SRAENE
Sexual Risk Avoidance Education
National Evaluation

Which Sexual Risk Avoidance Education Implementation Features and Provider Characteristics are Associated with Youth Outcomes?

December 2023

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Executive Summary

Despite significant declines in teenage pregnancy rates over recent decades, the United States continues to have the highest teenage birth rate among industrialized countries (Martin et al. 2021). In addition, condom use among teens is declining, and youth ages 15 to 24 account for almost half of new sexually transmitted infections in the United States (CDC 2023). The federal government aims to address this through a range of programs, including the Sexual Risk Avoidance Education (SRAE) grant program. This report summarizes information gathered and analyzed in the SRAE Nationwide Evaluation (SRAENE) about how various SRAE program characteristics are associated with youth outcomes. It is based on a correlational analysis of data, which means the findings do not support conclusions about whether the SRAE programs caused youth outcomes. Understanding these associations can be an important first step when identifying areas of focus for future research.

Drawing on data from surveys of all SRAE program providers and their facilitators and administrative performance measures from SRAE programs, the study described in this report explores youth outcomes on improved skills and intentions related to sexual risk avoidance, satisfaction with SRAE programming, and program attendance.

A. Research questions

The SRAENE Nationwide Study (NWS) correlational analysis described here addresses two research questions:

1. Are some features of implementation (including various program settings, program content and activities, and facilitation characteristics) more strongly associated with youth outcomes than others?
2. What provider characteristics are associated with greater program attendance and youth outcomes?

B. Analytic approach

The primary analysis uses a regression modeling approach. Specifically, the study examined whether …

For Research Question 1:

/ Implementation features, which include program setting, curricular content, and facilitation characteristics

… are associated with …

/ Youth outcomes, which include improved life skills and attitudes to support future goals and well-being, intentions to delay sexual initiation or to follow the success sequence or avoid negative risk behaviors, improved skills for healthy relationships or against sexual coercion and dating violence, and satisfaction with SRAE programming

… after controlling for …

/ Background explanatory variables, which include demographics of the youth and the region of the country in which they received the program *AND*

/ Some provider characteristics, which include SRAE grant type, provider's experience delivering SRAE, and number of youth attending provider's programs.

For Research Question 2:

/ Provider characteristics, which include the SRAE grant type, provider's experience delivering SRAE, and training and support (via observations) provided to facilitators

… are associated with …

/ The same set of youth outcomes listed in Research Question 1 *AND*

/ Program attendance, defined as percentage of youth who attended at least 75 percent of scheduled program hours

… after controlling for …

/ Background explanatory variables, which included demographics of the youth and the region of the country in which they received the program.

The study also assesses the strength of evidence from the primary models with Bayesian methods that account for findings across models, and with sensitivity testing using alternative sample restrictions and weights.

C. Key findings

/ In general, the implementation features related to program setting and program content had moderate or strong associations with youth outcomes.

- Youth outcomes tend to be better when SRAE programming takes place in a non-school setting or in a school setting after school hours, compared to programming in a school setting during school hours.
- Youth outcomes also differed based on whether providers reported that certain experiences or issues, such as emotional and behavioral health, dating violence, sexual coercion, and substance use, were prevalent or of concern among youth that they served.
- Youth outcomes were, on average, better when providers served both middle-school-age and high-school-age youth in the same program than when their program served only middle school youth.
- Of the six topics (A–F) that legislation requires most grant recipients to cover, programs reported to have more extensive coverage of the advantages of refraining from sexual activity (topics B and C combined) were consistently associated with moderately to much better youth outcomes than programs that covered these topics less. However, the remaining four topics either were associated with moderately *worse* youth outcomes in a few cases, or were not associated with any outcomes.
- When comparing the five most commonly delivered curricula to all other curricula combined, youth who received Choosing the Best had moderately higher scores in skills and intentions than those receiving other curricula, but there were no consistent patterns of associations involving the remaining four common curricula and youth outcomes.

/ The study found only small associations of most facilitation characteristics with youth outcomes, and two of the moderate associations unexpectedly had a negative direction. Facilitators' previous experience teaching SRAE, strategies they used to engage youth, and having work-related connections with the community they serve had moderate associations with some youth outcomes.

- Across provider characteristics, providers who were newer to SRAE programming and those who had received a Title V State subrecipient grant were associated with moderately better outcomes for youth than more experienced providers and other types of grant recipients. Associations involving provider efforts to support facilitators through training and observations were generally small or inconsistent.
- Looking across all implementation features and provider characteristics while considering each of the seven youth survey outcomes separately revealed that features and characteristics had more predictive power for some outcomes than for others. The specific outcomes where implementation features and provider characteristics had more predictive power were skills against dating violence and sexual coercion, intentions for delaying sex and for success sequence, and life skills/attitudes to support goals.
- In some cases, Bayesian or sensitivity analysis findings differed from the primary findings. For example, Bayesian analysis sometimes indicated that the primary finding for an implementation feature or provider characteristic was not meaningful, or sensitivity analyses found smaller associations than the primary finding. In these instances, readers should use caution in interpreting the primary findings.

D. Limitations

The analysis approach had some important limitations. First, the study design does not lend itself to causal interpretation; the relationships the study identifies are correlational. The study team and readers cannot infer from the findings whether a specific implementation feature *causes* better or worse student outcomes. Second, the study was unable to use the full NWS Provider Survey and NWS Facilitator Survey data samples in the analysis as the research team initially hoped to do. This was mainly because of lack of program administrative data on youth outcomes and the complexity of matching programs based on curricula and age of youth served. The associations the study found may not be generalized to the entire population of SRAE providers and facilitators. Third, the data in the study may be affected by measurement errors due to the subjective nature of some of the NWS survey questions. For example, providers and facilitators may not have an accurate sense of the prevalent experiences or issues that youth they serve are facing, or the youth may give survey answers that they think are expected of them.

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I. Introduction

Despite significant declines in teenage pregnancy rates over recent decades, the United States continues to have the highest teenage birth rate among industrialized countries (Martin et al. 2021). In addition, condom use among teens is declining, and youth ages 15 to 24 account for almost half of new sexually transmitted infections in the United States (CDC 2023). The federal government aims to address this through a range of programs, including the Sexual Risk Avoidance Education (SRAE) grant program. This report summarizes information gathered and analyzed in the SRAE Nationwide Evaluation (SRAENE) and summarizes what the study team knows about how various SRAE program characteristics are associated with youth outcomes. It is based on a correlational analysis of data, which means the findings do not support conclusions about whether the SRAE programs caused youth outcomes. Understanding these associations can be an important first step when identifying areas of focus for future research.

A. Sexual Risk Avoidance Education grants

To help youth reduce and avoid the risks associated with sexual initiation, the federal government funds a range of grant programs. For nearly a decade, these programs have increasingly focused on optimal health outcomes that are associated with a delay of sexual activity until marriage. They emphasize the social, psychological, and biological factors that can eliminate risk and encourage healthy behaviors. In support of this approach, in 2016, the Family and Youth Services Bureau (FYSB), within the Administration for Children and Families (ACF), authorized a discretionary SRAE grant, the General Departmental SRAE program, funded through annual appropriations.[1] Then, in 2018, Congress amended the Title V, Section 510 of the Social Security Act,[2] authorizing the Title V State and Title V Competitive

Box I.1. Six required topics in SRAE Title V grant-funded programs

In accordance with the Title V SRAE legislation, programs funded by State and Competitive grants must address the following six topics:

A. The holistic, individual, and societal benefits associated with personal responsibility, self-regulation, goal setting, healthy decision making, and a focus on the future

B. The advantage of refraining from nonmarital sexual activity to improve the future prospects and the physical and emotional health of youth

C. The increased likelihood of avoiding poverty when youth attain self-sufficiency and emotional maturity before engaging in sexual activity

D. The foundational components of healthy relationships and their impact on the formation of healthy marriages and safe and stable families

E. How other youth risk behaviors, such as drug and alcohol usage, increase the risk for teen sex

F. How to resist and avoid, and receive help regarding, sexual coercion and dating violence, recognizing that—even with consent—teen sex remains a youth risk

Requirements for General Departmental grants are closely aligned with these topics.

[1] For more information on the General Departmental SRAE program, see: https://www.acf.hhs.gov/fysb/adolescent-pregnancy-prevention/sexual-risk-avoidance-education.

[2] The Title V SRAE Program was authorized and funded by Section 510 of the Social Security Act (42 U.S.C. § 710), as amended by Section 50502 of the Bipartisan Budget Act of 2018 (Pub. L. No. 115-123) and extended by the CARES Act of 2020 (Pub. L. No. 116-136). See https://www.ssa.gov/OP_Home/ssact/title05/0510.htm.

SRAE programs. If a state or territory does not apply for the Title V State SRAE program, the unused funding transitions to the Title V Competitive SRAE program and is made available to direct service providers or organizations in the state or territory through an open competitive application process. The Title V State and Competitive SRAE Programs are guided by six program requirements that all grant recipients must address through their programming (see Box I.1).

SRAE Title V State, Title V Competitive, and General Departmental grants are administered by FYSB, within the ACF of the U.S. Department of Health and Human Services (HHS). Through the three funding streams, there are grant-funded programs in nearly all states and territories. This analyses in this report are based on data collected from all three funding streams.

B. The SRAE National Evaluation (SRAENE)

The SRAE grant program holds much promise to support improved youth outcomes, but at the time of its inception, there was a slim evidence base upon which to inform programming. A prior evaluation of its predecessor grant program, Title V Abstinence Education, did not find that the program led to improved youth sexual risk behaviors, but it also did not result in any unintended negative outcomes (Trenholm et al. 2008). The Teen Pregnancy Prevention Evidence Review, administered by HHS, has identified a very small number of studies of effective abstinence-based programs that would be allowable under the SRAE grant program (see https://youth.gov/evidence-innovation/tpper/compare-programs).

In addition to outlining the grant requirements, Title V also authorizes a national evaluation of the SRAE grant program. ACF designed SRAENE to build the foundational pieces of a new evidence base to tell the story of the new SRAE programming and point the way to potentially effective implementation approaches. SRAENE has three parts (Box I.2). Through the Nationwide Study (NWS) as part of the National Descriptive Study, SRAENE has recently administered surveys to all grant recipients, their program providers, and facilitators. This effort provides evidence on how grant recipients deliver programming to youth, providers' implementation experiences, and how youth respond to programming. The NWS is also fundamental to identify what program characteristics are more highly correlated with more positive youth outcomes.

Box I.2. Three parts of the SRAE National Evaluation

This report is a product of the SRAE National Evaluation (SRAENE). SRAENE has three distinct activities. One is the National Descriptive Study, which includes two substudies. The Early Implementation Study (EIS) provides an initial look at how SRAE programs were designed and implemented; the Nationwide Study (NWS) describes the implementation of programs funded by SRAE grants. This report of results of a correlational analysis is part of the NWS, as is a companion report (Neelan et al. 2023). The second activity is the Program Components Impact Study. This activity uses a systematic and rigorous approach to test and improve the components of programs. The third is Data and Evaluation Support. This activity helps grantees build their capacity to use data and research to improve their programs and supports grantees conducting their own evaluations, to build a base upon which to improve programming.

Additional information about SRAENE, including a series of briefs with findings from the EIS, is available at https://sraene.com/ and https://www.acf.hhs.gov/opre/project/sexual-risk-avoidance-education-national-evaluation-2018-2023.

C. Overview of SRAENE Nationwide Study— Correlational Analysis

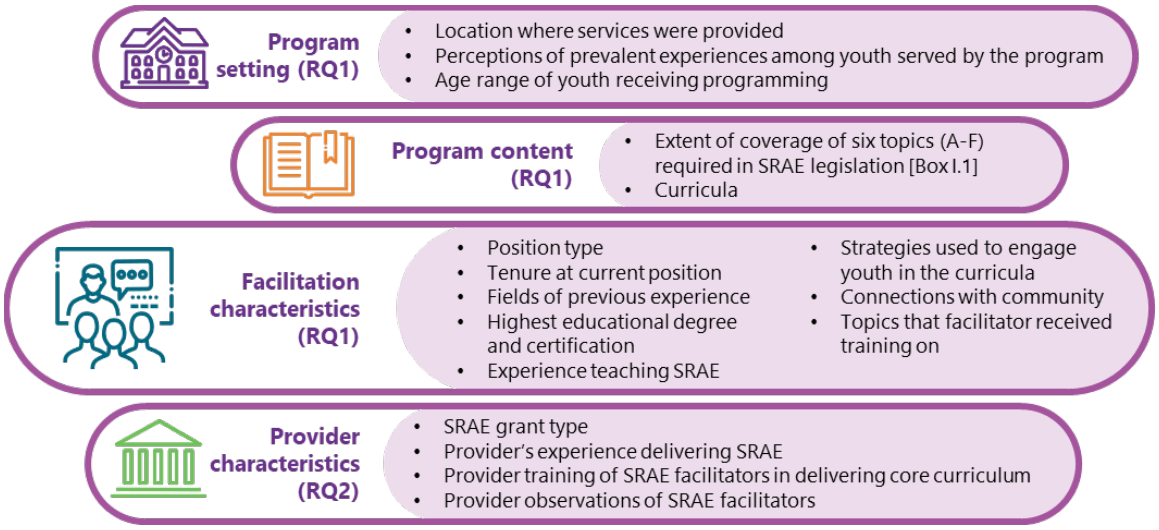
This report examines whether and which aspects of SRAE program implementation, including provider implementation features and facilitator characteristics, are associated with outcomes for youth. Drawing on data from the NWS Provider Survey and NWS Facilitator Survey (surveys of all SRAE program providers and their facilitators) and on Performance Analysis Study (PAS) data (administrative performance measures from all SRAE programs), the study explores youth outcomes on improved skills and intentions related to sexual risk avoidance, satisfaction with SRAE programming, and program attendance. Specifically, it addresses two research questions:

1. Are some features of implementation (including various program settings, program content and activities, and facilitation characteristics) more strongly associated with youth outcomes than others?
2. What provider characteristics are associated with greater program attendance and youth outcomes?

Figure I.1 lists implementation features and provider characteristics that this study explores as potential predictors of outcomes. For each research question, the analysis consisted of a series of multivariate regressions, exploring the association of each implementation feature or provider characteristic with each of seven youth outcomes, while holding other factors constant. Figure I.2 illustrates the study's approach at a high level. For Research Question 2, the approach consisted of a similar series of regressions to those examined in Research Question 1, but focused instead on the association of provider characteristics. Analyses for Research Question 2 also examined youth attendance in addition to the seven youth outcomes. (Chapter II and Appendix A include more detail on the definitions of the implementation features, provider characteristics, and youth outcomes). The research design means that, although the study can inform conclusions about which aspects of implementation are related to which youth outcomes, the findings cannot indicate that one causes the other. Still, even this type of design suggests which relationships exist can help point the way to future areas of research.

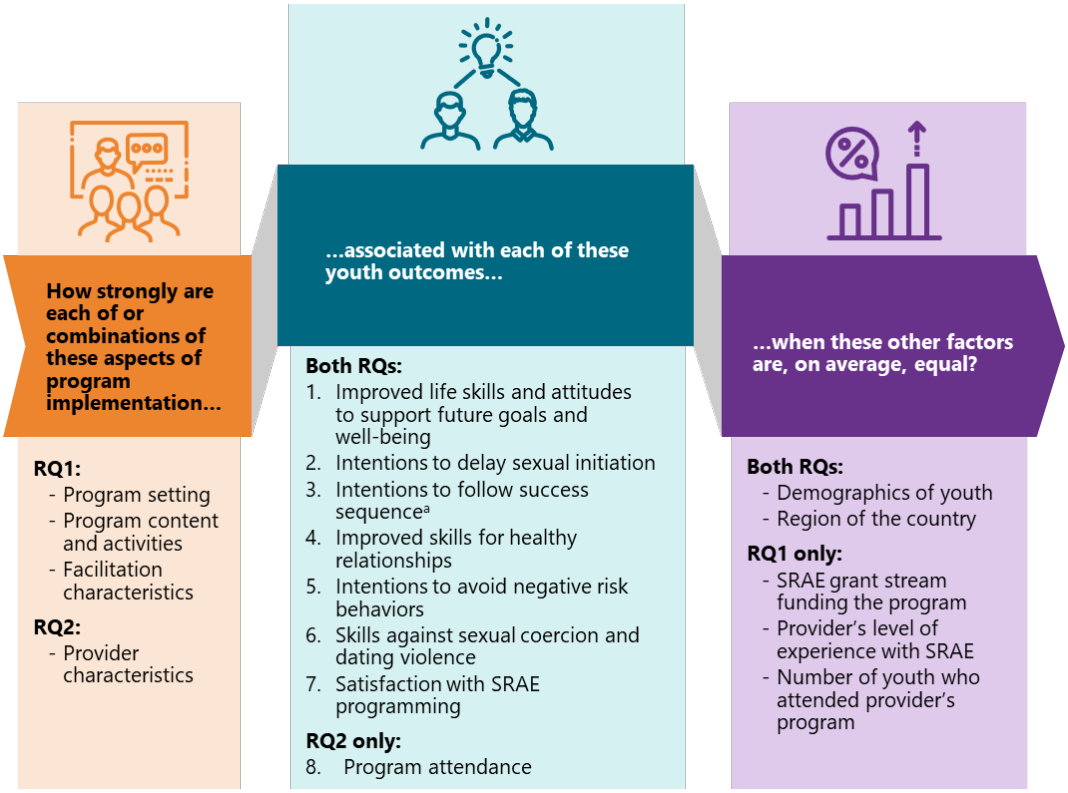
The remainder of this report is organized as follows: Chapter II of the report describes the study's data and analytical approach. Chapter III presents detailed findings on how each examined implementation feature and provider characteristic is associated with program outcomes. Finally, Chapter IV discusses key findings, limitations, and implications for program and research design.

Figure I.1. Implementation features and provider characteristics the study analyzed, by research question



RQ = research question, SRAE = sexual risk avoidance education.

Figure I.2. Overview of approach to analyzing research questions



[a] "Success sequence" refers to a sequence of life milestones believed to be associated with escaping poverty and joining the middle class. Most commonly, these milestones include completing high school, full-time employment, and waiting until marriage to have children (Haskins and Sawhill, 2003; 2009).

RQ = research question, SRAE = sexual risk avoidance education.

II. Data and Methods

This study draws on data from surveys of providers and facilitators, as well as administrative program data. The primary analysis and sensitivity testing uses a regression modeling approach. To provide context to these findings, the study team then assesses the strength of evidence with Bayesian methods that account for findings across models. The remainder of this section gives an overview of the data sources and provides definitions of the implementation features, provider characteristics, and outcome variables; describes data matching procedures; and summarizes analysis methods for answering the research questions. Appendix A contains additional details.

A. Data: Sources and variable definitions

The correlational analysis portion of the Nationwide Study (NWS) uses three data sources. From these sources, the study team constructs variables to summarize implementation features and provider characteristics, as well as to describe youth outcomes. This chapter describes the three data sources and then defines the implementation features and provider characteristics that the study focused on.

1. Data sources

The three data sources in this study are (1) NWS Provider Survey data collected from SRAE providers, (2) NWS Facilitator Survey data from SRAE facilitators, and (3) Performance Analysis Study (PAS) administrative program data on performance measures obtained from SRAE grant recipients. The SRAENE team collected the two survey data sources as part of the NWS, which included providers and facilitators across all three funding streams – Title V State SRAE, Title V Competitive SRAE, and General Departmental SRAE. (See Box II.1 for key terminology.)

Box II.1. Key SRAE terminology used in this report

All Title V State SRAE grantees have subrecipients that provide programming to youth. All General Departmental and Title V Competitive SRAE grantees provide programming directly to youth. In this report, Title V State subrecipients and General Departmental and Title V Competitive grantees are referred to as providers. The staff members who deliver these grant-funded program to youth are referred to as facilitators.

