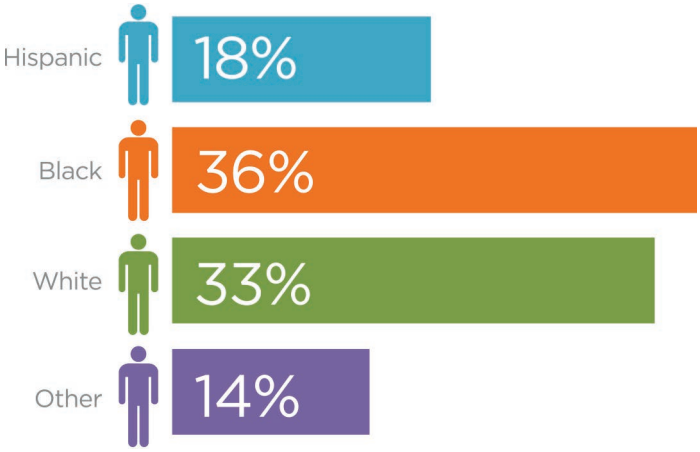
A number of other behaviors, as well as potential intermediate outcomes, were also examined and are reported on here. However, we consider these other behavioral outcomes to be exploratory, meaning they are suggestive rather than definitive and need additional research to confirm them.[7]

As we noted earlier, pooling the data from the three sites to analyze impacts across the three replications was a critical aspect of our analytic strategy. In addition to the overall impacts, we assessed the extent to which impacts differed across individual sites. We also tested whether impacts varied for subgroups of study participants to better understand what works for whom. Subgroups tested included: age, race/ethnicity, and sexual experience at baseline.

Youth in the Study

Table 1 shows baseline characteristics for the study sample as a whole. At baseline, youth in the study sample were 17.2 years old, on average. More than one third of participants were Black, almost one-third were White, and the remaining third were nearly equally divided between Hispanic and Other race (which includes Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, multiracial, and undisclosed race) (Figure 1).

FIGURE 1. RACE/ETHNICITY OF STUDY PARTICIPANTS AT BASELINE



Source: Baseline survey completed prior to random assignment.

There were significant differences across sites in the racial and ethnic composition of the sample. The Hennepin County sample was more ethnically/racially diverse than were the samples in the other sites. By contrast, Knox County participants were predominantly White. Almost half of the participants in Planned Parenthood were Black, and more than 25 percent were Hispanic.

The program was originally designed for sexually active young women, so it is not surprising that most of the participants were sexually active. More than 90 percent of the sample had engaged in sexual activity at the time of study enrollment, and over 80 percent had engaged in sexual activity in the 90 days before the study began (Figure 2).

Across all three sites, more than three-quarters had ever used alcohol, more than two thirds had ever used marijuana, and just over half had ever smoked cigarettes.

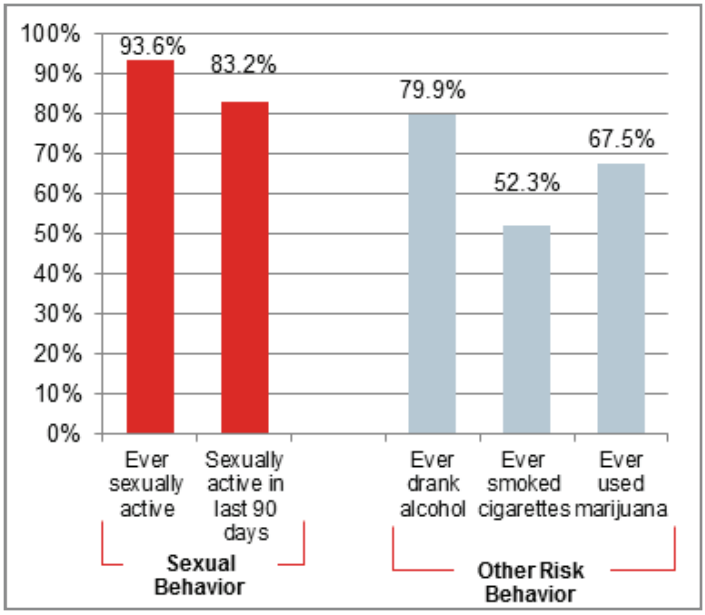
4 We used a regression framework for the analysis.