1. NWS Provider Survey. In early 2023, The SRAENE Nationwide Study surveyed 331 SRAE providers. These surveys collected detailed information on how providers deliver programming to youth, providers' implementation experiences, and how schools and communities responded to programming during the 2022–2023 school year.
2. NWS Facilitator Survey. Similarly, in early 2023, the study surveyed 535 of the facilitators identified by these providers. The survey collected similar information to the provider survey, while also collecting data on facilitation characteristics.
3. Performance Analysis Study (PAS). The PAS, conducted through another contract managed by ACF, collects performance measures from SRAE grant recipients on structure, cost, and support for implementation, as well as attendance, reach, and dosage for the programs offered by each grant recipient's providers.[3] As part of the

[3] All grant recipients are required to report on these performance measures, which allows the PAS to assess whether SRAE grant objectives are being met. The list of specific performance measures has been approved by the Office of Management and Budget as an information collection. See the PAS website (https://www.sraepas.com/) for more information.

performance measures, grant recipients also administer entry and exit surveys to youth before beginning the SRAE program and upon completion. Depending on the measure, the study used data from the 2021–2022 school year or from July-December 2022 because the PAS data files from the most recent reporting periods, which would have been more aligned with the survey data sources described above, were not yet available at the time of this report.

The study team used these data sources to construct the variables in the analysis described in this report. Specifically, the study team used the NWS Provider and Facilitator Surveys to construct variables measuring implementation features (Research Question 1). The NWS surveys instructed providers and facilitators to complete the survey for the program (the combination of setting and curriculum) in which that provider or facilitator serves its largest population. Some providers run multiple programs and some facilitators deliver multiple programs, so this guidance to respondents means that the surveys include information on implementation features of a single program. The study team used the PAS data to construct variables measuring provider characteristics (Research Question 2), youth outcomes from their exit surveys (Research Questions 1 and 2), program attendance (Research Question 2), and the background explanatory variables for the study's models. PAS data are grouped by program, and for all youth-level measures, the study used averages of responses by program.

2. Variable definitions

The study used a set of constructed variables to represent implementation features and provider characteristics, drawing on three data sources. Table II.1 provides definitions for each feature and characteristic the study analyzed. Research Question 1 focused on the association between three categories of implementation features (top panel of Table II.1) with seven youth outcomes, summarized previously in Figure I.2 and defined in Appendix A. Each outcome is an index, scaled from 0 to 100, based on first averaging together responses to multiple PAS exit survey questions for each youth, and then combining the index scores for each youth within a program to get average scores for the program. Research Question 2 focused on the association between provider characteristics (bottom panel of Table II.1) with the seven youth outcomes and with program attendance, defined as the percentage of youth who attended at least 75 percent of scheduled program hours.

Table II.1. The implementation features and provider characteristics the study analyzed, by research question

Implementation features and provider characteristics (and data sources)		Definition
RQ1: Are some features of implementation more strongly associated with youth outcomes than others?		
 Program setting (from NWS Provider Survey, NWS Facilitator Survey)	Location where services were provided	Indicates whether SRAE program was delivered (1) at a middle or high school setting during the school day, (2) at a school setting after the school day, or (3) at a non-school setting such as a community-based organization, detention center, foster care group home, faith-based organization, and clinics or hospitals

Which Sexual Risk Avoidance Education Implementation Features and Provider Characteristics are Associated with Youth Outcomes?

Implementation features and provider characteristics (and data sources)		Definition
	Perceptions of prevalent experiences or issues among youth served by the program	Indicates whether (1) teen sex, teen pregnancy, or STIs/STDs; (2) behavioral and emotional health; (3) substance use; (4) not finishing high school; and (5) dating violence, sexual coercion, or unhealthy relationships are prevalent experiences or issues of concern for the youth served in a particular setting, as reported by the provider or facilitator providing services in that setting
	Age range of youth receiving programming	Indicates whether SRAE program was delivered (1) only with middle-school-age youth (ages 10 to 13), (2) only with high-school-age youth (ages 14 and older), or (3) with both age ranges (separately or together)
 Program content (from NWS Provider Survey, NWS Facilitator Survey)	Reported extent of coverage of six topics (A-F) required in SRAE legislation	On a scale of 0 to 100, indicates the extent of coverage of each of the required topics (A-F), as reported by the provider or facilitator; topic A covers life-building skills, topics B and C cover the advantages of refraining from sexual activity, topic D covers forming healthy relationships, topic E covers avoidance of risk behaviors, and topic F covers prevention of relationship coercion (see Box I.1 for detailed definitions)
	Curricula	Indicates which curriculum is used to deliver SRAE programming: (1) Choosing the Best, (2) Love Notes SRA, (3) Making a Difference, (4) REAL Essentials, (5) Teen Outreach Program,[a] or (6) any other curriculum
 Facilitation characteristics[b] (NWS Facilitator Survey)	Position type	Indicates whether facilitator's position is (1) an outside facilitator (such as a health educator) or (2) a school position (health teacher, another teacher, counselor, or nurse)
	Tenure at current position	Indicates how long facilitator has worked in current position: (1) less than 1 year, (2) 1 to 3 years, (3) 4 to 7 years, or (4) 8 years or more
	Fields of previous experience	Indicates whether facilitator's experience before their current position involved (1) a health-related field (health education, medicine/nursing, and/or public health), (2) an education-related field (education and/or child development), (3) a field related to serving vulnerable youth (juvenile justice, social work/human services, and/or child welfare), and (4) more than one field of previous experience
	Highest educational degree and certification	Indicates whether highest level of education facilitator has completed is (1) associate's degree or less, (2) bachelor's degree, or (3) master's degree or higher; separately, indicates whether facilitator currently has a professional license, certification, or credential related to the work they do with youth
	Experience teaching SRAE	Indicates how many total years of experience facilitator has teaching only sexual risk avoidance curriculum: (1) none, (2) less than 1 year, (3) 1 to 2 years, or (4) 3 years or more
	Strategies used to engage youth in the curricula	Number of strategies (up to 15) facilitator uses to engage youth when delivering the curriculum, such as calling on youth by names, small group activities, or role plays

Implementation features and provider characteristics (and data sources)		Definition
	Connections with community	Facilitator's experiences or connections with the community where they teach, including (1) number of different types of work-related connections to the community (up to 3), (2) number of different types of personal connections to the community (up to 3), and (3) whether facilitator is of the same race or ethnicity as most members of the community
	Topics that facilitator received training on	Whether facilitator received training on (1) SRA topics (SRA specialist certification and/or factors that predict delay of sexual initiation, or (2) consent/coercion-related topics (dating violence and consent, trafficking, and/or child protection), and (3) the number of topics the facilitator received training on (up to 14)
RQ2: What provider characteristics are associated with greater program attendance and youth outcomes?		
 Provider characteristics (PAS data)	SRAE grant type	Indicates whether SRAE grant is a (1) Title V State subrecipient grant, (2) General Departmental grant, or (3) Title V Competitive grant
	Provider's experience delivering SRAE	Indicates whether provider was (1) new to delivering SRAE programming during the most recent reporting period or (2) not new
	Provider training of SRAE facilitators in delivering core curriculum	Indicates whether provider (1) trained all facilitators in delivering the provider's core curriculum during the most recent reporting period or (2) did not train all facilitators (less than 100 percent)
	Provider observations of SRAE facilitators	From 0 to 100 percent, indicates the percentage of facilitators during the most recent reporting period who were (1) observed exactly once and (2) observed at least twice

[a] These are the most common five curricula to emerge from the responses to the NWS Provider and Facilitator Surveys. About one quarter of respondents in the analysis files primarily use some curriculum other than the top five, but most (about 75 percent) use one of these top five as their curriculum with the largest population of youth they serve.

[b] SRAE programs are generally delivered in a classroom setting by a facilitator. Usually, the facilitator is an outside health educator that comes into a school to deliver just SRAE. A similar type of facilitator is used in a community-based setting. School teachers, such as the health teacher, rarely deliver SRAE programs (see Appendix Table B.2).

NWS = Nationwide Study, PAS = Performance Analysis Study, SRAE = sexual risk avoidance education.

B. Creating analysis files by matching data across sources

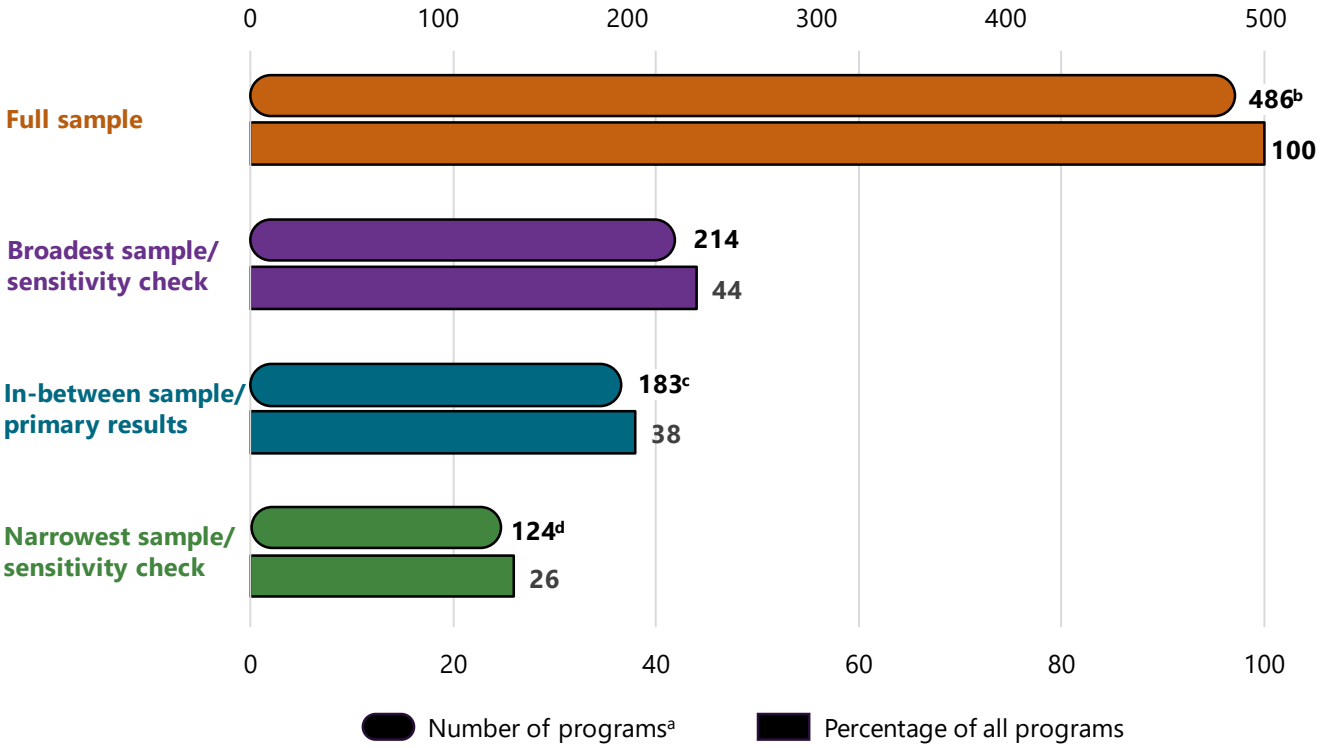
To build data files that would help address the research questions, the team conducted two data matching activities: (1) matching the NWS Provider Survey to the PAS data and (2) matching the NWS Facilitator Survey to the PAS data. The sections below summarize the data matching, and Appendix A contains additional details on the matching approach. Appendix B contains descriptive statistics for the original data sources as well as for the analytical samples. As noted in Chapter II, section A, the data sources the study team matched covered different time periods, with the two NWS surveys covering a later time period than when the PAS data were collected.

1. NWS Provider Survey–PAS analysis file

The final analysis file obtained from merging the NWS Provider Survey with the PAS data includes one record for each of 183 programs, about 38 percent of the 486 programs in the PAS data. The remaining 62 percent of programs were not included in the analysis file due to missing or incomplete PAS outcome data, NWS Provider Survey nonresponse or ineligibility, or issues with the matching process (Figure II.1). The most common reason a

program was not included is that it did not have PAS youth outcome data. These 183 programs contain data from less than half (145) of the 331 providers who responded to the NWS Provider Survey. High levels of attrition from the full sample of programs to the analysis sample has important implications for interpreting the findings. Specifically, the analysis sample for this study differed in key ways from the full sample that completed the NWS Provider Survey, such as grant type, core curricula, and geographical location of the program. (See Chapter IV for more discussion of this limitation, which also applies to the NWS Facilitator Survey–PAS analysis file match that is discussed next).

Figure II.1. The NWS Provider Survey-PAS matched analysis file includes a relatively small proportion of all programs



[a] A provider from the NWS Provider Survey data could match to more than one program in the PAS data, so at each stage until the narrowest analysis sample, the number of programs is greater than the number of providers.

[b] This number of programs does not include any NWS Provider Survey responses that did not merge into the PAS data during the initial match. Those responses were dropped immediately because they were not at the same level (program level) as the PAS data.

[c] The 183 programs include data from 145 NWS Provider Survey entries.

[d] These 124 programs each contain data from one provider, so there are 124 NWS Provider Survey entries.

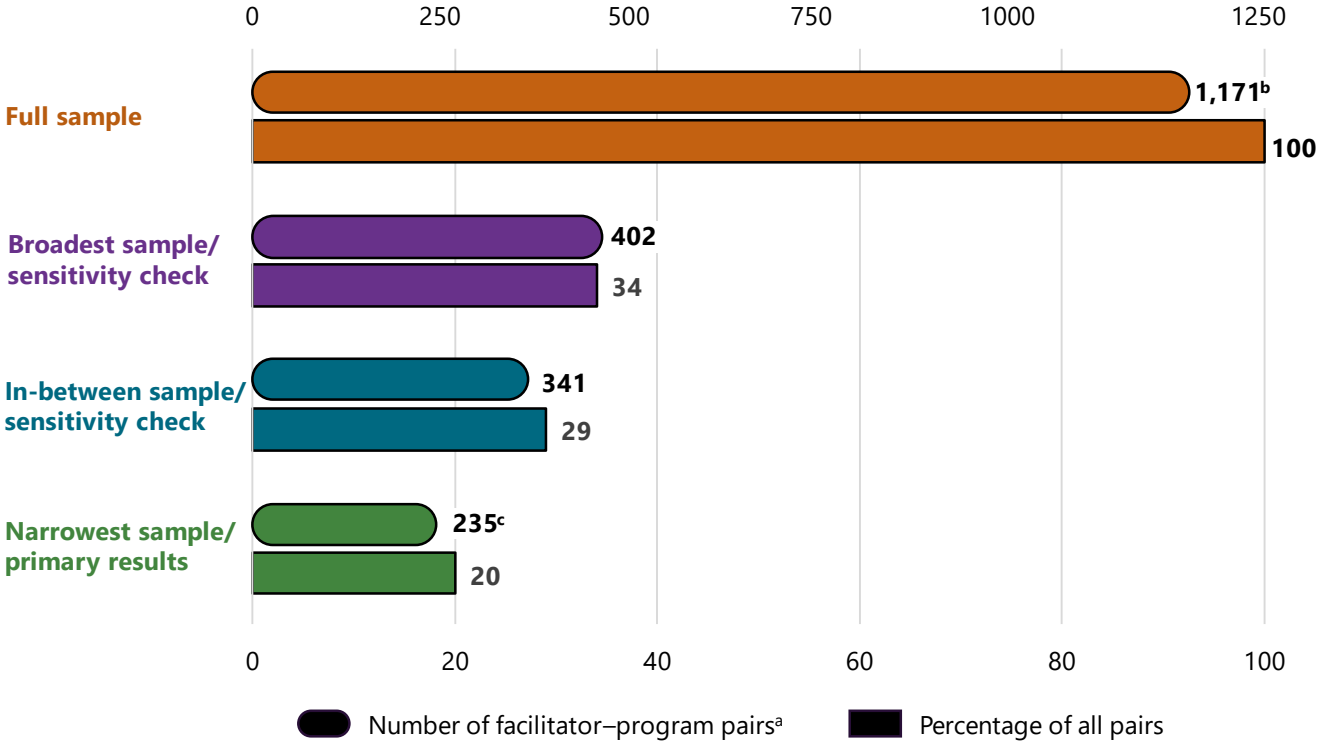
NWS = Nationwide Study, PAS = Performance Analysis Study.

2. NWS Facilitator Survey–PAS analysis file

Matching the NWS Facilitator Survey to the PAS data was more complicated because the PAS data can have multiple programs under a provider, and because there can be multiple facilitators under a provider who each deliver different programs. After taking the same steps as with the NWS Provider Survey–PAS matched file, the

study team dropped facilitators that were still linked to multiple programs in the PAS data because of uncertainty about which program these facilitators taught, so the analysis file then had only one record per facilitator. The final analysis file includes one record for each of 235 facilitators, slightly less than half of the 535 facilitators who responded to the NWS Facilitator Survey.[4] More than one facilitator could be linked to the same program; the final analysis file includes data from 114 programs, which is about 23 percent of the 486 programs in the PAS data. Mostly, the reduced proportions of each source in the analysis file were due to not having PAS youth outcome data or an NWS Facilitator Survey response (Figure II.2). High levels of attrition from the full sample of programs to the analysis sample places some of the same limitations on the findings as those described in the section above. See Chapter IV for further discussion.

Figure II.2. The NWS Facilitator Survey–PAS matched analysis file includes a relatively small proportion of all facilitators



[a] A facilitator from the NWS Facilitator Survey data could match to more than one program in the PAS data, and vice versa, so at each stage until the narrowest analysis sample, the unit of analysis is facilitator–program pairs.

[b] This number of programs does not include any NWS Facilitator Survey responses that did not merge into the PAS data during the initial match. Those responses were dropped immediately because they were not at the same level (program level) as the PAS data.

[c] These 235 programs each contain data from one facilitator, so there are 235 NWS Facilitator Survey entries. Multiple facilitators can be connected to the same program, and this sample consists of 114 unique programs.

NWS = Nationwide Study, PAS = Performance Analysis Study.

[4] The 235 facilitators represent 107 providers, about one-third of the 331 providers who responded to the NWS Provider Survey.

C. Approach to answering research questions

To address the research questions, the study followed an analytical approach that is based on regression analysis, which then uses Bayesian analysis to evaluate which findings from the primary regressions are meaningful. Specifically, the study examined whether …

For Research Question 1:

/ Implementation features, which include program setting, curricular content, and facilitation characteristics

… are associated with …

/ Youth outcomes, which include improved life skills and attitudes to support future goals and well-being, intentions to delay sexual initiation or to follow the success sequence or avoid negative risk behaviors, improved skills for healthy relationships or against sexual coercion and dating violence, and satisfaction with SRAE programming

… after controlling for …

/ Background explanatory variables, which include demographics of the youth and the region of the country in which they received the program *AND*

/ Some provider characteristics, which include SRAE grant type, provider's experience delivering SRAE, and number of youth attending provider's programs.

For Research Question 2:

/ Provider characteristics, which include the SRAE grant type, provider's experience delivering SRAE, and training and support (via observations) provided to facilitators[5]

… are associated with …

/ The same set of youth outcomes listed in Research Question 1 *AND*

/ Program attendance, defined as percentage of youth who attended at least 75 percent of scheduled program hours

… after controlling for …

/ Background explanatory variables, which included demographics of the youth and the region of the country in which they received the program.

[5] The model that used implementation features as predictor variables (RQ1) also used some provider characteristics as background explanatory variables, including a couple of characteristics that are predictor variables in the Research Question 2 model. Appendix A includes details on the background explanatory variables.

1. Analytical approach

To address Research Question 1, the study used the two matched analytical samples (NWS Provider Survey-PAS and NWS Facilitator Survey-PAS), and to address Research Question 2, the study used the PAS data. The description below explains the five-component analytical approach that explores associations of youth outcomes and program attendance with implementation features and provider characteristics.

1. **Association of youth outcomes with each implementation feature and provider characteristic in isolation (preliminary models).** To identify which implementation features and provider characteristics might be more strongly associated with youth outcomes, the first step was to run a series of regression models (one for each of the study's seven outcome variables, plus one for youth attendance when answering Research Question 2) that contained only the set of background explanatory variables. These models indicated how much variation in the outcomes can be explained (reflected in the value of the R-squared statistic) just by the background explanatory variables. Next, the analysis introduced the implementation features and provider characteristics in separate models to assess the additional variation in each outcome (or marginal R-squared value) explained by each implementation feature and provider characteristic. This analysis helped identify which implementation features and provider characteristics explain more variation in youth outcomes and youth attendance, compared to other features and characteristics (this means having higher marginal R-squared values, also referred to as having more predictive power). The models also contain regression coefficients: each is a number that shows the estimated size of the change in the outcome associated with a one-unit change in an explanatory variable. The study also examined the size of the regression coefficient for each implementation feature and provider characteristic. This analysis weighted programs equally, meaning that each program had the same amount of influence in contributing to the results.
2. **Association of youth outcomes with a group of implementation features or provider characteristics (primary models).** Next, the analysis incorporated a set of more comprehensive regression models that introduced the group of implementation features or provider characteristics together, instead of introducing them separately. These models helped assess whether and how an implementation feature or provider characteristic is associated with youth outcomes (and, for Research Question 2, attendance) when other implementation features or provider characteristics, as well as the background explanatory variables, on average, are equal. The study again examined the size of the regression coefficients for each feature and characteristic. These models also help assess the extent to which implementation features (or provider characteristics) that appeared to have large-enough associations with youth outcomes (or attendance) in isolation (as shown by step 1) continued to have large-enough associations with outcomes after accounting for the influence of other features (or characteristics). This analysis also weighted programs equally. These models have a strong approach for obtaining valid findings for the research questions, so the study team refers to these as the primary models throughout the rest of this report and Chapter III focuses on the findings from these models.
3. **Evaluating which findings are genuine, rather than due to chance, across the research questions the analysis explores.** All statistical estimates have a degree of uncertainty in how well they reflect true underlying associations between variables, which affects conclusions about the answers to research questions. A standard approach is to rely on *p*-values to assess which associations are statistically significant, to indicate whether a regression coefficient is very unlikely to be as large as the team observed if there is no true association. However, Steps 1 and 2 consisted of several hundred regressions, which might have estimated associations that *p*-values identify as significant but that are actually due to random chance rather than genuine relationships.

(The likelihood of a significant *p*-value due to random chance increases as the number of models increases.) To assess the strength of findings, the preliminary and primary analysis used R-squared values and the size of regression coefficients, rather than *p*-values and statistical significance, to limit the risk of mistakenly concluding that an association is significant (Wasserstein and Lazar 2016; Greenland et al. 2016). However, neither R-squared nor regression coefficient values can indicate which correlations are most likely to be genuine. Furthermore, the regressions involve relatively small sample sizes, so each regression coefficient is a fairly imprecise estimate of the underlying association (in other words, the underlying association could fall within a fairly large range of values). To address these challenges, the study supplemented the traditional analytic approach with a Bayesian analysis to help further evaluate which findings are meaningful.

The study used a hierarchical Bayesian regression (see Appendix A for details) to calculate the probability that any given relationship is genuine. This approach increases the precision of each individual estimate by drawing on information from all the other related estimates in the analysis, but only to the extent that the estimates are mutually informative. For example, if the data suggest negligible differences in correlations between facilitators' tenure levels and youth's improved skills for healthy relationships, the model will make use of more information from facilitators across all tenure levels. Alternatively, if the data suggest large differences in correlations across tenure levels, the model will rely less on tenure. By drawing on all available information, this analysis provides insight into which estimates are most likely to reflect genuine associations between implementation features or provider characteristics and youth outcomes or attendance.

4. **Exploring associations of youth outcomes with implementation features or provider characteristics within different age groups.** Associations between program implementation and youth outcomes might be larger or smaller depending on the age of youth receiving the programming because receptivity to the program may depend on the youth's knowledge about and experience of sex—and that might be greater for older youth. To assess age-specific associations, the study included a subgroup analysis, which involves running the primary models from Step 2 separately for samples consisting only of younger youth (when providers or facilitators indicated in their NWS Survey response that their program that served only middle-school-age youth) and for samples only of older youth (when providers or facilitators indicated in their NWS Survey response that their program served only high-school-age youth). The study did not examine associations within samples consisting of a third subgroup—those who reported serving both age ranges—because this part of the sample was too small.[6] (The analyses for the two subgroups that were analyzed still had relatively small sample sizes, and the analyses found generally inconsistent patterns of results, so this report presents those in the appendices only.)

5. **Sensitivity testing: Regression analysis with alternative sample restrictions and weights.** To inform how much trust to place in the findings from the primary models, the study team ran additional models that each had one difference from the primary models. First, the team ran models with alternative approaches to defining the samples of providers and facilitators (see Figures II.1 and II.2, and Appendix A). Second, the team ran models that weighted programs by the number of youth who completed PAS exit surveys; this means that the

[6] As shown in Table II.1, primary and other models did examine associations between all three age-based subgroups. These specific associations cannot be studied within age-based subgroups because, by definition, each subgroup sample consists of only one of the age groups.

more youth that a program served, the more influence that program had on the results. Finally, the team ran additional models for some specific situations (see Table A.8 in Appendix A for more details).

2. Interpreting regression results

The study team first looked for the preliminary models that explained the most additional variation in outcomes, indicating that the implementation features and provider characteristics in those models had the most power to predict outcomes. Chapter III notes which features and characteristics had the highest predictive power. The study team also used results on predictive power to make decisions about where to focus for the next step, which was reporting on the regression coefficients showing the associations between implementation features and outcomes. For features where the study had data from both the NWS Provider Survey and Facilitator Survey, the study team compared the predictive power of the models across the two data sources, by looking at the marginal R-squared values from the preliminary models (Step 1 in the analytical approach described previously). Chapter III focuses on the findings from the primary models from the NWS Provider or Facilitator Survey that had larger marginal R-squared values. If the marginal R-squared values were similar, Chapter III focuses on findings from both NWS Surveys.

Then, to focus on the size (or magnitude) of the associations between implementation features or provider characteristics and youth outcomes (to avoid the disadvantages of relying on *p*-values and statistical significance discussed previously in the analytical approach section), the study used three categories of magnitude. The seven outcomes based on youth exit surveys from the PAS data have standard deviations (which describe how close together the values tend to be) between about 7 and 13 points on the 0-to-100 point scale (see Appendix B), so the study team generally defined the thresholds for large, moderate, and small as defined below. The discussion of findings in Chapter III focuses on patterns of outcomes of moderate or large size. (Notably, these outcomes involve short-term, self-reported statements in which youth assess how the program will affect future behavior, which should be easier to influence than outcomes involving actual, longer-term behavior).

- **For changes in the outcome variable of 6 points or more**, the analysis approach considered the association **large**. These changes are about half (0.5) to slightly less than a full (1.0) standard deviation, which in other human services fields are considered large effects. Chapter III highlights these when they occur.
- **For changes in the outcome variable of 3 to less than 6 points**, the analysis approach considered the association **moderate**. These changes are about a quarter (0.25) to half (0.5) of a standard deviation. In other human services fields, these are considered moderate effects, given all the other potential individual, family, and peer influences on youth outcomes. Chapter III discusses these, sometimes including notes about how to interpret them or how sensitive they are to the model specification.
- **For changes in the outcome variable of less than 3 points**, the analysis approach considered the association **too small in size** and too likely to be due to chance to be important. Chapter III noted these, but then ignored associations involving these sizes in further discussing the findings.

III. Study Findings

This chapter discusses the findings by research question in turn, summarizing which relationships are only small and discussing further the associations that are moderate or large. Table III.1 summarizes the findings. Appendix Tables C.1 and C.2 present the relative predictive power of each of the implementation features and provider characteristics. Appendix Tables C.3 through C.24 present the regression model findings for each feature and characteristic. Appendix Tables C.25 through C.27 present the Bayesian analysis results.

Table III.1. Summary of findings from the correlational analysis of program implementation and program outcomes and outputs, by research question

Implementation features and provider characteristics		Summary of primary findings	Bayesian and sensitivity findings[a]
RQ1: Are some features of implementation more strongly associated with youth outcomes than others?			
 Program setting (NWS Provider Survey, NWS Facilitator Survey)	Location where services were provided	Whether youth had received SRAE in a non-school setting or at school but after school hours had large positive associations with all seven youth outcomes, compared to having received programming at school during school hours.	Consistent with primary findings.
	Perceptions of prevalent experiences or issues among youth served by the program	Youth outcomes were better in settings where providers believed that emotional and behavioral health problems were a prevalent experience for youth than where providers did not believe that was a prevalent experience, and worse in settings where dating violence, sexual coercion, and unhealthy relationships, and substance use were prevalent experiences.	Consistent with primary findings, except Bayesian analysis found low probabilities that associations for emotional and behavioral health problems were meaningful.
	Age range of youth receiving programming	Programs delivering SRAE to both middle school– and high school–age youth were associated with at least moderately better youth outcomes—and programs working with only high school–age youth were associated with some moderately worse youth outcomes—than programs serving only middle school-age youth.	Bayesian findings were consistent with primary findings, but sensitivity analyses generally found only small associations.
 Program content (NWS Provider Survey, NWS Facilitator Survey)	Reported extent of coverage of six topics (A-F) required in SRAE legislation	Programs with more extensive coverage of the advantages of refraining from sexual activity (legislatively mandated topics B and C combined) were associated with moderately to much better youth outcomes (in all seven areas) than programs that covered these topics less.	Consistent with primary findings, although sensitivity findings were slightly smaller for topics B and C (mostly moderate or small positive associations).
	Curricula	Comparing the five most common curricula that providers and facilitators reported delivering —Choosing the Best, Love Notes SRA, Making a Difference, REAL Essentials, and Teen Outreach Program— with all other curricula combined, youth tended to have moderately better outcomes if they were taught Choosing the Best.	Consistent with primary findings, except the weighted sensitivity analysis found smaller and sometimes negative associations.

Which Sexual Risk Avoidance Education Implementation Features and Provider Characteristics are Associated with Youth Outcomes?

Implementation features and provider characteristics		Summary of primary findings	Bayesian and sensitivity findings[a]
 Facilitation characteristics (NWS Facilitator Survey)	Position type	*Not available. Virtually all facilitators in the analysis sample were outside facilitators, so the study was not able to compare their programs' youth outcomes to those from in-school staff.*	
	Tenure at current position	Facilitator tenure in position generally had only small associations with youth outcomes.	Consistent with primary findings.
	Fields of previous experience	Facilitator field of previous experience generally had only small associations with youth outcomes.	Consistent with primary findings.
	Highest educational degree and certification	Facilitators' highest level of education and having a relevant license or certification generally had only small associations with youth outcomes.	Consistent with primary findings; additionally, the Bayesian analysis identified that the positive associations for relevant license or certification was likely to be meaningful.
	Experience teaching SRAE	Facilitators with no SRAE experience were associated with several moderately better youth outcomes compared to youth taught by facilitators with more experience, but facilitators with no experience only formed a very small part of the sample. Associations between other categories of facilitator experience were generally only small.	Bayesian analyses found that the probability of the association of no facilitator SRAE experience with youth outcomes being meaningful was small. Other sensitivity analysis findings were consistent with the primary findings.
	Strategies used to engage youth in the curricula	Facilitators' use of an increasing number of strategies to engage youth was moderately associated with better youth outcomes in some cases.	Bayesian findings were consistent with primary findings, but the associations from sensitivity analysis vary (all positive but some large and some small).
	Connections with community	The number of work-related and personal community connections facilitators reported generally had only small associations with youth outcomes; there were a couple of exceptions involving moderate associations.	Bayesian and sensitivity findings were mostly consistent with primary findings, but found even fewer moderate associations.
	Topics that facilitator received training on	There were some negative associations between the number of training topics and moderately worse youth outcomes.	Consistent with primary findings.

Which Sexual Risk Avoidance Education Implementation Features and Provider Characteristics are Associated with Youth Outcomes?

Implementation features and provider characteristics		Summary of primary findings	Bayesian and sensitivity findings[a]
RQ2: What provider characteristics are associated with greater program attendance and youth outcomes?			
 Provider characteristics (PAS data)	SRAE grant type	A provider having received a SRAE Title V State subrecipient grant was associated with moderately better outcomes for youth, in most cases, than a provider having received a General Departmental grant, and had only small associations with attendance. There generally was no meaningful difference in youth outcomes between those whose provider received a Title V State subrecipient grant versus a Title V Competitive grant.	Consistent with primary findings for General Departmental grants, but sensitivity findings varied for Title V Competitive grants, with different analyses finding moderate positive and moderate negative associations.
	Provider's experience delivering SRAE	Receiving services from new providers was associated with moderately better outcomes for youth than receiving services from experienced providers and had only small associations with attendance.	Consistent with primary findings.
	Provider training of SRAE facilitators in delivering core curriculum	Few providers trained only a portion of their facilitators; youth served by that set of providers generally had moderately worse outcomes, but better program attendance then providers who trained all their facilitators.	Bayesian findings were partially consistent with primary findings, and sensitivity findings are generally smaller and occasionally positive
	Provider observations of SRAE facilitators	Youth outcomes and attendance generally had only small associations with how frequently providers observed SRAE facilitators.	Bayesian findings were partially consistent, and sensitivity findings are mostly consistent, but weighted findings differ

[a] When the Bayesian or sensitivity findings differ from the primary findings, readers should use caution in interpreting the primary findings.

NWS = Nationwide Study, PAS = Performance Analysis Study, SRAE = sexual risk avoidance education.

The rest of this chapter generally focuses on the results from the preliminary (limited) and primary (more comprehensive) models that the analytical approach section of Chapter II describes. Typically, the sensitivity tests (Tables C.3 through C.24 in Appendix C) and Bayesian analysis results (Tables C.25 through C.27 in Appendix C) revealed similar patterns to the ones in those primary results, but Table III.1 above and the discussion below indicate when that was not the case. In subgroup analyses by age groups, there generally were not any consistent patterns of associations. Therefore, this chapter does not discuss age-related subgroup results, although these results are available as part of Tables C.3 through C.24 in Appendix C. When reporting on findings from the NWS Provider and Facilitator Surveys (for Research Question 1), for each implementation feature the discussion focuses on the NWS Survey where the predictive power of the implementation feature is stronger (presented in Appendix Tables C.1 and C.2).

A. The relationship between implementation features and youth outcomes

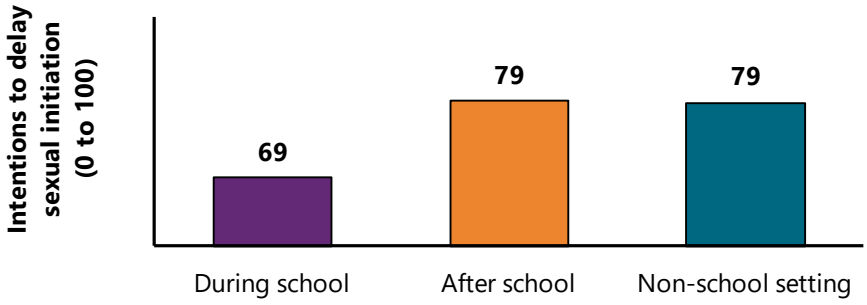
Program setting has the highest predictive power on youth outcomes, followed by program content. Facilitation characteristics and programming age level (middle school only, high school only, or both) do not predict youth outcomes as strongly, although the strength of the relationship varies by specific features and outcomes analyzed. Across the board, youth outcomes most strongly associated with the implementation features the study explored include their self-reported skills against sexual coercion and dating violence, intentions to delay sex, intentions to follow the success sequence, and life skills and attitudes to support future goals and well-being. Youth skills for healthy relationships, skills to avoid negative risk behaviors (such as avoiding alcohol, tobacco, and drugs), and overall satisfaction with the SRAE programming are less strongly associated with the implementation features analyzed, but this relationship varies by the specific implementation feature. See Tables C.3 through C.20 in Appendix C.

1. Program setting and youth outcomes

The study findings indicate that the location where services were provided was strongly associated with youth outcomes. Youth who received SRAE at a non-school setting or at a school setting but after school hours were more likely to report improved skills and intentions than those who received programming at a school setting during school hours. The data suggest that provider perceptions of prevalent experiences or issues among the youth they served were moderately associated with youth outcomes. The data showed that when providers perceived emotional and behavioral health problems to be a prevalent experience or issue, youth were more likely to report improved outcomes than when it was not perceived to be a prevalent experience or issue. On the contrary, youth were less likely to report improved outcomes when providers perceived dating violence, sexual violence, unhealthy relationships, and substance use to be prevalent experiences or issues than when they were not. The data also suggest the age range of the youth receiving programming was associated with youth outcomes. Programs that provided SRAE to both middle school–and high school–age youth were associated with at least moderately better youth outcomes.

Whether youth had received SRAE in a non-school setting or at school but after school hours had large positive associations with all seven youth outcomes, compared to having received programming at school during school hours. This finding was consistent in models that controlled for prevalent issues among youth, curricula, and the age of youth, as well as in the sensitivity analyses. For example, on an index from 0 to 100 in intentions to delay sexual initiation, youth receiving SRAE scored, on average, 79 in non-school and after-school settings, and 69 in during-school settings, adjusting for the background explanatory variables (Figure III.1). See Tables C.3, C.4, and C.25 in Appendix C.

Figure III.1. Intentions to delay sexual initiation, by setting



Source: PAS data and NWS Facilitator Surveys.

Note: Intentions to delay sexual initiation is an index from 0 to 100 based on youth exit survey responses from the PAS data. The values shown in the figure are regression adjusted, from the study's primary model.

NWS = Nationwide Study, PAS = Performance Analysis Study.