5 For the final report, we pre-specified a third behavioral outcome: pregnancy.

6 Confirmatory outcomes refer to the behavioral outcomes used to assess the effectiveness of the program.

7 We made formal statistical adjustments for multiple comparisons for the confirmatory outcomes. We did not make adjustments for exploratory outcomes.

FIGURE 2. ENGAGEMENT IN RISK BEHAVIORS AT BASELINE



Source: Baseline survey completed prior to random assignment.

Impact Findings after 9 Months

Did SSI have an impact on intermediate (non-behavioral) outcomes?

Yes, *SSI* had a statistically significant impact on attitudes, refusal skills, and intentions to use condoms (see Table 2). There was a small but statistically significant effect on attitudes toward using birth control or condoms. Although both groups expressed positive attitudes toward using birth control or condoms, on average, the treatment group had slightly more positive attitudes than did the control group. There were no statistically significant effects on attitudes toward risky behavior. Almost all young women in both the treatment and control groups rejected the view that risky behaviors were acceptable.

Young women in *SSI* were more likely than their control group counterparts to express their ability to refuse unwanted sex. In addition, a greater proportion of participants in *SSI*, compared to the control group, indicated their intention to use a condom if they were to have sexual intercourse in the next year.

SSI improved attitudes and skills and increased intentions for safer sex

Compared with control participants, young women in SSI had improved:

- *attitudes toward protection*
- *refusal skills*
- *intentions to use condoms*

The program had no impact on the knowledge or motivation of youth. In general, young women were well informed about methods of preventing pregnancy and general knowledge of STI facts, transmission and prevention. Study participants in both groups correctly answered 75 percent or more of the items on the two composite measures of knowledge of risk.[8]

SSI had no impact on motivation to delay childbearing. Both at baseline and follow-up, almost all the young women indicated a belief in the importance of delaying childbearing until personal goals have been achieved.

Did SSI have impacts on sexual behavior?

Yes, *SSI* had a large favorable effect on sexual intercourse without birth control (which includes condoms) in the last 90 days: significantly fewer program participants (22%) reported engaging in sexual intercourse without birth control compared to their control group counterparts (27%).

SSI reduced sexual risk behaviors

SSI participants were less likely to report having engaged in sexual intercourse without birth control than were their control group counterparts.

There were no other overall impacts on sexual behavior or sexual risk outcomes at the short-term follow-up (see Table 3).

8 Both groups correctly answered more than two-thirds of items at baseline.

Were there site-level differences in the impact of SSI on behavioral outcomes?

No, there were no statistically significant differences in impacts on behavior between the individual replication sites.

Were there subgroup differences in the impact of SSI on behavioral outcomes?

Yes, some behavioral impacts varied by subgroup. For the small number of youth who were sexually inexperienced at baseline, participation in *SSI* reduced the likelihood of having more than one lifetime sexual partner by 21 percentage points.

For Hispanic youth only, *SSI* significantly decreased the likelihood of having more than one lifetime sexual partner by 10 percentage points.

The impact of *SSI* on engaging in unprotected oral sex varied by age. Among young women aged 18 and older, treatment group members were 7 seven percentage points less likely to report having had oral sex without a condom in the last 90 days, compared with their control group counterparts. There was no impact of *SSI* on unprotected oral sex among young women who were less than 18 years old.

Discussion

This study was designed to address important research and policy questions about the effectiveness of evidence-based teen pregnancy prevention programs, and what happens when they are taken to scale, replicated with different populations, and in different settings. *SSI* had an impact on an important sexual risk behavior outcome: program participants were less likely to have had sexual intercourse without birth control in the last 90 days compared to control group members. *SSI* also achieved impacts on potential intermediate outcomes such as attitudes, intentions, and skills. Although the subgroup findings must be considered as exploratory and interpreted with caution, there are a number of impacts on sexual behavior among different subgroups, and they are large enough to be meaningful.