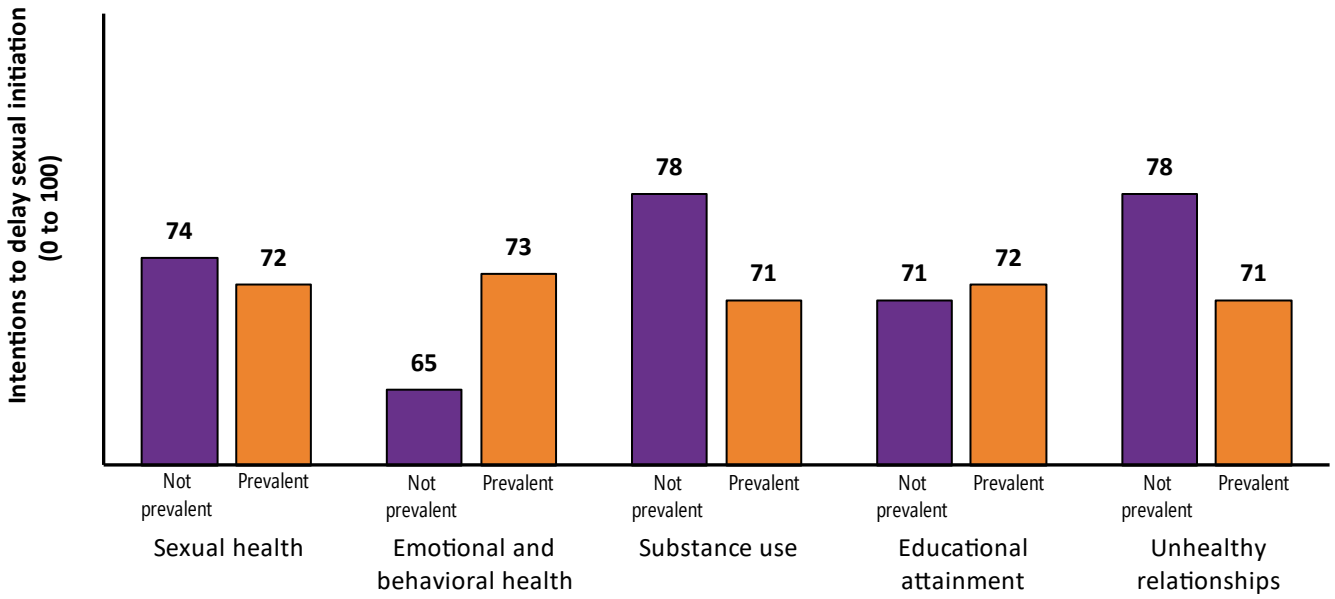
Youth outcomes were generally better in settings where providers believed that emotional and behavioral health problems were a prevalent experience or issue for youth than where providers did not believe it was a prevalent experience or issue, and worse in settings where dating violence, sexual coercion, unhealthy relationships, and substance use were perceived to be prevalent experiences or issues. When providers reported that emotional and behavioral health was a prevalent experience or issue, all youth outcomes except one (improved skills for healthy relationships) were moderately better than in settings where providers did not report that these were prevalent experiences or issues. However, for some of the other experiences or issues, the study found that youth scores typically were *lower* in settings where providers reported an experience or issue was prevalent than where it was not prevalent (Figure III.2). Specifically, the following patterns of association emerged:

- In settings where dating violence, sexual coercion, and unhealthy relationships were reportedly prevalent, youth scored lower in all outcomes than in settings where providers reported this issue was not prevalent. The negative association of the prevalence of this experience or issue with outcomes was particularly strong for four outcomes: youth intentions to delay sexual initiation, improved skills against dating violence and sexual coercion, intentions to avoid negative risk behavior, and satisfaction with SRAE programming.
- Similarly, in settings where providers reported that substance use was a prevalent experience or issue, youth scored lower in all seven outcomes than in settings where providers said substance use was not a prevalent experience or issue.
- Youth scored moderately worse on intentions to delay sexual initiation and intentions to avoid negative risk behavior in settings where teen sex, teen pregnancy, and STIs/STDs were reportedly a prevalent experience or issue, although they scored moderately better on satisfaction with programming.

The data did not indicate meaningful differences in outcomes based on whether providers said that finishing high school was a prevalent experience or issue. The above pattern of associations was generally consistent with the sensitivity analyses; however, Bayesian models suggest that the probability that there is a positive association between outcomes and the prevalence of emotional and behavioral health issues is weaker than the probability of

associations of outcomes with the prevalence of substance use and dating violence, sexual coercion, unhealthy relationships. See Tables C.5, C.6, and C.25 in Appendix C.

Figure III.2. Intentions to delay sexual initiation, by prevalence of issue or experience



Source: PAS data and NWS Provider Surveys.

Note: Intentions to delay sexual initiation is an index from 0 to 100 based on youth exit survey responses from the PAS data. The values shown in the figure are regression adjusted, from the study's primary model. Providers indicated in their NWS Provider Survey responses whether each experience or issue was a prevalent concern for the youth they served.

NWS = Nationwide Study, PAS = Performance Analysis Study.

Programs delivering SRAE to both middle school–age and high school–age youth were associated with at least moderately better youth outcomes than those that served only middle schoolers.[7] Providers and facilitators working with both middle school–age and high school–age youth were associated with moderately to much better youth outcomes across all seven outcomes compared to those working with only middle school–age youth. Although this association remained for providers after controlling for youth demographics and program characteristics, it was much smaller and less consistent for facilitators after controlling for those factors.

Programs working with only high school–age youth were associated with some moderately worse youth outcomes than programs working with only middle school–age youth. These outcomes include life skills, intentions to delay sexual initiation, and satisfaction with the program.

While Bayesian models suggested that the associations between outcomes and the age of youth receiving SRAE were meaningful, the study's sensitivity analyses generally found only small (rather than moderate) associations, so readers should use caution in interpreting the associations. See Tables C.7, C.10, and C.25 in Appendix C.

[7] Most SRAE programming is school based; therefore, when SRAE was delivered both to middle school–age and high school–age youth, programming was delivered to these age groups separately.

2. Program content and youth outcomes

The reported extent of coverage of the six topics (A-F) required in SRAE legislation is a strong predictor of youth outcomes. Comparing provider-reported programs with different extent of coverage of the six topics in legislation (known as the A-F topics), youth outcomes were positively associated with the coverage of the advantages of refraining from sexual activity (topics B and C), and negatively associated with the coverage of life-building skills and avoidance of risk behaviors (topics A and E, respectively). However, the direction and strength of the relationship between a specific topic and a specific outcome—such as the coverage of dating violence, sexual coercion, and unhealthy relationships topic, and skills against dating violence and sexual coercion—did not perfectly align. The data also indicate that curricula had mostly small associations with youth outcomes. However, youth tended to have moderately better outcomes if they were taught Choosing the Best.

Programs with more extensive coverage of the advantages of refraining from sexual activity (legislatively mandated topics B and C combined) were associated with moderately to much better youth outcomes (in all seven areas) than programs that covered these topics less. Conversely, greater coverage of life-building skills and avoidance of risk behaviors (topics A and E, respectively) was associated with moderately *worse* youth outcomes—namely, intentions to delay sexual initiation (topic A); skills for healthy relationships; intentions to avoid negative risk behavior, and satisfaction with SRAE programming (topic E). More extensive coverage of forming healthy relationships and preventing relationship coercion (topics D and F, respectively) did not predict youth outcomes in a meaningful way. Generally speaking, there was no intuitive pattern of association between conceptually similar topics and outcomes, such as between topic A and improved life skills and attitudes to support future goals and well-being, or between topic D and improved skills for healthy relationships. See Appendix A and Table A.10 for details. While Bayesian models suggested that the associations between outcomes and the extent of coverage of topics A-F were meaningful, the magnitude of the associations for some outcomes were sometimes different in the sensitivity analyses (sometimes larger, sometimes smaller than the primary models), so readers should use some caution in interpreting the associations. See Tables C.9, C10, and C.25 in Appendix C.

Comparing the five most common curricula that providers and facilitators reported delivering—Choosing the Best, Love Notes SRA, Making a Difference, REAL Essentials, and Teen Outreach Program—with all other curricula combined, youth tended to have moderately better outcomes if they were taught Choosing the Best. Across both the NWS Provider and Facilitator Surveys, Choosing the Best was associated with better intentions to delay sexual initiation and improved skills for healthy relationships. The sensitivity and Bayesian analyses generally supported these moderate, positive associations for Choosing the Best. For the other four most common curricula, the associations with youth outcomes were inconsistent (varying in size and direction) across the NWS Provider and Facilitator Surveys and across the sensitivity and Bayesian analyses. This prevents any conclusive finding about whether youth receiving those curricula had different outcomes than youth receiving any of the less commonly used curricula. For example, looking at the NWS Facilitator Survey, youth receiving Making a Difference had moderately or much better outcomes than youth receiving any other curricula, but these associations were smaller or less meaningful in findings from the sensitivity and Bayesian analyses, and also were not present in the NWS Provider Survey. Readers should use caution in interpreting the associations for the five commonly used curricula. See Tables C.11, C12, and C.25 in Appendix C.

3. Facilitation characteristics and youth outcomes

Facilitation characteristics overall had smaller associations with youth outcomes than did program setting or content. Tenure at current position, fields of previous experience, and highest educational degree and certification had only small associations with youth outcomes (see Tables C.14, C.15 and C16 in Appendix C for details). Only a few characteristics, including experience teaching SRAE, strategies used to engage youth in the curricula, and topics that facilitator received training on, tended to have moderately sized associations with youth outcomes, and in some cases the direction of the associations was unexpectedly negative. Specifically, there were moderately sized associations between better youth outcomes and facilitators using a higher number of strategies to engage youth, but there were also similarly sized associations between better outcomes and facilitators having *less* experience teaching SRAE curricula and facilitators receiving training on a *smaller* number of topics. The sensitivity analyses found similar associations for these characteristics. For some of the other characteristics, including connections with community, there were a few moderately sized associations or small but meaningful associations with youth outcomes, but in each case these did not occur for more than two outcomes and/or were not consistent when estimated in different ways.

Facilitators with no SRAE experience were associated with several moderately better youth outcomes compared to youth taught by facilitators with more experience, but facilitators with no experience only formed a very small part of the sample. The least experienced facilitators were in programs whose youth typically had moderately higher scores on improved life skills, intentions to follow the success sequence, intentions to avoid negative risk behaviors, and skills against sexual coercion and dating violence compared to facilitators with any higher level of experience. Notably, only 6 percent of facilitators in the NWS Facilitator Survey–PAS data analysis sample reported that they had no experience teaching SRAE curricula, so the study team has less confidence that this pattern of findings would remain in a larger group of facilitators with no experience. Bayesian models indicate that the probability of these associations being meaningful was small. See Tables C.17 and C.26 in Appendix C.

Setting aside the small category of facilitators with no experience, associations between the other categories—less than one year, one to two years, and three or more years of SRAE experience—and youth outcomes were generally only small, indicating that the three categories of facilitators were associated with similar youth outcomes. The sensitivity analyses confirmed this.

Facilitators' use of an increasing number of strategies to engage youth was moderately associated with better youth outcomes in some cases. In the study's preliminary model, the number of strategies was not associated with youth outcomes. In the primary models, increased numbers of strategies had positive associations with about half of outcomes: intent to delay sex, improved healthy relationship skills, skills against coercion and violence, and SRAE satisfaction. While Bayesian models suggested that the associations between these outcomes and an increasing number of strategies used by facilitators were meaningful, the magnitude of these associations was somewhat sensitive to using a model with weights based on program size (where associations became moderate or large for all outcomes) or using a model with the broadest sample (where associations became too small to be important), so readers should use some caution in interpreting this association.[8] See Tables C.18 and C.26 in Appendix C.

[8] An alternative approach to the preliminary model that counted a subset of engagement strategies that potentially involved more substantive interaction, such as small group activities/discussion or role plays, showed similar results.

The number of work-related and personal community connections facilitators reported generally had only small associations with youth outcomes; there were a couple of exceptions involving moderate associations. Specifically, the number of the three types of work-related connections a facilitator reported having with the community where they teach (having worked in the setting before, worked with youth in the community, or worked with other populations in the community) was associated with moderately higher intentions to delay sex and intentions to follow the success sequence. However, the sensitivity analyses and Bayesian model only confirmed the moderate association involving higher intentions to delay sex. The number of the three types of personal connections a facilitator reported having with the community (resides in community, grew up or previously resided in community, attended school in the community) and whether facilitators were the same race/ethnicity as most of the community had only small associations with youth outcomes. See Tables C.19 and C.26 in Appendix C.

There were some moderate negative associations between the number of training topics and youth outcomes. As the number of training topics increased, scores were moderately worse on four youth outcomes: intent to delay sex, intent to follow the success sequence, intent to avoid risky behaviors, and satisfaction with the SRAE program. In almost all cases, associations between youth outcomes and having training in topics related to SRA or consent and coercion were small, and the Bayesian results suggest these associations were not meaningful. See Tables C.20 and C.26 in Appendix C.

B. The relationship between provider characteristics and youth outcomes and program attendance

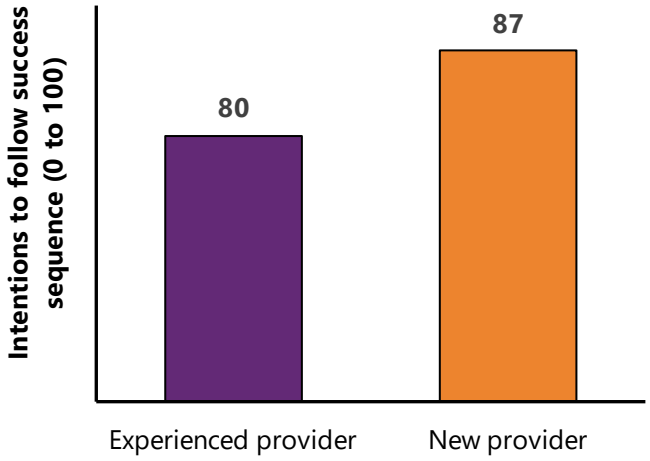
The data indicate that SRAE grant type, and provider's experience delivering SRAE had a stronger ability to predict youth outcomes than provider training of SRAE facilitators in delivering core curriculum and provider observations of SRAE facilitators. Grant type—specifically, whether a provider was a subrecipient of a Title V State grant—had moderate, positive associations with youth outcomes. Youth who received programming from providers that were new to SRAE programming (as measured the previous year in the PAS data) reported higher scores for improved skills and intentions than those who received programming from providers that were not new. Provider training of SRAE facilitators in delivering the core curriculum was associated with a few moderate associations with youth outcomes, while provide observations of SRAE facilitators had only small associations with youth outcome. In all of the models that examine the association of provider characteristics with attendance, the association was generally small (less than half of a standard deviation), indicating that most provider characteristics are not a reliable predictor of youth attendance at SRAE programs, However, providers' training of their facilitators was an exception, as discussed below. See Tables C.21 through C.24 in Appendix C for details.

A provider having received a SRAE Title V State subrecipient grant was associated with moderately better outcomes for youth, in most cases, than a provider having received a General Departmental grant, and had only small associations with attendance. There generally was no meaningful difference in youth outcomes between those whose provider received a Title V State subrecipient grant versus a Title V Competitive grant. Youth served by a provider who had received a General Departmental grant fared comparatively worse on all outcomes, on average, among the three provider grant types. A provider having received a Title V State subrecipient grant was associated with at least moderately better youth scores on intentions to delay sexual initiation, follow the success sequence, and avoid negative risk behavior. Providers that were Title V Competitive grant recipients typically had only small associations with outcomes of the youth they served, and although a provider having received a Title V Competitive grant was associated with better youth satisfaction than a provider having received a Title V State

subrecipient grant, and with much better youth satisfaction than a provider having received a General Departmental grant, the sensitivity analyses found inconsistent associations (some moderate positive and some moderate negative), so readers should use caution in interpreting the associations. See Tables C.21 and C.27 in Appendix C. Notably, very few providers in the study analysis sample (about 8 percent) had received a Title V Competitive grant, so the small sample size might explain why the findings are sensitive to the analytic approach.

Receiving services from new providers was associated with moderately better outcomes for youth than receiving services from experienced providers (Figure III.3) and only small associations with attendance. This general pattern held true for all youth outcomes and across the sensitivity analyses and Bayesian models and receiving services from new providers was most strongly associated with youth's intent to follow the success sequence across all models. See Tables C.22 and C.27 in Appendix C.

Figure III.3. Intentions to follow the success sequence, by provider experience



Source: PAS data.

Note: Intentions to follow the success sequence is an index from 0 to 100 based on youth exit survey responses from the PAS data. The values shown in the figure are regression adjusted, from the study's primary model. Provider experience is also based on the PAS data. New providers are those new to delivering SRAE programming during the most recently available reporting period. All other providers are considered experienced providers.

PAS = Performance Analysis Study, SRAE = sexual risk avoidance education.

Few providers trained only a portion of their facilitators; youth served by that set of providers generally had moderately worse outcomes but better program attendance. In the analysis file, nearly 90 percent of programs were run by providers who had trained all their SRAE facilitators in delivering the core curriculum. For the other programs that had not trained all their facilitators, the study found that the youth they served had moderately lower scores on intentions to avoid negative risk behavior and satisfaction with the SRAE program, but had better program attendance, on average, compared to providers who trained all of their facilitators. These associations were only somewhat supported by the Bayesian results and were inconsistent in the sensitivity analyses (generally becoming smaller and sometimes flipping directions), so readers should use caution in interpreting the associations. See Tables C.23 and C.27 in Appendix C.

Youth outcomes and attendance generally had only small associations with how frequently providers observed SRAE facilitators. This association was small enough that any associations present between providers observing their facilitators and youth outcomes in the preliminary individual models were mostly explained away by adding other factors in the (more comprehensive) primary models. The small association was only somewhat supported by the Bayesian results. Although the weighted model found moderate to large positive correlations between the percent of facilitators observed only once and youth outcomes, the primary model and other sensitivity analyses did not observe this correlation. See Tables C.24 and C.27 in Appendix C.

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IV. Summary of Key Findings, Limitations, and Implications for Program and Research Design

This chapter summarizes the key findings and offers interpretations. It also highlights some limitations that readers should consider when interpreting the findings. The chapter closes with a discussion of implications for future SRAE programming and research.

A. Summary of key findings

The NWS correlational analysis is a first attempt in the field to explore whether and how SRAE program implementation is associated with youth outcomes and attendance. It investigated the association of aspects of implementation (a comprehensive set of implementation features and provider characteristics) with youth outcomes related to improved skills, intentions, and satisfaction with SRAE programming, as well as program attendance. In general, the implementation features related to program setting and program content had moderate or strong associations with youth outcomes; facilitation characteristics generally had only small or no association with youth outcomes, although there were some exceptions. Across provider characteristics, new providers and those who had received a Title V State subrecipient grant were associated with moderately better outcomes for youth.

In some cases, Bayesian or sensitivity analysis findings differed from the primary findings. For example, Bayesian analysis sometimes indicated that the primary finding for an implementation feature or provider characteristic was not meaningful, or sensitivity analyses found smaller associations than the primary finding. In these instances (see Table III.1 for details), readers should use caution in interpreting the primary findings.

1. Findings related to program setting

Findings suggest that youth outcomes tend to be better when SRAE programming takes place in a non-school setting or in a school setting after school hours. During-school programming was associated with the lowest youth outcomes among the three settings examined in this study. Youth outcomes also differed based on whether providers or facilitators reported that certain experiences or issues, such as dating violence, sexual coercion, and substance use, were prevalent or of concern among youth that they served. Youth outcomes were, on average, better when providers served both middle-school-age and high-school-age youth in the same program than when their program served only middle school youth.

2. Findings related to program content

Of the six topics that legislation requires most grant recipients to cover (the A–F topics, see Box I.1), programs reported to have more extensive coverage of the advantages of refraining from sexual activity (topics B and C combined) were consistently associated with moderately to much better youth outcomes than programs that covered these topics less. However, the remaining four topics (A, D, E, and F) either were associated with moderately *worse* youth outcomes in a few cases, or were not associated with any outcomes. Also, there was no general pattern of association between conceptually similar topics and outcomes. When comparing the five most commonly delivered curricula to all other curricula combined, youth who received Choosing the Best had moderately higher scores in skills and intentions than those receiving other curricula, but there were no consistent patterns of associations involving the remaining four common curricula and youth outcomes.

3. Findings related to facilitation characteristics

The study found only small associations of most facilitation characteristics with youth outcomes, and a couple of the moderate associations unexpectedly had a negative direction. Facilitators' previous experience teaching SRAE, strategies they used to engage youth, and having work-related connections with the community they serve had moderate associations with some youth outcomes.

4. Findings related to provider characteristics

In general, the association of provider characteristics with youth outcomes was small or moderate, but some interesting patterns emerged. For example, whether a provider was a subrecipient of a Title V State grant had moderate, positive associations with youth outcomes. Similarly, youth outcomes were moderately better among those served by providers newer to SRAE programming compared to those among youth served by experienced providers. Associations involving provider efforts to support facilitators through training and observations were generally small or inconsistent.

5. Findings related to youth outcomes

Looking across all implementation features and provider characteristics while considering each of the seven youth survey outcomes from the PAS data separately revealed that features and characteristics had more predictive power for some outcomes than for others. The specific outcomes where implementation features and provider characteristics had more predictive power were: skills against dating violence and sexual coercion, intentions for delaying sex and for success sequence, and life skills/attitudes to support goals.

B. Limitations

When interpreting the findings of this study, readers should consider three important limitations.

First, the study design does not lend itself to causal interpretation; the relationships the study identifies are correlational. The regression models, though controlling for many variables, do not capture all the variables that might be relevant for youth outcomes. Beyond what the study could measure, youth outcomes are influenced by a range of other variables such as family, community, peers, and their prior experiences and behaviors. There may be key differences in these variables that the analysis cannot account for. If these unobserved variables are systematically associated with implementation features the study examined, they may be influencing changes in youth outcomes more than the implementation feature. Similarly, observed differences between delivering programming in school versus non-school settings do not necessarily indicate that programs offered in non-school settings are more effective than those offered during school. Students in school settings often receive the program as part of a mandatory class, such as health, whereas students who experience the program after school or in community settings are opting in voluntarily. The observed differences in outcomes—such as already experiencing higher levels of the outcomes prior to participation in programming—could be due to differences in the motivation and other characteristics of students who volunteer. Because these analyses do not control for those unobserved variables, the study team and readers cannot infer from the findings whether a specific implementation feature *causes* better or worse student outcomes.

Second, the data used does not cover all SRAE providers and facilitators, and all SRAE programming delivered. The study was unable to use the full NWS Provider and Facilitator Survey samples in the analysis, mainly because of lack of PAS data on youth outcomes, the complexity of matching programs based on curricula and age of youth served,

and the facilitators surveyed represent a smaller share of the providers that responded to the NWS Provider Survey. Similarly, the NWS Provider and Facilitator Surveys focused on the largest setting served by them, which means the analyses do not cover all programs that are implemented. The descriptive analysis that was part of this study (see Appendix B) showed that the resulting analytic samples and full NWS Provider and Facilitator Survey samples were similar on most characteristics but differed significantly on some key characteristics—some of which seem to be related to outcomes, such as grant type, core curricula delivered, age group of the programming, and geographic location. The associations the study found may not be generalized to the entire population of SRAE providers and facilitators.

Third, the data in the study may be affected by measurement errors due to the subjective nature of some of the survey questions. For example, the data examines provider and facilitator perspectives on the prevalent experiences or issues among youth they serve. These provider- or facilitator-identified experiences or issues may not fully reflect the experiences of youth served—in particular, the youth who responded to the exit survey in the PAS data. Similarly, youth self-reports of improved skills and intentions might be positively skewed because students may give answers that they think are expected of them.

C. Implications for future SRAE programming and research

Despite the limitations to the design of this analysis, readers may derive some lessons for future SRAE programming and research. Indeed, SRAENE was designed to build the foundational pieces of a new evidence base for SRAE programming through this analysis, which is intended to point the way towards potentially effective implementation approaches.

1. Implications of findings on program setting

This analysis showed that program setting is moderately or strongly associated with youth outcomes, although SRAE grant recipients and providers' decisions about the settings where they will deliver SRAE programming are not always their own. For the most part, they provide programming where they are invited to do so. In some communities, this is in schools and during the school day, whereas other communities may prefer out of school time settings. Similarly, grant recipients have limited control over the characteristics of youth in these settings who receive programming.

However, further research on the mechanisms behind these relationships, as well as their robustness, could help program providers better understand the potential ways their programming could be refined, based on where and whom they are serving. For example, knowing the experiences or issues that are of concern in their target population and how those experiences or issues might shape youth outcomes could help them develop specific engagement strategies or integrate additional content when serving these populations. Future research could also investigate whether the observed associations are due to non-school and after-school programming being more voluntary (which may mean youth are more motivated to attend) than during-school programming, or other youth characteristics that may differ between the two settings, such as whether they are more at risk of negative outcomes and may therefore find the programming more relevant. These differences could also reflect organizational differences, such as ability to deliver programming to smaller groups in out of school settings and make referrals to other services. Knowing the mechanisms behind these differences might help program providers to adopt strategies to engage youth more effectively.

2. Implications of findings on program content

Some of the most common curricula that providers and facilitators reported using lack evidence of effectiveness; therefore, providers might be making implementation decisions based on other factors, such as experience with a curriculum or general preferences. For example, this study found that Choosing the Best is associated with better youth outcomes than other common curricula. According to the Teen Pregnancy Prevention Evidence Review (TPPER)[9], Choosing the Best does not yet have recent, rigorous evidence of effectiveness that is more valid than this correlational study. More evidence of effectiveness is needed for curricula used by SRAE programs. Future studies could also investigate whether implementing Choosing the Best, or any other commonly used SRAE curricula that does not have recent evidence of effectiveness, is more effective in some settings more so than others.

3. Implications of findings on facilitation characteristics

This study found generally small associations between facilitation characteristics and youth outcomes. This could be viewed as discouraging given a general consensus in the field that improving facilitation can lead to improved outcomes (Tingey et al. 2023). However, the study found some potential new evidence, such as on facilitator experience and facilitator strategies used, that should be explored more. Additional studies with more granular measures of facilitation quality might help identify what facilitation characteristics are important for improving youth outcomes.

Since most SRAE programming is delivered through schools, the research on teacher effectiveness in K-12 school settings may be relevant for understanding what we found. Some teacher characteristics, such as years of teaching experience and obtaining a full teaching license, are associated with positive effects on student outcomes (Podolsky, Kini, and Darling-Hammond 2019; Clotfelter, Ladd, and Vigdor 2007), but other teacher characteristics are not. For example, there is considerable evidence that teachers become more effective at improving student achievement over their first few years of teaching, but having a master's degree does not appear to make a teacher better at improving test scores (Chingos and Peterson 2011; Rivkin, Hanushek, and Kain 2005). Therefore, further research on facilitator experience and credentials could still be helpful. For example, the SRAE grant program is only five years old, so it might be better to re-assess the association between facilitators' SRAE experience and student outcomes later, when the grant program has been implemented for longer and after more facilitators have gained more experience. This study's finding that facilitators with no SRAE experience were associated with the highest youth outcomes, along with the fact that providers who were newer were associated with better outcomes (see next section), suggests a potential cohort effect. That is, it may be that providers that started more recently are providing programming more effectively because their relative lack of experience is outweighed by other factors, such as their organizational capacity, that we could not measure. This effect might disappear when there are more providers with more experience delivering SRAE; therefore, this could be examined again in the future. As for credentials, this study mainly focused on whether the facilitator had any kind of relevant credential; future research could identify specific credentials that are more rigorous or higher-quality and investigate whether those are linked to facilitator effectiveness.

Research in K-12 school settings also suggests that easily observable teacher characteristics such as experience and education have less influence than more granular measures of the teacher's classroom instruction, including their activities and behaviors (Rivkin, Hanushek, and Kain 2005). Of course, these facilitation characteristics are more challenging and costly to measure. However, this study's finding that the number of strategies facilitators engage in

[9] See https://youth.gov/evidence-innovation/tpper/studies-search.

is associated with better youth outcomes is a potential starting point for more research. As has been done in the K-12 education field to date, future SRAE research on this topic might need to use observations or other data collection approaches that are alternatives to surveys to better capture how facilitators deliver programming.

4. Implications of findings on provider characteristics

The study found that youth outcomes are generally better when they received programming from providers with a Title V State subrecipient grant than when they received programming from a General Departmental grant recipient[10]. Knowing what differs between these two different types of providers may help to understand these differences. For example, a Title V State subrecipient does not have the grant administrative burden; that is covered by the state. Therefore, the Title V State subrecipient may be able to devote more resources towards programming. However, General Departmental grant recipients have the administrative burden yet also provide the programming, meaning that they may have a disproportionately smaller amount of funding for programming. In addition, Title V State subrecipients might have access to more technical assistance and support through their relationship with their State grant recipient, a source of support that General Departmental grant recipients lack.

5. Implications of findings on youth outcomes

Finally, this study found that implementation features had a higher predictive power on some youth outcomes than others, which might suggest the areas where programming could make a bigger difference. This finding could partially be due to the limitations of relying on youth self-reports on intentions. In addition to being potentially positively skewed, youth intentions measured right at the end of the programming may not capture lasting change in intentions, and actual behaviors. Future studies using different ways to measure youth outcomes—such as survey questions that focus on behaviors, or pre-post exit surveys that enable measuring change over time—or quasi-experimental or experimental studies comparing intentions and skills of youth who do and do not receive SRAE programming could verify areas where programming can improve youth outcomes.

[10] Having received programming from providers that are Title V Competitive grant recipients typically had only small associations with youth outcomes.

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Appendix A. Data and Detailed Analysis Methods

This appendix describes the analysis methods for the correlational analysis estimating the associations between SRAE program implementation and outcomes. Section A describes the data sources and provides details on the preparation of the data files used for the analysis. Section B gives detailed information on the constructs used in the analysis, including the data source each group of constructs comes from, the constructs' operationalization, and the survey items used to create them. Sections C and D describe the study methods, including the analytical approach to the regression models and the hierarchical Bayesian models, respectively.

A. Details on data sources and matching

1. Data sources used in the analysis

As described in Chapter II and shown in Figure A.1, this study uses data from the Nationwide Study (NWS) Provider and Facilitator Surveys and the Performance Analysis Study (PAS).

Figure A.1. Data collection time frame and sample size for each data source used in the NWS correlational analysis

Year		2021	2022				2023	
Quarter		4	1	2	3	4	1	2
Data source	Sample size							
NWS Provider Survey	331 providers (sample of 369; response rate = 90 percent)					Nov-22 through Apr-23		
NWS Facilitator Survey	535 facilitators (sample of 750; response rate = 71 percent)					Dec -22 through Apr-23		
PAS youth exit surveys	59,281 youth survey responses from 314 programs				Jul through Dec-22			
PAS measures of attendance, reach, dosage	486 programs				Jul through Dec-22			
PAS measures of structure, cost, implementation support	191 grants 517 providers	Oct-21 through Sep-22						

NWS = Nationwide Study, PAS = Performance Analysis Study.

a. NWS survey data

The SRAENE team that collected the NWS Provider and Facilitator Surveys used two approaches to develop the sample frame for the NWS Provider Survey. For General Departmental and Title V Competitive grants, for which the grant recipient is also the provider; the team used lists of grant-receiving organizations from Family and Youth Services Bureau (FYSB) program officers. For Title V State grants, providers are subrecipients of grants to state agencies; therefore, the team asked each state grant recipient to list its providers in the NWS Grantee Survey. The resulting sample was made up of 369 providers. Of those, 331 responded to the NWS Provider Survey, a 90 percent response rate. The NWS Provider Survey took place between November 2022 and April 2023.

The team used the NWS Provider Survey to develop the NWS Facilitator Survey sample frame by asking providers to list and provide contact information for all their facilitators delivering the SRAE programming at the time of the NWS Provider Survey. As providers completed the NWS Provider Survey, the team administered the NWS Facilitator

Survey from December 2022 to April 2023 to each batch of facilitators listed by the providers. Responding providers reported a total of 750 facilitators, of whom 535 (71 percent) responded to the NWS Facilitator Survey.

b. PAS data

Through a data use agreement, the SRAENE NWS team obtained the PAS data from the SRAE PAS team. ACF had contracted with Mathematica and Public Strategies to conduct the PAS to collect program data from SRAE grant recipients on performance measures.[11] The team developing this report used relevant items from different components of the PAS data: youth exit surveys; measures of attendance, reach, and dosage; and measures of structure, cost, and implementation support.[12] The reporting time frame for these data components differs from the one for the NWS Provider and Facilitator Surveys, as shown in Figure A.1. The NWS correlational analysis used the data from the most recently available reporting period for each PAS component. This included:

- Youth exit surveys from 59,281 youth at 314 programs, from July through December 2022 (these are reported twice per year).
- Measures of attendance, reach, and dosage from 486 programs, from July through December 2022 (these are also reported biannually).
- Measures of structure, cost, and implementation support from 191 SRAE grants and 517 providers, from October 2021 through September 2022 (these data are reported annually rather than biannually).

PAS data are missing when grant recipients do not submit any data or all of their data as expected. Among PAS data for this analysis, youth exit surveys are most commonly missing. Specifically, program submissions for July to December 2022 indicated that 113,570 youth participated in a SRAE program, but the data only contained youth exit surveys for 52 percent of these (59,281 youth).

- Most of the missing 48 percent was among the 314 programs that submitted at least some youth exit survey data. These programs reported a total of 101,939 youth participating, which is 42,658 more than the number of youth exit surveys they collectively submitted. Missing data from these programs is likely due to youth not responding to the exit survey, but could also be due to other issues such as grant recipients not submitting all exit survey data or inaccurately counting the number of youth participants.
- The rest of the missing 48 percent was among 77 programs that reported serving a combined 11,631 youth, yet submitted no PAS exit survey data. For most of these programs, grant recipients reported not administering any exit surveys when they should have; other than a few programs where grant recipients reported not being able to collect exit surveys because of COVID-19, it is unclear why exit surveys were not given.

Although other components of PAS data besides the exit survey can be missing, this was much less frequent in the data for the analysis in this report. For example, 21 programs (about 4 percent of eligible programs) did not submit measures of attendance, reach, and dosage for July to December 2022.

[11] See the PAS website at https://www.sraepas.com/ for more information.
[12] More information on the program data collected by PAS can be found at https://www.sraepas.com/tta-resources/.

c. Data sources for each research question

The study team used these data to construct the following sets of variables for the analysis:

RQ1: Are some features of implementation more strongly associated with youth outcomes than others?

/ Data on *implementation features* came from NWS Provider and Facilitator Surveys.

/ Data on *youth outcomes* came from PAS youth exit surveys.

/ Data on *background explanatory characteristics* came from PAS youth exit surveys, PAS measures of structure, cost, and implementation support, and PAS measures of attendance, reach, and dosage.

RQ2: What provider characteristics are associated with program attendance and youth outcomes?

/ Data on *provider characteristics* came from PAS measures of structure, cost, and implementation support.

/ Data on *youth outcomes* came from PAS youth exit surveys.

/ Data on *program attendance* came from PAS measures of attendance, reach, and dosage.

/ Data on *background explanatory characteristics* came from PAS youth exit surveys.

2. Matching data sources to construct the analysis files

To estimate the association between program implementation and program outcomes, the study team matched data sources to construct two analysis files: the NWS Provider Survey-PAS analysis file, and the NWS Facilitator Survey-PAS analysis file. NWS Provider and Facilitator Survey data and PAS data are at different levels. In NWS Provider and Facilitator Surveys, providers and facilitators (who work for providers) provide information on the program that serves the largest number of youth, which is defined as the combination of curricula and program setting serving the largest number of youth. Therefore, in NWS Provider and Facilitator Surveys, each provider and each facilitator report on one program. In contrast, the PAS data are at multiple hierarchical levels: grant recipients and grants, and the providers within them, and then programs within providers. A provider can have more than one program if they implement programming using different curricula, in different settings, and/or with different age groups. Because most of the PAS data the study used are reported at the program level, the study team produced program-level PAS data by averaging exit survey responses and demographic characteristics from youth exit surveys to the program level, combining them with other program-level data, and attaching any provider-level or grant recipient-level characteristics. The next two sections describe the matching process for each of the analysis files.

a. NWS Provider Survey-PAS data analysis file

The study team matched PAS programs to those in the NWS Provider Survey based on the name of the provider in both sources. Because the PAS data did not contain grant numbers or any other administrative identifiers, the study used an automated process to match programs based on the provider and grant recipient names, and the team carefully reviewed the results. Due to the hierarchical structure of the PAS data, a program in the NWS Facilitator Survey had multiple matches in the PAS data. This initial matching process resulted in matching 486 programs from the PAS data with 331 providers who responded to the NWS Provider Survey.

Next, the study team dropped some matched records for the reasons below, also listed in Table II.2 in Chapter II (Table A.1 has the details on the specific numbers for each reason):

- **NWS Provider Survey data not available.** Some PAS programs were linked to providers that were not in the NWS Provider Survey sample, or to providers that were in the sample but had not responded to the NWS Provider Survey or had been marked as ineligible. The study team dropped these programs because they would not have any explanatory variables to analyze for RQ1 and to have a consistent sample for RQ2.
- **PAS youth outcome data not available.** The PAS data for the study came from 486 programs, but only 314 of them had any data from the youth exit survey. The study team dropped any program that did not have youth exit survey data because the study would not have had any outcomes to analyze.
- **PAS youth outcome data based on five or fewer responses.** Some programs had too few youth with data—either because the program served only a few youth or because only a few youth responded to the exit survey—to produce outcomes that could be reliably used in an analysis.
- **NWS Provider Survey and PAS data on curricula used did not match at all.** In the NWS Provider Survey, providers listed all curricula they used and reported which one served the largest number of youth. In the PAS data, a single curriculum is reported for each program (although a few entries describe multiple curricula). If there was a complete mismatch between the two sources, the study team dropped the program. Specifically, there had to be data on curricula from both sources, and none of the curricula from the NWS Provider Survey could be the same as the curricula in the PAS data. This removed records where the provider was responding about a different program than the one covered by the PAS data.
- **NWS Provider Survey and PAS data on ages served did not match at all.** In the NWS Provider Survey, providers listed whether their largest curricula/setting combination served middle-school ages only, high-school ages only, or both. In the PAS data, the number of middle school–age youth and number of high school–age youth served is reported. If there was a complete mismatch between the two sources, the study team dropped the program for the same reason, because the two data sources could not be describing the same program. Specifically, there had to be non-missing data from both sources, and either the NWS Provider Survey mentioned middle-school ages only whereas the PAS data listed only high-school youth as being served, or vice versa.
- **PAS youth outcome data incomplete (data for at least one outcome were not included).** Data had to be included for all eight youth outcomes (including the program attendance outcome, even though it is only used in RQ2). In a few cases, data on one or more outcomes (usually just one) were missing. The study team did this to maintain a consistent analysis sample across models.

This process, in which the study team removed the clearest cases of mismatched programs, resulted in the **broadest analysis sample,** which includes 214 programs and was used as part of the study's sensitivity checks. However, it is possible that this file still includes programs with data that should not have been matched. Therefore, the team dropped programs that were not perfect matches:

- **There was not a complete match between NWS Provider Survey and PAS data on curricula used.** This step took a stricter approach to curricula matching by dropping records if curricula information was missing from either data source or if there were only a partial match because the PAS curricula matched the NWS Provider Survey curricula but not the curriculum serving the largest number of youth, or because the curriculum serving the largest number of youth from the NWS Provider Survey was in the PAS data but was there along with other PAS curricula. In other words, the study team only kept programs if the largest curriculum from the NWS Provider Survey was also the only curriculum in the PAS data.

- **There was not a strong enough match between NWS Provider Survey and PAS data on ages served.** This step also took a stricter approach to age matching by dropping programs if the ages served according to the NWS Provider Survey were middle-school only but the PAS data on attendance showed middle-school youth were less than 25 percent of all youth served, or if the same was true for high-school youth. The study team followed this approach instead of requiring 100 percent of youth to be in the age range matching the NWS Provider Survey because many programs served youth who were mostly but not entirely in the same age range as the NWS Provider Survey. However, for all analysis samples, the study took an additional step using the youth exit survey data's information on grade and age of each respondent. Specifically, if the NWS Provider Survey was middle school only, the study team limited youth outcomes and demographics to those who were in middle-school according to their exit survey data, and did the same for high-school youth.[13] This ensured that the outcomes examined were limited to those of the youth in the age range that matched the NWS Provider Survey.

The process of removing potentially mismatched programs resulted in the study's **in-between analysis sample--** the sample used for the study's primary models—which includes 183 programs. Programs were removed from the sample when:

- **Provider was still linked to more than one program.** The study team dropped any remaining programs that were still part of a match between one provider and multiple programs.