The major finding of the original study was that *SSI* succeeded in reducing the number of lifetime sexual partners.[iii] In addition, the intervention improved knowledge about sexual risk and attitudes towards condom use, as well as intentions to use condoms. The TPP Replication Study found no impact on the number of sexual partners for the overall sample. However, the study found a significant reduction in the number of sexual partners for two important subgroups—Hispanic youth and youth who were sexually inexperienced when they entered the study.

Although the TPP Replication Study found no impact on knowledge of sexual risk (which was high to begin with, in both groups), we did find impacts on attitudes towards the use of condoms and birth control and intentions to use condoms that were similar to the original study.

Although, like the original study, we found no overall impact on sexual activity across the whole sample, the impact on the small group of sexually inexperienced youth was large and meaningful.

Finally, the impact of *SSI* on protected sexual intercourse reported here, though not a finding of the original study, is important. It is significant even after applying a multiple comparisons correction and is similar in size to the overall pooled impact for the most successful pregnancy-prevention programs (multi-component/youth development programs) found in a 2006 meta-analysis of teen pregnancy prevention efforts.[iv]

Conclusion

The study findings indicate that *SSI* was successful in achieving a meaningful impact on important aspects of sexual risk behavior.

The findings presented in this brief, and the report from which it draws, represent interim data for *SSI* and are not intended to provide comprehensive evidence about the most important behavioral outcomes—those that reflect the goals of the TPP initiative. Final assessment of the program's effectiveness should await the findings from the longer-term follow-up survey, conducted 18 months after the program began.

References

i. Kost K, Henshaw S. U.S. teenage pregnancies, births and abortions, 2010: National trends by age, race and ethnicity. New York: Guttmacher Institute; 2014. Retrieved November 6, 2015 from http://www.guttmacher.org/pubs/USTPtrends10.pdf

ii. Forhan SE, Gottlieb SL, Sternberg MR, Xu F, Datta SD, McQuillan GM, Berman SM, Markowitz LE. Prevalence of sexually transmitted infections among female adolescents aged 14 to 19 in the United States. Pediatrics. 2009 Dec;124(6):1505-12.

iii. Shrier LA, Ancheta R, Goodman E, Chiou VM, Lyden MR, Emans SJ. Randomized controlled trial of a safer sex intervention for high-risk adolescent girls. Arch Pediatr Adolesc Med. 2001;155(1):73–79.

iv. Scher L, Maynard R, Stagner M. Interventions intended to reduce pregnancy-related outcomes among adolescents. Campbell Systematic Reviews 2006; 2(12).

TABLE 1: BASELINE CHARACTERISTICS OF THE ANALYTIC SAMPLE

Outcome	Range[a]	N	Treatment Mean[b]	Control Mean	Group Difference[c]	P Value
Demographic Characteristics						
Age	13-20	1809	17.12	17.14	-0.01	0.794
Race/Ethnicity[e] (%)[d]						
Hispanic		1809	16.80	19.90	-3.10	0.086
Black		1809	35.77	35.24	0.53	0.807
White		1809	33.58	31.65	1.93	0.335
Other		1809	13.85	13.21	0.64	0.697
Family structure and relationships (%)[d]						
Lives with biological parents		1790	78.97	78.02	0.96	0.630
Feels very close to and cared for by father		1603	29.58	26.07	3.51	0.139
Feels very close to and cared for by mother		1779	44.25	48.33	-4.09	0.101
Risk behavior (%)[d]						
Ever smoked cigarettes		1801	51.49	53.28	-1.79	0.465
Ever drank alcohol		1799	78.54	82.10	-3.56	0.071
Ever used marijuana		1799	67.29	68.03	-0.74	0.750
Knowledge[f]						
Knowledge of pregnancy risk	0-100	1806	68.50	70.96	-2.47	0.173
Knowledge of STI risk	0-100	1808	68.75	67.24	1.51	0.246
Attitudes[g]						
Attitudes toward protection	1-4	1808	3.26	3.26	0.00	0.971
Intentions (%)[d]						
Intentions to have sexual intercourse in the next 12 months		1798	84.22	84.40	-0.18	0.917
Intentions to have oral sex in the next 12 months		1794	60.34	61.82	-1.47	0.528
Intentions to use a condom if they were to have sexual intercourse		1799	84.62	83.91	0.72	0.693
Intentions to use birth control if they were to have sexual intercourse		1800	92.76	91.48	1.29	0.326
Sexual Behavior (%)[d]						
Ever sexually active[h]		1794	93.27	94.07	-0.80	0.505
Currently sexually active (in last 90 days)[h]		1789	82.97	83.53	-0.56	0.761
Sexual intercourse in the last 90 days		1790	78.70	79.08	-0.38	0.852
Oral sex in the last 90 days		1786	66.00	66.28	-0.28	0.905
Anal sex in the last 90 days[h]		1379	11.52	10.68	0.84	0.637