This last step resulted in the study's **narrowest analysis sample,** which only includes the 124 programs that were matched to one provider. This sample was used as part of the study's sensitivity checks. With this sample, the study team can be confident that the matched programs in the two data sources are the same. However, the narrowest analysis sample potentially excludes programs that are good matches but cannot be verified with the information the study has.

Table A.1. The NWS Provider Survey-PAS matched analysis file includes a relatively small proportion of all programs

Stage of matching and reason for excluding	Number of programs[b]	Percentage of all programs
All programs with PAS data[a]	486	100
NWS Provider Survey data not available	37	8
PAS youth outcome data not available	155	32
PAS youth outcome data based on five or fewer responses or fewer	15	3
NWS Provider Survey and PAS data on curricula used did not match at all	20	4
NWS Provider Survey and PAS data on ages served did not match at all	29	6
PAS youth outcome data incomplete (data for at least one outcome were not included)	16	3

[13] The study team did not use the youth exit survey's grade and age information to make decisions about whether to drop a program from the analysis sample (instead relying on provider-reported attendance counts) because the proportion of middle and high school youth with exit surveys was affected by missing surveys in some programs. However, for most programs, using the youth exit survey's grade and age information in the matching process would have led to the same result.

Stage of matching and reason for excluding	Number of programs[b]	Percentage of all programs
Included in broadest analysis sample (sensitivity check)	214	44
NWS Provider Survey and PAS data on curricula used did not have a complete match	29	6
NWS Provider Survey and PAS data on ages served did not have a strong enough match	2	<1
Included in middle analysis sample (primary results)	183[c]	38
Provider was still linked to more than one program	59	12
Included in narrowest analysis sample (sensitivity check)	124[d]	26

[a] This number of programs does not include any NWS Provider Survey responses that did not merge into the PAS data during the initial match. Those responses were dropped immediately because they were not at the same level (program level) as the PAS data.

[b] A provider from the NWS Provider Survey data could match to more than one program in the PAS data, so at each stage until the narrowest analysis sample, the number of programs was greater than the number of providers.

[c] The 183 programs include data from 145 NWS Provider Survey entries.

[d] These 124 programs each contain data from one provider, so there are 124 NWS Provider Survey entries.

NWS = Nationwide Study, PAS = Performance Analysis Study.

b. NWS Facilitator Survey-PAS data analysis file

Matching NWS Facilitator Survey to PAS data was more complicated than the match to the NWS Provider Survey data. First, the PAS data has multiple programs under one provider. Second, the NWS Facilitator Survey data has multiple facilitators under one provider. Therefore, the initial step of matching these sources based on the provider meant that the matched file had one record for every combination of facilitator and program under a provider. To drop programs, the study team followed the same sequence of steps that were described above for the NWS Provider Survey-PAS matching (Table A.2). As with the provider-PAS matching, this meant that the broadest analysis sample potentially included programs that did not fully match across the two data sources, whereas the narrowest analysis sample only included facilitators that matched with one program. Still, because facilitators were within providers, multiple facilitators could have the same provider in this sample.

Table A.2. The NWS Facilitator Survey–PAS matched analysis file includes a relatively small proportion of all facilitators

Stage of matching and reason for excluding	Number of facilitator–program pairs[b]	Percentage of all pairs
All facilitator–program pairs containing PAS data[a]	1,171	100
NWS Facilitator Survey data not available	345	29
PAS youth outcome data not available	222	19
PAS youth outcome data based on five or fewer responses	22	2
NWS Facilitator Survey and PAS data on curricula used did not match at all	123	11
NWS Facilitator Survey and PAS data on ages served did not match at all	37	3

Stage of matching and reason for excluding	Number of facilitator–program pairs[b]	Percentage of all pairs
PAS youth outcome data incomplete (data for at least one outcome were not included)	20	2
Included in broadest analysis sample (sensitivity check)	402	34
NWS Facilitator Survey and PAS data on curricula used did not have a complete match	52	4
NWS Facilitator Survey and PAS data on ages served did not have a strong enough match	9	1
Included in the middle analysis sample (sensitivity check)	341	29
Provider was still linked to more than one program	106	9
Included in narrowest analysis sample (primary results)	235[c]	20

[a] This number of programs does not include any NWS Facilitator Survey responses that did not merge into the PAS data during the initial match. Those responses were dropped immediately because they were not at the same level (program level) as the PAS data.

[b] A facilitator from the NWS Facilitator Survey data could match to more than one program in the PAS data, and vice versa, so at each stage until the narrowest analysis sample, the unit of analysis is facilitator–program pairs.

[c] These 235 programs each contain data from one facilitator, so there are 235 NWS Facilitator Survey entries. Multiple facilitators could be connected to the same program, and this sample consists of 114 unique programs.

NWS = Nationwide Study, PAS = Performance Analysis Study.

3. Selecting primary samples

The study team had to weigh trade-offs and decide which matched samples the analysis should focus on—the broadest, in-between, or narrowest ones—for each matched data set. In both the NWS Provider Survey-PAS data and NWS Facilitator Survey-PAS data matches, the study was unable to retain a sizable portion of the data from the original sources (see section A.2). Also, many providers operate more than one program (and some facilitators might teach in more than one program), but on the NWS Provider and Facilitator Surveys they only responded about the combination of curriculum and setting that served the largest number of youth. That meant the study needed to identify and decide what to do about mismatched records: those that should not match because the provider or facilitator were responding about a different program in the NWS Provider or Facilitator Survey than the one covered by the PAS data.

The study team recognized it was important to exclude mismatched records (see section A.2) because using mismatched records to examine associations would not yield valid results. Ultimately, the team considered three levels of analysis samples: broadest, in-between, and narrowest. The team decided to err on the side of caution and not use the broadest samples. Instead:

- **For the provider-PAS analysis,** the study looked at providers linked to more than one program in the in-between sample as the primary analysis. These appeared to be cases of the same program being implemented in different sites (which perhaps should not have been listed as separate programs in the PAS data), so it appeared reasonable the provider would have been responding about all of them in the NWS Provider Survey.

/ **For the facilitator-PAS analysis,** the study team focused on the narrowest sample. Facilitators are more likely to only work in one program, so the study team decided to be as cautious as possible and use the narrowest sample, including facilitators only if they were linked to a single program.

This approach avoided using mismatched data. However, one drawback of this cautious approach is that the study likely removed some records that would have been shown to be connected if more complete information were available. For example, some facilitators might work in more than one program, but the analysis approach dropped those records.

As noted in Tables A.1 and A.2 and in Appendix A, section C, for each analysis the study team used the two unselected samples as sensitivity checks against the primary sample.

B. Survey items used to construct the variables used in the analysis

1. Measures of implementation features

RQ1 focused on three types of implementation features: program setting, program content, and facilitation characteristics. The study team used questions that were the same in both the NWS Provider and Facilitator Surveys to construct measures for program setting and program content, and used questions specific to the NWS Facilitator Survey to construct measures for facilitation characteristics.

Program setting. The success of the SRAE curricula may vary by the setting they are delivered in. The study assessed the extent to which differences in youth outcomes are associated with three aspects of program setting: (1) location where the services are provided, (2) provider or facilitator perceptions of prevalent experiences or issues among youth served by the program; and (3) age range of youth receiving programming. Table A.3 lists the survey items from the NWS Provider and Facilitator Surveys that were used to measure program setting.

Table A.3. NWS Provider and Facilitator Survey items used to measure implementation features for program setting

Program setting indicators	NWS Provider and Facilitator Survey items
Location where services were provided	[NWS Provider and Facilitator Surveys] A2. In which of the following setting(s) does your organization deliver [CURRICULUM] to youth in this school year?* [Select yes for all that apply] (1) Middle school(s), during school; (2) Middle school(s), after school; (3) High school(s), during school; (4) High school(s), after school; (5) Community-based organization(s), outside of school time; (6) Detention center(s); (7) Foster care group home(s); (8) Institution(s) for youth with emotional or behavioral health needs; (9) Faith-based institution(s); (10) Clinic(s)/hospital(s); (11) Another setting. [NWS Provider and Facilitator Surveys] A3. Considering all the curricula your organization delivers and the settings those curricula are delivered in, select the combination of curriculum and setting that *serves the largest number of youth currently*.* [Select only one based on combinations of responses to A1 and A2.]

Program setting indicators	NWS Provider and Facilitator Survey items
Perceptions of prevalent experiences among youth served by the program	[NWS Provider and Facilitator Surveys] A5. Based on your experiences working in [SETTING], which of the following issues are the most prevalent or of concern for the youth served in [SETTING]?* [For each item, select (1) yes; (2) no; or (3) I don't know] (1) Teen sex; (2) Teen pregnancy; (3) Teen STD/STI rates; (4) Behavioral and emotional health; (5) Drug use; (6) Alcohol use; (7) Cigarette smoking and vaping; (8) Finishing high school; (9) Dating violence; (10) Sexual coercion; (11) Forming healthy relationships
Age range of youth receiving programming	[NWS Provider and Facilitator Surveys] A4. What is the age range of the youth your organization delivers [CURRICULUM] to in [SETTING] this school year?* [Select yes for all that apply] (1) 10–13; (2) 14–15; (3) 16 and older

Note: * = Question wording varies slightly between the NWS Provider and NWS Facilitator Surveys.

NWS = Nationwide Study, STD = sexually transmitted disease, STI = sexually transmitted infection.

Program content. SRAE providers and facilitators may vary in terms of the extent to which they cover topics. The study explored the associations with youth outcomes and two aspects of program content—coverage of topics A–F and curricula—using survey items from NWS Provider and Facilitator Surveys (Table A.4).

Table A.4. NWS Provider and Facilitator Survey items used to measure implementation features for program content

Program content indicators	NWS Provider and Facilitator Survey items
Reported extent of coverage of six topics (A–F) required in SRAE legislation	[NWS Provider and Facilitator Surveys] A6. To what extent are the following topics covered as part of the [CURRICULUM] delivered in [SETTING]? [For each item, select (1) Topic not covered at all, (2) Topic covered slightly, (3) Topic covered somewhat, or (4) Topic covered a lot.] Topic A: Life skill building to support future goals and well-being: (1) Personal responsibility; (2) Self-worth; (3) Goal setting and future planning; (4) Decision making; (5) Self-regulation. Topics B and C: Advantages of refraining from nonmarital sexual activity to improve future outcomes, enhance overall health, and avoid poverty: (1) Optimal or overall health; (2) Physical health; (3) Sexual health; (4) Social and emotional health: (5) Benefits of a healthy marriage. Topic D: Healthy relationships as the foundation for healthy marriage and family formation: (1) Trusted relationships with parents/adults; (2) Healthy peer relationships; (3) Healthy romantic relationships; (4) Community connections. Topic E: Avoidance of negative risk behaviors, such as drug or alcohol use: (1) Peer norms and behaviors; (2) Drug and alcohol use; (3) Media use and influence. Topic F: Prevention of and support related to sexual coercion and dating violence: (1) Sexual content; (2) Sexual coercion and dating violence.

Program content indicators	NWS Provider and Facilitator Survey items
Curricula	[NWS Provider and Facilitator Surveys] A1. Currently, which curricula are you delivering to youth?* [Select yes for all that apply] (1) Aspire; (2) Choosing the Best; (3) Game Plan; (4) Healthy Futures; (5) Heritage Keepers; (6) Living WELL Aware Adolescent Health Program; (7) Love Notes (Classic); (8) Love Notes (SRA); (9) Making a Difference; (10) Navigator; (11) Positive Potential; (12) Promoting Health Among Teens (Abstinence only); (13) Promoting Health Among Teens (Comprehensive); (14) Pure and Simple; (15) REAL Essentials; (16) Relationship Smarts Plus (Classic); (17) Relationship Smarts Plus (SRA); (18) Teen Outreach Program (TOP); (19) Wise Guys; (20) Worth the Wait; (21) Your Future on the Line; (22) other curricula. [NWS Provider and Facilitator Surveys] A3. Considering all the curricula your organization delivers and the settings those curricula are delivered in, select the combination of curriculum and setting that *serves the largest number of youth currently*.* [Select only one based on combinations of responses to A1 and A2.]

Note: * = Question wording varies slightly between the NWS Provider and NWS Facilitator Surveys.

NWS = Nationwide Study, SRA = sexual risk avoidance.

Facilitation characteristics. Facilitators can play an important role in the success of a SRAE program, and the study team hypothesized that youth outcomes will vary by facilitation characteristics. The study leveraged the rich content of the NWS Facilitator Survey to identify several characteristics that might be associated with youth outcomes. Table A.5 lists items from the NWS Facilitator Survey that the study used to measure facilitation characteristics.

Table A.5. NWS Facilitator Survey items used to measure implementation features for facilitation characteristics

Facilitation characteristics indicators	NWS Facilitator Survey items
Position type	C1. What is your job or your position? [Select only one] (1) An outside facilitator (such as a health educator); (2) A schoolteacher that focuses on health; (3) A schoolteachers of another subject that is not health; (4) A school counselor or another nurse; (5) Other.
Tenure at current position	C2. How long have you worked in this position? [Select only one] (1) Less than 1 year; (2) 1–3 years; (3) 4–7 years; (4) 8-10 years; (5) More than 10 years
Fields of experience	C3. Before you started your current position, which of the following fields did you work in? [Select all that apply] (1) Health education; (2) Counseling; (3) Education; (4) Vocational rehabilitation; (5) Juvenile justice; (6) Psychology; (7) Social work or human services; (8) Medicine/nursing; (9) Administration; (10) Child development; (11) Child welfare; (12) Public health; (13) Other field or did not work.

Which Sexual Risk Avoidance Education Implementation Features and Provider Characteristics are Associated with Youth Outcomes?

Facilitation characteristics indicators	NWS Facilitator Survey items
Highest educational degree and certification	C4. What is the highest level of education you have completed? [Select only one] (1) Some high school; (2) High school diploma or equivalent; (3) Postsecondary vocational or technical training; (4) Some college, no degree; (5) Associate degree; (6) Bachelor's degree; (7) Master's degree; (8) Doctorate or other professional degree C5. Do you currently have a professional license, certification, or credential related to the work you do with youth? [Select yes or no; if yes, please describe]
Experience teaching SRAE	C6. How many total years of experience do you have teaching a sexual education curriculum? Include all years teaching topics that include sexual risk avoidance, abstinence education, and contraception. [Select only one] C7. How many years of experience do you have teaching only sexual risk avoidance curriculum? [Select only one] (1) None; (2) Less than 6 months; (3) 6 to 11 months; (4) 1 to 2 years; (5) 3 to 5 years; (6) More than 5 years
Strategies used to engage youth in the curricula	A16. Do you use any of the following strategies to engage youth when delivering [CURRICULUM] in [SETTING]? [Select all that apply, or select none of the above] (1) Call on youth by their names to get them to participate; (2) Incentives during the session (including raffles, incentive charts, candy, etc.); (3) Incentives for at-home assignments (including homework); (4) Icebreakers at the beginning of the lesson; (5) Asking students to "pair and share"; (6) Circulate throughout the room; (7) Small group activities; (8) Small group discussion; (9) Class activities; (10) Class discussion; (11) Role plays; (12) Games; (13) E-learning module; (14) Videos; (15) Other strategies
Connections with community	C8. What are your experiences or connections with the community where you teach [CURRICULUM] in [SETTING]? [Select all that apply, or select none of the above] (1) Have worked in this setting before; (2) Grew up in the community or past resident; (3) Attended the same school or another school in the community; (4) A current resident of the community; (5) Worked with youth in the community; (6) Worked with other populations in the community—children, adults, or the elderly; (7) Of the same race or ethnicity as most members of the community; (8) Other experiences or connections
Topics that facilitator received training on	C11. Which of the following topics have you received training on? [Select all that apply] (1) [CURRICULUM LISTED BY RESPONDENT EARLIER IN SURVEY]; (2) Sexual Risk Avoidance Specialist certification (Ascend); (3) Classroom management; (4) Positive youth development; (5) Trauma-informed care; (6) Mental health/suicide prevention; (7) Dating violence and consent; (8) Trafficking; (9) Child protection; (10) Factors that predict the delay of sexual initiation; (11) Referring youth for services; (12) Substance use among youth; (13) HIV/STIs; (14) Other topics

E-learning = electronic learning, HIV = Human Immunodeficiency Virus, NWS = Nationwide Study, STIs = sexually transmitted infections.

2. Measures of provider characteristics

RQ2 focused on four provider characteristics that the study measured using PAS data on measures of structure, cost, and support for program implementation. Table A.6 lists the specific items the study used from this data.

Table A.6. PAS items used to measure provider characteristics for RQ2

Provider characteristics indicators	PAS items
SRAE grant type	PAS data include the SRAE grant type, which can be (1) Title V State subrecipient, (2) General Departmental, or (3) Title V Competitive.
Provider's experience delivering SRAE	Provider-level measures of structure, cost, and implementation: • Provider was new for the reporting period (yes/no)
Provider training of SRAE facilitators in delivering core curriculum	Provider-level measures of structure, cost, and implementation: • Number of SRAE facilitators working for provider • Number of SRAE facilitators trained in delivering core curriculum
Provider observations of SRAE facilitators	Provider-level measures of structure, cost, and implementation: • Number of SRAE facilitators working for provider • Number of SRAE facilitators observed exactly once • Number of SRAE facilitators observed at least twice

PAS = Performance Analysis Study, SRAE = sexual risk avoidance education.

3. Measures of youth outcomes and program attendance

To assess whether the implementation features described above were associated with youth outcomes, the study used data on youth outcomes from the PAS middle-school and high-school exit surveys. Items in the youth exit surveys are designed to capture whether participating in the SRAE program has resulted in youth-reported changes in skills, attitudes, and intentions, and to capture youth's satisfaction with the program. The analysis focused on seven outcomes.

1. **Improved life skills and attitudes to support future goals and well-being.** The degree to which youth report that being in the SRAE program made them more likely to manage their emotions in a healthy way, think about the consequences before making a decision, make plans to reach their goals, and care about doing well in school.
2. **Intentions to delay sexual initiation.** The degree to which youth report that being in the SRAE program made them more likely to delay sexual intercourse until they graduate high school, graduate college, or marry.
3. **Intentions to follow the "success sequence."** The degree to which youth report that being in the SRAE program made them more likely to be married before having a child, to have a steady full-time job before getting married, and to have a steady full-time job before having a child. "Success sequence" refers to a sequence of life milestones believed to be associated with escaping poverty and joining the middle class. Most commonly, these milestones include completing high school, securing full-time employment, and waiting until marriage to have children (Haskins and Sawhill 2003; 2009).

4. **Improved skills for healthy relationships.** The degree to which youth report that being in the SRAE program made them more likely to talk with a parent, guardian, or caregiver about sex; and improved their understanding of what makes a relationship healthy.
5. **Intentions to avoid negative risk behavior.** The degree to which youth report that being in the SRAE program made them more likely to decide not to use tobacco products, alcohol, or drugs, and to resist negative peer pressure.
6. **Skills against sexual coercion and dating violence.** The degree to which youth report that being in the SRAE program made them more likely to resist or say no to someone pressuring them to participate in sexual acts such as kissing, touching private parts, or sex; and more likely to talk to a trusted person or adult if someone made them uncomfortable, hurt them, or pressured them to do things they did not want to do.
7. **Satisfaction with SRAE program.** Youth-reported frequency of feeling interested in the program sessions, believing the material presented was clear, feeling respected as a person, believing they had a chance to ask questions, and thinking that discussions and activities helped them learn program lessons.

Also, for RQ2, the study measured **program attendance** as the share of youth who completed at least 75 percent of the scheduled program hours. To calculate this, the study team divided the number of youth who completed at least 75 percent of the scheduled program hours by the number of youth who attended at least one program session.[14]

For each outcome, the study team constructed an index that combines the values of several youth exit survey items (Table A.7). The number of individual items for each indicator differ and some of the response scales differ. Therefore, the study team first normalized the responses (to range between 0 and 100), and then calculated the unweighted average to create a summary index for each outcome. For example, if a youth reported that the program made them "much more likely" to engage in all the behaviors covered by the items, their index score would be 100, whereas if they reported that the program made them "much less likely" for each item, their index score would be 0.