Outcome	Range[a]	N	Treatment Mean[b]	Control Mean	Group Difference[c]	P Value
Sexual Risk (%)[d]						
Sexual intercourse without birth control in the last 90 days		1790	31.31	31.47	-0.15	0.947
Sexual intercourse without a condom in the last 90 days		1790	59.86	59.14	0.72	0.767
Oral sex without a condom in the last 90 days		1786	62.36	62.15	0.22	0.927
Anal sex without a condom in the last 90 days [h]		1379	9.58	7.91	1.68	0.297
Sexual intercourse with more than 1 partner (lifetime)		1710	66.21	67.35	-1.15	0.626
Sexual intercourse with more than 5 partners (lifetime)		1710	23.60	23.37	0.24	0.911

Note: The baseline treatment-control difference was estimated in a a regression model with the same structural terms as the impact model but where the dependent variable was the baseline measure, and the only independent variables included in the model were the treatment group indicator and terms for the randomization blocks.

a For continuous variables, we present the range. All other variables are dichotomous.

b The treatment mean was calculated as the sum of the control group mean and the model-estimated treatment-control difference (group difference).

c The Group Difference is the treatment-control (T-C) difference. For outcomes reported as percentages, the group difference is expressed in percentage points. For scale outcomes, the group difference is expressed in the original metric of the outcome variable. Due to rounding, reported group differences may differ from differences between reported means for the treatment and control groups.

d Racial/ethnic categories include: Hispanic, Black non-Hispanic, White non-Hispanic, and other race non-Hispanic, where other is defined as Asian, American Indian or Alaska native, native Hawaiian or other Pacific Islander, multiracial, or undisclosed.

e For dichotomous variables, we present the percentage of respondents who responded affirmatively.

f Attitudes variable is a composite scale score with higher scores indicating more positive attitudes.

g Knowledge variables are composite scale scores representing the percentage of items answered correctly.

h Sexual activity is defined differently across sites. In two sites, sexual activity refers to sexual intercourse, oral sex and/or anal sex. Youth were not asked about anal sex in one of the sites.

** p < 0.05, ** p < 0.01, *** p < 0.001*

TABLE 2: NINE-MONTH IMPACTS OF *SSI* ON INTERMEDIATE OUTCOMES

Outcome	Range[a]	N	Treatment Mean[b]	Control Mean	Group Difference[c]	SES[d]	P Value
Knowledge[e]							
Knowledge of pregnancy risk	0-100	1809	78.53	78.26	0.27		0.817
Knowledge of STI risk	0-100	1809	75.91	74.80	1.11		0.183
Attitudes[e]							
Attitudes toward protection	1-4	1809	3.36	3.32	0.03*	0.09	0.050
Attitudes toward risky behavior	0-100	1802	4.12	5.42	-1.30		0.061
Motivation[e]							
Motivation to delay childbearing	1-4	1805	3.76	3.73	0.03	0.05	0.309
Intentions (to engage in the following behaviors in the next 12 months) (%)[f]							
Sexual intercourse		1802	82.56	83.14	-0.58		0.734
Oral sex		1801	65.95	67.05	-1.10		0.591
Use a condom if they were to have sexual intercourse		1804	86.31	79.74	6.57		0.000
Use birth control if they were to have sexual intercourse		1803	92.41	91.18	1.23		0.357