Next, the study team averaged the index scores for each youth within their program to produce program-level scores. Because the study was producing program-level averages, the team simply ignored any missing values when calculating each average. The team found that rates of missing item-level data for youth in the PAS exit survey data were very low. When a youth respondent had any exit survey data, data were usually included for all or almost all of the items.

[14] The denominator was technically the sum of the number of middle school–age and high school–age or older participants who attended at least one program session.

Table A.7. Items from PAS youth exit surveys used for each outcome variable

Outcome variables and number of items	Youth exit survey items from PAS	Response options
Improved life skills and attitudes to support future goals and well-being (4 items)	Q9. Has being in the program made you more likely, about the same, or less likely to: ...manage your emotions in healthy ways? ...think about the consequences before making a decision? Q10. Has being in the program made you more likely, about the same, or less likely to: ...make plans to reach your goals? ...care about doing well in school?	Likelihood scale
Intentions to delay sexual initiation (3 items)	Q12. Has being in the program made you more likely, about the same, or less likely to plan to delay having sexual intercourse: ...until you graduate high school or receive your GED? ...until you graduate college or complete another education or training program? ...until you are married?	Likelihood scale
Intentions to follow success sequence (3 items)	Q12. Has being in the program made you more likely, about the same, or less likely to: ...plan to be married before you have a child? ...have a steady full-time job before you get married? ...have a steady full-time job before you have a child?	Likelihood scale
Improved skills for healthy relationships (2 items)	Q9. Has being in the program made you more likely, about the same, or less likely to: ...talk with your parent, guardian, or caregiver about sex? Q11. Has being in the program made you more likely, about the same, or less likely to: ...better understand what makes a relationship healthy?	Likelihood scale
Improved skills to avoid negative risk behaviors (7 items)	*Avoiding alcohol* Q8. Has being in the program made you more likely, about the same, or less likely to: ... make decisions to not drink alcohol?	Likelihood scale
	Avoiding tobacco Q8. Has being in the program made you more likely, about the same, or less likely to: ... make decisions to not smoke cigarettes or cigar products (cigars, cigarillos, or little cigars)? ... make decisions to not use other tobacco products? ... make decisions to not use electronic vapor products?	Likelihood scale
	Avoiding drugs Q8. Has being in the program made you more likely, about the same, or less likely to: ... make decisions to not use marijuana? ... make decisions to not take prescription pain medicine without a doctor's prescription or differently than how a doctor told you to use it?	Likelihood scale
	Avoiding peer pressure Q9. Has being in the program made you more likely, about the same, or less likely to resist or say no to peer pressure?	Likelihood scale

Outcome variables and number of items	Youth exit survey items from PAS	Response options
Skills against sexual coercion and dating violence (2 items)	Q11. Has being in the program made you more likely, about the same, or less likely to: ...resist or say no to someone if they pressure you to participate in sexual acts, such as kissing, touching private parts, or sex? ...talk to a trusted person/adult (for example, a family member, teacher, counselor, coach, etc.) if someone makes you uncomfortable, hurts you, or pressures you to do things you don't want to do?	Likelihood scale
Satisfaction with SRAE program (5 items)	Q15. Even if you didn't attend all of the sessions or classes in this program, how often in this program: ...did you feel interested in program sessions and classes? ...did you feel the material presented was clear? ...did discussions or activities help you to learn program lessons? ...did you have a chance to ask questions about topics or issues that came up in the program? ...did you feel respected as a person?	Frequency scale

Source: PAS youth exit survey.

Note: Likelihood scale contains the following response options: (1) Much less likely; (2) Somewhat less likely; (3) About the same; (4) Somewhat more likely; (5) Much more likely.

Frequency scale contains the following response options: (1) None of the time; (2) Some of the time; (3) Most of the time; (4) All of the time.

PAS = Performance Analysis Study, SRAE = sexual risk avoidance education.

4. Background explanatory variables

When estimating the association of outcomes with implementation features and provider characteristics, the analysis controlled for some background explanatory variables that the study team constructed mainly using PAS data.

- **Youth's demographic characteristics.** Using data from youth exit surveys, the study team constructed program-level data for average age of youth in years; percentage of youth who are female; percentage of youth who are non-Hispanic White, non-Hispanic Black, Hispanic/Latinx, or another race/ethnicity; and percentage of youth who are not living with their family.
- **Region.** Using data on which state the program was located in (which was in both the NWS Provider and Facilitator Surveys and the PAS data), the study team assigned each program to one of the six regions: Northeast, Southeast, Midwest, Southwest, West, or Territories.
- **Grant stream.** Using the PAS data and information from the NWS Provider and Facilitator Surveys (which was always aligned), the study team assigned the grant stream that each program is funded by: Title V State subrecipient grants, Title V Competitive grants, and General Departmental grants.

The analysis also controlled for two characteristics of the program's provider from the PAS data: **whether the program's provider was new during the previous reporting period**, and **the size of the program's provider,** measured as the provider-reported number of youth attending at least one session of the program.

C. Analytical approach to assessing associations and interpreting coefficients

1. Regression models

The study team assessed the relationships between explanatory variables (implementation features and provider characteristics) and youth outcomes using sets of multivariate regression models for *each* youth outcome separately. The team ran several sets of regression models to determine the associations between explanatory and outcome variables in isolation, by accounting for other explanatory variables, and using different samples to evaluate the robustness of the relationships identified. This section and Table A.8 describe these models in detail.

Table A.8. Types of regression models in analysis

Model type	Description
All analyses	
Preliminary	Includes all background explanatory variables for that research question (RQ1 or RQ2), plus the explanatory variables for the specific implementation feature only. There are 22 sets of models, one for each implementation feature or provider characteristic (some of which occur twice, once in the NWS Provider Survey and once in the NWS Facilitator Survey).
Primary	Includes all background explanatory variables and all explanatory variables. **This is the primary set of models used in the analysis.** • For program setting and program content variables in the RQ1 provider-PAS and RQ1 facilitator-PAS analysis, this means a model with all the program setting and program content variables. In other words, each analysis has a single set of models. • For the facilitation characteristics in the RQ1 facilitator-PAS analysis, this means a model with all program setting, program content, and facilitation characteristics variables. In other words, this is a single set of models. • For the provider characteristics in RQ2, this means all provider characteristics variables. In other words, this is a single set of models.
Middle-only and high-only	Same sets of variables as the primary models, but limited to providers/facilitators serving only middle school–age youth, or only high school–age youth. There are also providers/facilitators serving both age ranges, but because these were such small subgroups, they do not have a separate set of models.
Weighted	Same sets of variables as the primary models, but using the number of youth exit survey responses that the outcomes are based on as a weight in the model.
Broadest	Same sets of variables as the primary models, but uses the broadest sample as described in Appendix A, section A. These have a larger sample than the primary models.
In-between or narrowest	Same sets of variables as the primary models, but: • For RQ1 provider-PAS analysis and RQ2 analysis, uses the narrowest sample as described in Appendix A, section A. These have a smaller sample than the primary models, which use the in-between sample. • For RQ1 facilitator-PAS analysis, uses the in-between sample as described in Appendix A, section A. These have a larger sample than the primary models, which use the narrowest sample.

Model type	Description
Select analyses	
All facilitation	For facilitation characteristics in the RQ1 facilitator-PAS analysis, an intermediate set of models includes the background explanatory variables and all facilitation characteristics variables, but not the program setting and program content variables.
No General Departmental	For the reported extent of coverage of topics A-F, one alternative set of models excluded Departmental grant recipients. This is because the SRAE legislation only requires State and Competitive grant recipients to address these topics; Departmental grant recipients do not have the same requirements.
All-PAS	For RQ2, one alternative set of models did not impose the same sample restrictions based on the need to match the PAS data with the NWS Provider Surveys. This sample still drops PAS programs for PAS-related reasons: not having youth exit surveys or not having all outcomes, but no longer drops programs for reasons like not having NWS Provider Survey data or not matching based on curriculum and age.

Note: Each model type is run once with each outcome as the dependent variable; this is 7 models for RQ1 and 8 models for RQ2.

NWS = Nationwide Study, RQ = research question, PAS = Performance Analysis Study, SRAE = sexual risk avoidance education.

2. Accounting for missing data in regression models

In each data source, some records were missing data on some items while having data on other items, and the study team handled these cases carefully after considering the implications for the analysis (Table A.9). Missing rates were zero or very low for most variables, but a few facilitation characteristics and PAS measures have missing rates as high as 6 to 7 percent of the analysis samples.[15] When data were missing, the team typically imputed (that is, mathematically substituted) the missing value and creating a missing indicator to track it. Regression models then include any relevant missing indicator as well as the variable with imputed data. This keeps as much data in the regression model as possible, even when some records had some missing data.

Table A.9. Missing data causes and the approach the analysis team took to address it, by data source

Data source	Likely reason(s) for missing data	Analysis team approach
NWS Provider Survey; NWS Facilitator Survey	Respondent skipped a question linked to later questions, or exited in the middle of the survey	Impute missing value as 0 (categorical variables) or mean of non-missing values (continuous variables).
PAS youth exit surveys	Respondent skipped a question linked to later questions, or exited in the middle of the survey Grant recipient did not report all responses	First: create program-level averages that ignore missing data (see section B.3). Second: if a program-level average was missing for at least one youth outcome, drop program from analysis sample (see section A.2).
PAS measures of attendance, reach, and dosage; PAS measures of structure, cost, and implementation	Grant recipient did not submit information for a measure	Impute missing value as 0 (categorical variables) or mean of non-missing values (continuous variables).

NWS = Nationwide Study, PAS = Performance Analysis Study.

[15] Tables B.1 to B.3 in Appendix B list how many records have data for different subgroups of variables, compared to the overall sample sizes for each data source and analysis file.

3. Conceptually linked explanatory variables and outcomes

The topics A–F required by SRAE legislation align closely with the first six of the seven outcomes based on youth exit surveys (Table A.10). The potential prevalent experiences among youth also align with these outcomes, although to a lesser extent. The study team compared the coefficients for conceptually linked pairs of explanatory variables (coverage of topics A–F and perceptions of prevalent experiences among youth served by the program) and outcomes, to see if they tended to be larger than the remaining explanatory variable-outcome pairs, which were not conceptually linked. Overall, the conceptually linked pairs did not tend to have larger associations than the rest. Instead, when an explanatory variable had moderate or large associations with only some outcomes, the only pattern was that some outcomes were more likely to be predicted by implementation features or provider characteristics than other outcomes were. This suggests that the different conceptual constructs represented by the outcomes were less important than the fact that they generally represent positive outcomes of SRAE programming, and that some might be generally easier to influence compared to others.

Table A.10. Conceptually linked explanatory variables and outcomes

Outcome based on youth exit surveys	Topic(s) A-F	Prevalent experience among youth
Improved life skills and attitudes to support future goals and well-being	Topic A (life-building skills)	Behavioral and emotional health Not finishing high school
Intentions to delay sexual initiation	Topics B and C (advantages of refraining from sexual activity)	Teen sex, teen pregnancy, or STIs/STDs
Intentions to follow the success sequence	Topics B and C (advantages of refraining from sexual activity)	Not finishing high school
Improved skills for healthy relationships	Topic D (forming healthy relationships)	Dating violence, sexual coercion, or unhealthy relationships
Intentions to avoid negative risk behaviors	Topic E (avoidance of risk behaviors)	Substance use
Skills against sexual coercion and dating violence	Topic F (prevention of relationship coercion)	Dating violence, sexual coercion, or unhealthy relationships
Satisfaction with SRAE programming	Not applicable	Not applicable

SRAE = sexual risk avoidance education, STIs/STDs = sexually transmitted infections/sexually transmitted diseases.

4. Coefficient thresholds

a. General approach

As noted in Chapter II, the study team considered associations to be large if they resulted in changes in the outcome variable of 6 points or more; moderate if the outcome variable changed by 3 to less than 6 points, and too small if the change was less than 3 points, all on the 0–100 point scale used for youth outcomes based on exit survey responses. The standard deviations of the youth exit survey outcomes were between about 7 and 13 points, so these thresholds correspond to effect sizes (which are measured in proportions of a standard deviation) that are similar to those in other human services fields.

An alternative approach would have been to use effect sizes directly to determine the thresholds. The study team decided to use direct changes in the outcome as a way to: (1) be consistent across measures and outcomes;

(2) provide results that are easier to interpret; and (3) avoid relying too heavily on factors related to statistical significance. This means the thresholds the study team used are associated with different effect sizes, depending on the standard deviation of the outcome involved.

b. Values of coefficients aligned with thresholds

The magnitudes of the regression coefficients aligned with the small, moderate, and large thresholds depended on the nature of the explanatory variable (Table A.11):

- **For explanatory variables that only involve having or not having a particular characteristic** (such as having a master's degree or higher), the study team looked for coefficients between 3 and 6 or above 6, because they indicate that changing from not having the characteristic to having it is associated with a change of that many points in the outcome.
- **For explanatory variables that are percentages or indices** (such as the index of how well the curricula cover topics A–F, which could range from 0 to 100) **or counts** (such as the count of training topics received, which could range from 0 to 14), the study scaled the thresholds to align with a change in outcome of 3 or 6 points. Instead of using thresholds associated with the full potential change in the explanatory variable, the study team considered the actual range of most responses for the explanatory variable. For the most part, the analysis used the range from the 10th to the 90th percentile for the explanatory variable, although the study team adjusted the range in a couple of cases to keep the thresholds easier to interpret. Table A.11 lists the ranges used. For example, the 10th and 90th percentile responses to the training topic count were 2 to 12, instead of 0 to 14, which is a range of 10. The coefficient shows the effect on the outcome associated with an increase of one topic. Given that, the study team looked for coefficients above 0.3 and 0.6 points, which when multiplied by a change of 10 topics, yield a change of 3 or 6 points in the outcome. In several cases, this leads to using higher thresholds than would be used with the full potential range of the explanatory variable. This is more cautious but also more appropriate given that it reflects a more realistic amount of change in the explanatory variable.

Cautionary note about program attendance outcome

Although the variation in standard deviation is not high for the youth survey outcomes, the program attendance outcome (used only in RQ2) has a larger standard deviation of 19, indicating that programs vary about twice as much in terms of attendance than on the youth survey outcomes. This means that as a proportion of the variation in program attendance, the study effectively had a lower standard for when an association was large or moderate, which is a less cautious approach. On the other hand, using the same thresholds makes the analysis approach more consistent and easier to interpret. Also, actual program attendance could be a harder outcome for a program to affect than self-reported youth survey responses about future behavior, so a lower standard is reasonable.

Table A.11. Thresholds for medium and large associations for different explanatory variables

Explanatory variable	Range based on potential values (not used)	Range based on 10th and 90th percentiles (used)	Corresponding moderate threshold for regression coefficient	Corresponding large threshold for regression coefficient
All indicator variables	1	1	3	6
Extent of coverage of topics A–F	100	50	0.06	0.12
Count of strategies used to engage youth	15	10	0.3	0.6
Count of types of work-related community connections	3	3	1	2
Count of types of personal community connections	3	3	1	2
Count of training topics received	14	10	0.3	0.6
Percentage of facilitators observed exactly once or at least twice	100	100	0.03	0.06

D. NWS Bayesian methods

The study used a Bayesian approach (described in Chapter II) to help evaluate which findings are genuine, rather than due to chance, across the research questions the analysis explores. Specifically, Bayesian hierarchical linear modeling is a flexible approach that enables sharing of information across groups in the data to reduce sensitivity to random errors. This sharing of information is called "partial pooling." Partial pooling is a compromise between separately estimating associations for each covariate (which are referred to as background explanatory variables elsewhere in this report) with the outcome (no pooling) and estimating the same association across all covariates (complete pooling). This partial-pooling compromise stems from model parameters being informed by shared hyperparameters. These shared hyperparameters create dependence between parameters that avoid overfitting to random errors. All Bayesian approaches also support making probability statements about every quantity of interest in a model.

1. Model and variable overview

The Bayesian sensitivity analysis fit three regressions corresponding to the research questions and data sources:

1. Using the NWS Provider Survey and PAS data, what implementation features are associated with youth outcomes? (RQ1)
2. Using the NWS Facilitator Survey and PAS data, what implementation features are associated with youth outcomes? (RQ1)
3. Using the PAS data, what provider characteristics are associated with youth outcomes and program attendance? (RQ2)

Each regression examined the association of all seven (or eight, for the RQ2 regression) outcome variables $(Y_i = (Y_1, ..., Y_{7or8})^T)$ and included all background explanatory variables used in the primary analysis $(X_i = (X_1, ..., X_M)^T)$. Specifically, the NWS Provider Survey-PAS analysis and NWS Facilitator Survey-PAS analysis for RQ1 used all the RQ1 background explanatory variables from the primary analysis. The PAS analysis for RQ2 used all the RQ2 background explanatory variables from the primary analysis.

The Bayesian analysis examined the association of the same comprehensive sets of explanatory variables $(Z_i = (Z_1, ..., Z_K)^T)$ used in the primary analyses.

- The NWS Provider Survey-PAS analysis for RQ1 used all the explanatory variables for program setting and program content from the primary analysis.
- The NWS Facilitator Survey-PAS analysis for RQ1 used all the explanatory variables for program setting, program content, and facilitation characteristics from the primary analysis.
- The PAS analysis for RQ2 used all the explanatory variables on provider characteristics from the primary analysis.

The study team scaled all continuous variables to have a mean of 0 and standard deviation of 0.5 (Gelman et al. 2008), and all binary variables to have a mean of 0 and to retain a difference of 1 between their high and low values (Gelman et al. 2008).

2. Missingness

As the study did in the primary analysis, the Bayesian analysis accounted for when data were missing for some records. For each variable, a corresponding missing indicator was created and then set to 1 if the original variable was missing; the original variable was then imputed (with a value of 0 for categorical variables and the mean for continuous variables) to keep the record in the regression model. The Bayesian analysis then dropped indicators with no missing observations and indicators (and corresponding observations) that only had one missing observation, as it would not be possible to estimate the parameters for these indicators from the data. This resulted in the analysis dropping two observations for the RQ1 provider-PAS analysis (final sample size n = 181, compared to n = 183 for the primary analysis), dropping four observations for the RQ1 facilitator-PAS analysis (final sample size n = 231, compared to n = 235 for the primary analysis), and dropping no observations for the RQ2 analysis (final sample size n = 183).

3. Interpretation of the Bayesian results

The Bayesian results discussed in Chapter III and presented in Appendix C are the probabilities (in percentage points out of 100) that the explanatory variable and the outcome have a positive association after controlling for the other variables in the model. The probability of negative associations is 100 minus the probability of positive associations. Under this approach, a probability of 50 percent indicates equal probabilities of a positive or negative association, which is the equivalent of an estimated coefficient of zero from standard regression models. This means that low probabilities (closer to 0 percent) are evidence of negative associations between implementation features or provider characteristics and outcomes; high probabilities (closer to 100 percent) are evidence of positive associations between implementation features or provider characteristics and outcomes; and middling probabilities (closer to 50 percent) are evidence against associations between implementation features or provider characteristics and outcomes.

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Appendix B. Sample Characteristics

The tables and figures in this appendix include key information on sample characteristics from the three analytic files: NWS Provider Survey-PAS data analytic file; NWS Facilitator Survey-PAS data analytic file; and PAS data analytic file.