Outcome	Range[a]	N	Treatment Mean[b]	Control Mean	Group Difference[c]	SES[d]	P Value
Skills[e]							
Refusal skills	1-4	1808	3.45	3.34	0.10***	0.17	0.001
Condom negotiation skills	1-4	1808	3.73	3.69	0.03	0.08	0.126

a For continuous variables, we present the range. All other variables are dichotomous.

b The treatment group mean is regression adjusted, calculated as the sum of the control group mean and the regression-adjusted impact estimate (group difference).

c The Group Difference is the treatment-control (T-C) difference. For outcomes reported as percentages, the group difference is expressed in percentage points. For scale outcomes, the group difference is expressed in the original metric of the outcome variable. Due to rounding, reported group differences may differ from differences between reported means for the treatment and control groups.

d The "SES" is the standardized effect size of the difference. For outcomes that are not dichotomous or measured on a 0 to 100 scale the SES is the "Group Difference" divided by the pooled standard deviation of the treatment and control groups.

e Composite scale scores.

f Dichotomous variables, reported as percentage of respondents who responded affirmatively.

** p < 0.05, ** p < 0.01, *** p < 0.001*

TABLE 3: NINE-MONTH IMPACTS OF *SSI* ON SEXUAL BEHAVIOR

Outcome	N	Treatment %[a]	Control %	Group Difference[b]	P Value
Sexual Behavior					
Currently sexually active (in last 90 days)[c]	**1801**	**74.84**	**74.96**	**-0.11**	**0.954**
Sexual intercourse in the last 90 days	1801	71.29	72.18	-0.89	0.661
Oral sex in the last 90 days	1801	59.32	60.39	-1.07	0.626
Anal sex in the last 90 days[d]	1389	9.13	6.13	2.99	0.051
Sexual Risk					
Sexual intercourse without birth control in the last 90 days	**1801**	**22.05**	**27.82**	**-5.78****	**0.005**
Sexual intercourse without a condom in the last 90 days	1801	53.66	57.45	-3.79	0.087
Oral sex without a condom in the last 90 days	1801	54.32	56.63	-2.31	0.299
Anal sex without a condom in the last 90 days[d]	1389	7.32	4.65	-2.67	0.056
Sexual intercourse with more than 1 partner (lifetime)	1735	70.07	71.82	-1.75	0.332
Sexual intercourse with more than 5 partners (lifetime)	1735	26.35	28.86	-2.51	0.163

Note: Confirmatory outcomes are bolded. All outcomes are dichotomous, reported as the percentage of respondents who responded affirmatively.

a The treatment group percent is regression adjusted, calculated as the sum of the control group percent and the regression-adjusted impact estimate (group difference).

b The Group Difference is the treatment-control (T-C) difference expressed in percentage points. Due to rounding, reported group differences may differ from differences between reported percentages for the treatment and control groups.

c Sexual activity is defined differently across sites. In two sites, sexual activity refers to sexual intercourse, oral sex and/or anal sex. Youth were not asked about anal sex in one of the sites.

d Items asking about anal sex were not included in the survey administered to participants in one site.

** p < 0.05, ** p < 0.01, *** p < 0.001 (For the two confirmatory outcomes statistical significance at p < 0.05, p < 0.01, and p < 0.001 implies statistical significance at those levels after applying a Benjamini-Hochberg adjustment for multiple comparisons.)*

This research brief was written by Meredith Kelsey and Jean Layzer, of Abt Associates Inc. and Belmont Research Associates under contract number HHSP23320095624WC Order No. HHSP23337011T (awarded in September 2011) from the U.S. Department of Health and Human Services, Office of Adolescent Health and the Office of the Assistant Secretary for Planning and Evaluation. Any statements expressed are those of the authors and do not necessarily reflect the views of the Office of Adolescent Health, the Office of the Assistant Secretary for Planning and Evaluation, or the U.S. Department of Health and Human Services.