Tables B.1 and B.2 present sample characteristics on the study's measures of implementation features from NWS Provider and Facilitator Surveys. Each table includes descriptive statistics from all NWS Provider and NWS Facilitator Survey respondents. Each table also includes descriptive statistics from the analysis files that only contains providers, programs, and facilitators that are in the matched NWS Provider Survey-PAS data and NWS Facilitator Survey-PAS data analytic files. Table B.3 presents sample characteristics on provider characteristics, outcome variables, and other background explanatory variables used in the analysis from the PAS data. It includes descriptive statistics for the full set of programs in the PAS data with non-missing data on youth exit surveys, as well as descriptive statistics on programs that are in the matched NWS Provider Survey-PAS data and NWS Facilitator Survey-PAS data analytic files.

Some of the key sample characteristics that are important for the interpretation of the findings presented in Chapter III are:

- Majorities of providers/programs and facilitators (but not overwhelming majorities) operate in schools during the day; teach only middle school–age youth; use one of 5 common curricula; and have Title V State subrecipient grants.
- Some variables have a limited range. The youth outcomes and ratings of how well curricula cover topics A-F are indices that range from 0 to 100, but most or almost all respondents gave positive responses to the underlying items, so these variables have high means (70 or above in almost all cases) and somewhat limited ranges. Similarly, most providers and facilitators agreed that the experiences or issues that the NWS Provider and Facilitator Surveys asked about were prevalent among their youth (above 75 percent for four of the five experiences or issues), and almost all programs in the PAS data had providers who trained all of their facilitators (almost 90 percent).[16]
- A few explanatory variables or covariates have low proportions. These are: the Teen Outreach Program curriculum, facilitators with in-school positions, programs in the Northeast and U.S. Territories, Title V Competitive grant recipients, and whether the provider is new during the most recent reporting period.

Overall, the analysis and full samples are comparable on most observable characteristics, meaning the difference in sample characteristics between the files is less than five percentage points. However, several explanatory variables or covariates are much more or less common, meaning they had a difference of at least five percentage points in the analytic file compared to all NWS Provider or Facilitator Survey respondents. Figures B.1 and B.2 present those characteristics for which there are notable differences between the two samples.

[16] Nearly all providers had trained nearly all of their facilitators, so the discussion of findings does not explore patterns of outcomes associated with whether providers had trained their facilitators.

- For the NWS Provider Survey, these include General Departmental grants and the Love Notes SRA curriculum (more prevalent in the analytic file), compared to Title V State subrecipient grants and the Teen Outreach Program curriculum (more prevalent among all NWS Provider Survey respondents).
- For the NWS Facilitator Survey, these include the same characteristics as mentioned above for the NWS Provider Survey, as well as outside facilitators and the Southwest region (more prevalent in the analytic file), compared to school positions and the Northeast region (more prevalent among all NWS Facilitator Survey respondents).

Table B.1. Sample characteristics by explanatory variables on program setting and content, and background explanatory variables from NWS Provider and Facilitator Surveys

Variables	NWS Provider Survey			NWS Facilitator Survey	
	All survey respondents n=331	Analysis file (program level) n=183	Analysis file (provider level) n=145	All survey respondents n=535	Analysis file (facilitator level) n=235
Explanatory variables: Program setting	**n = 329–331**	**n = 182–183**	**n = 144–145**	**n = 530–533**	**n = 234–235**
Location where services were provided					
At school, during school	67.4%	72.7%	73.8%	69.8%*	73.6%
At school, after school	12.4%	6.0%	7.6%	17.3%*	12.8%
At a non-school setting	20.2%	21.3%	18.6%	13.0%*	13.6%
Provider or facilitator perceptions of prevalence experiences or issues among youth served					
Teen sex, teen pregnancy, or STIs/STDs is a prevalent issue or experience	81.8%*	87.4%*	86.1%*	78.2%*	83.4%
Behavioral and emotional health is a prevalent issue or experience	91.2%*	91.8%*	92.4%*	91.0%*	91.5%*
Substance use is a prevalent issue or experience	79.9%*	84.1%*	82.6%*	77.8%*	75.7%
Not finishing high school is a prevalent issue or experience	52.9%*	54.4%*	56.9%*	54.9%*	57.5%
Dating violence, sexual coercion, or unhealthy relationships is a prevalent issue or experience	92.1%*	92.3%*	91.7%*	91.5%*	91.9%
Age range of youth receiving programming					
Middle school only	57.4%	51.4%	50.3%	56.1%*	52.3%
High school only	29.3%	33.3%	36.6%	36.8%*	41.7%
Both middle and high school	13.3%	15.3%	13.1%	7.1%*	6.0%

Variables	NWS Provider Survey			NWS Facilitator Survey	
	All survey respondents n=331	Analysis file (program level) n=183	Analysis file (provider level) n=145	All survey respondents n=535	Analysis file (facilitator level) n=235
Explanatory variables: Program content	**n = 328–331**	**n = 182–183**	**n = 144–145**	**n = 529–535**	**n = 233–235**
Reported extent of coverage of six topics (A-F) required in SRAE legislation (theoretical range = 0 to 100)					
Extent of coverage of life-building skills (topic A)	89.7 (17.1)	92.2 (13.8)	92.4 (14.4)	88.2 (16.8)*	87.7 (18.3)*
Extent of coverage of the advantages of refraining from sexual activity (topics B and C)	76.8 (20.8)*	81.3 (19.0)	81.4 (19.3)	76.2 (21.5)*	78.9 (20.9)*
Extent of coverage of forming healthy relationships (topic D)	83.5 (18.3)*	86.3 (15.7)*	86.1 (16.3)*	82.4 (19.7)*	82.3 (18.8)*
Extent of coverage of avoidance of risk behaviors (topic E)	78.9 (22.0)*	79.1 (20.9)*	80.2 (20.5)*	77.9 (22.5)*	80.3 (21.0)*
Extent of coverage of prevention of relationship coercion (topic F)	75.2 (28.0)*	77.4 (27.1)	77.2 (27.7)	76.0 (29.9)*	82.3 (25.7)*
Curricula					
Choosing the Best	11.5%	14.8%	14.5%	14.4%	20.0%
Love Notes SRA	15.4%	24.6%	23.5%	16.5%	23.4%
Making a Difference	13.3%	13.1%	13.8%	9.0%	7.7%
REAL Essentials	14.5%	18.0%	19.3%	15.0%	20.0%
Teen Outreach Program	14.2%	2.2%	2.8%	15.5%	2.6%
Another curriculum	31.1%	27.3%	26.2%	29.7%	26.4%
Background explanatory variables	**n = 331**	**n = 183**	**n = 145**	**n = 535**	**n = 235**
Grant type					
Title V State subrecipient grant	70.7%	53.0%	55.9%	67.1%	58.7%
General Departmental grant	22.1%	41.0%	36.6%	27.1%	36.2%
Title V Competitive grant	7.3%	6.0%	7.6%	5.8%	5.1%
Region					
Northeast	12.7%	6.0%	5.5%	10.8%	2.6%
Southeast	40.5%	43.7%	42.1%	38.5%	41.3%
Midwest	18.7%	17.5%	19.3%	21.1%	23.4%
Southwest	11.8%	14.2%	15.2%	15.5%	20.9%
West	13.9%	14.8%	14.5%	10.5%	9.4%
U.S. Territory	2.4%	3.8%	3.5%	3.6%	2.6%

Source: NWS Provider Survey and NWS Facilitator Survey.

Note: The NWS Provider and Facilitator Surveys instructed providers and facilitators to select each curriculum they use and each location (if more than one of either) where they deliver programming, but then to complete the rest of their survey for the program (the single combination of location and curriculum) in which that provider or facilitator serves its largest population of youth. This table contains the responses for the curriculum and location for the largest population, so the numbers for those variables sum to 100 percent and the categories are mutually exclusive. For findings on all locations and curricula used by providers and facilitators, see Neelan et al. (2023).

The "all survey respondents" columns include all providers and all facilitators who responded to the NWS Provider Survey and the NWS Facilitator Survey, respectively. The "analysis file" columns include all providers (and programs) or facilitators that are in the matched NWS Provider Survey-PAS data analysis file and NWS Facilitator Survey-PAS data analysis file, respectively. For variables that are continuous (reported extent of coverage of six topics [A-F] required in SRAE legislation), cells present means, along with standard deviations in parentheses. For all other variables, which are indicators (values of 0 or 1), cells present percentages.

* Within this sample, variable is missing for at least one record, therefore the variable sample size is smaller than the total sample size for the sample.

NWS = Nationwide Study; PAS = Performance Analysis Study; SRAE = sexual risk avoidance education, STIs/STDs = sexually transmitted infections/sexually transmitted diseases.

Table B.2. Sample characteristics by explanatory variables on facilitation characteristics from NWS Facilitator Survey

Variables	All survey respondents n = 535	Analysis file (facilitator level) n = 235
Explanatory variables: Facilitation characteristics	**n = 493–520**	**n = 220–230**
Position type		
Outside facilitator	91.0%*	97.8%*
School position	8.8%*	2.2%*
Other position	0.2%*	n.a.
Tenure at current position		
Less than 1 year	20.2%*	18.3%*
1 to 3 years	38.7%*	43.2%*
4 to 7 years	19.5%*	20.1%*
8 years or more	21.6%*	18.3%*
Fields of previous experience		
Experience in health-related field	34.0%*	31.9%*
Experience in education-related field	50.9%*	49.1%*
Experience in field related to serving vulnerable youth	29.7%*	28.3%*
More than one field of previous experience	47.2%*	46.5%*
Highest educational degree		
Associate's degree or less	27.1%*	25.4%*
Bachelor's degree	49.1%*	51.8%*
Master's degree or higher	23.8%*	22.8%*
Has relevant professional license, certification, or credential	44.2%*	49.3%*
Experience teaching SRAE		
None	13.3%*	6.7%*
Less than 1 year	18.6%*	16.1%*
1 to 2 years	26.5%*	32.6%*
3 years or more	41.6%*	44.6%*
Number of strategies used to engage youth in curricula (theoretical range = 0 to 15)	9.9 (2.8)*	9.9 (2.8)*
Connections with community		
Number of different types of work-related connections to community (theoretical range = 0 to 3)	1.7 (1.0)*	1.6 (1.0)*
Number of different types of personal connections to community (theoretical range = 0 to 3)	1.2 (1.2)*	1.2 (1.1)*
Same race/ethnicity as most members of community	46.8%*	46.3%*

Variables	All survey respondents n = 535	Analysis file (facilitator level) n = 235
Topics that facilitator received training on		
Received training on SRA topics	38.7%*	46.4%*
Receiving training on consent/coercion-related topics	60.5%*	65.0%*
Number of training topics received (theoretical range = 0 to 14)	6.0 (3.7)*	6.5 (3.8)*

Source: NWS Facilitator Survey.

Note: The "all survey respondents" column includes all facilitators responded to the NWS Facilitator Survey. The "analysis file" column includes all facilitators that are in the matched NWS Facilitator Survey-PAS data analysis file. For variables that are counts (number of strategies used to engage youth; number of community connections; and number of training topics), cells present means, along with standard deviations in parentheses. For all other variables, which are indicators (values of 0 or 1), cells present percentages.

* Within this sample, variable is missing for at least one record, therefore the variable sample size is smaller than the total sample size for the sample.

n.a. = not applicable, NWS = Nationwide Study, PAS = Performance Analysis Study, SRA = sexual risk avoidance, SRAE = sexual risk avoidance education.

Table B.3. Sample characteristics by outcome variables and background explanatory variables from Performance Analysis Study

Variables	Full PAS data n = 314	Provider-PAS analysis file n = 183	Facilitator-PAS analysis file (facilitator level) n = 235	Facilitator-PAS analysis file (program level) n = 114
Outcomes from youth exit surveys (theoretical range = 0 to 100)	**n = 297–302**	**n = 183**	**n = 235**	**n = 114**
Improved life skills/attitudes for goals	78.9 (8.4)*	79.9 (7.7)	79.6 (6.7)	79.7 (6.9)
Intent to delay sexual initiation	71.3 (12.0)*	72.0 (11.7)	71.6 (11.4)	71.5 (11.4)
Intent to follow success sequence	79.9 (9.7)*	80.8 (8.6)	80.5 (8.4)	80.5 (8.8)
Improved healthy relationship skills	74.1 (9.1)*	74.8 (8.6)	74.1 (8.0)	74.8 (8.0)
Intent to avoid negative risk behaviors	68.5 (13.2)*	69.4 (12.8)	69.2 (11.4)	70.0 (11.9)
Skills against sexual coercion and dating violence	80.2 (8.9)*	81.1 (7.9)	80.7 (7.6)	81.0 (7.7)
Satisfaction with SRAE program	76.2 (10.3)*	76.8 (9.9)	76.1 (8.4)	77.0 (8.5)
Outcomes from provider reports	**n = 313**	**n = 183**	**n = 235**	**n = 114**
Percent youth completing 75 percent of hours (theoretical range = 0 to 100)	84.6 (25.5)*	84.4 (19.3)	81.2 (18.4)	83.0 (18.1)
Background explanatory variables from youth exit surveys	**n = 303–304**	**n = 183**	**n = 235**	**n = 114**
Average age in years (theoretical range = 10 to 20)	13.7 (1.6)*	13.7 (1.5)	13.8 (1.5)	13.8 (1.5)
Percent female	49.6 (17.8)*	50.4 (17.1)	49.2 (15.3)	48.6 (16.4)
Race/ethnicity				
Percent non-Hispanic White	36.2 (31.8)*	35.1 (31.4)	27.9 (28.3)	31.1 (29.7)
Percent non-Hispanic Black	22.2 (30.4)*	20.4 (29.0)	28.2 (31.7)	25.0 (31.4)
Percent Hispanic/Latino/a	27.9 (30.5)*	29.3 (31.1)	30.6 (29.1)	28.8 (28.2)
Percent other race/ethnicity	13.7 (17.1)*	15.2 (20.4)	13.3 (18.5)	15.1 (19.8)
Percent not living with family	10.9 (22.2)*	8.9 (17.9)	7.0 (14.2)	6.6 (13.9)
Key and background explanatory variables from provider reports	**n = 299–314**	**n = 170–183**	**n = 230–235**	**n = 111–114**
Grant type				
Title V State subrecipient grant	55.1%	53.0%	58.7%	57.9%
General Departmental grant	37.3%	41.0%	36.2%	34.2%
Title V Competitive grant	7.6%	6.0%	5.1%	7.9%
Provider is new during most recent reporting period	12.8%*	11.4%*	11.7%*	15.2%*
Provider trained all facilitators in delivering core curriculum	93.3%*	94.7%*	91.3%*	91.0%*

Variables	Full PAS data n = 314	Provider-PAS analysis file n = 183	Facilitator-PAS analysis file (facilitator level) n = 235	Facilitator-PAS analysis file (program level) n = 114
Provider observations of SRAE facilitators				
Percentage of facilitators observed exactly once	30.8 (39.0)*	31.2 (39.6)*	30.8 (37.0)*	34.1 (40.0)*
Percentage facilitators observed at least twice	40.2 (43.2)*	40.1 (43.4)*	48.4 (43.2)*	44.7 (43.3)*
Provider size (number of youth attending provider's program)	844.6 (2687.6)	362.7 (548.9)	576.8 (895.6)	565.1 (1104.3)

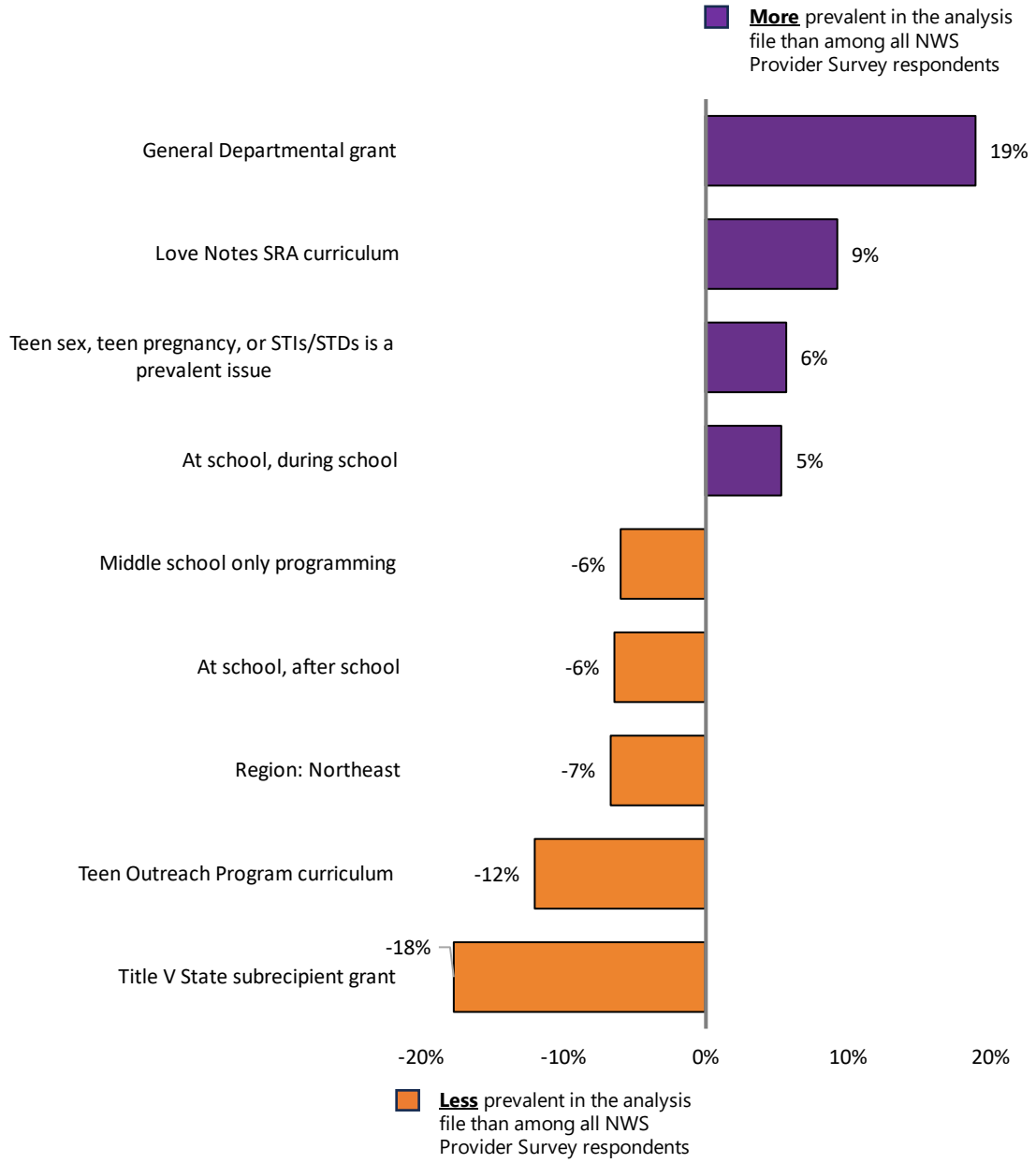
Source: PAS data.

Note: The full PAS data consists of 486 programs, but only 314 have outcomes from youth exit surveys, therefore the "full PAS data" column only displays sample characteristics for those 314 programs in this table (even for provider-reported variables that could have data from all 486 programs). The "analysis file" columns include all programs (or facilitators) that are in the matched NWS Provider Survey-PAS data analysis file and NWS Facilitator Survey-PAS data analysis file, respectively. For variables that are indicators with values of 0 or 1 (grant type; whether provider is new; and whether all facilitators are trained), cell present percentages. For all other variables, which are continuous, cells present means, along with standard deviations in parentheses.

* Within this sample, variable is missing for at least one record, therefore the variable sample size is smaller than the total sample size for the sample.

NWS = Nationwide Study, PAS = Performance Analysis Study, SRAE = sexual risk avoidance education

Figure B.1. Notable differences in sample characteristics between the NWS Provider Survey-PAS data analysis file and all NWS Provider Survey respondents (percentage point difference)

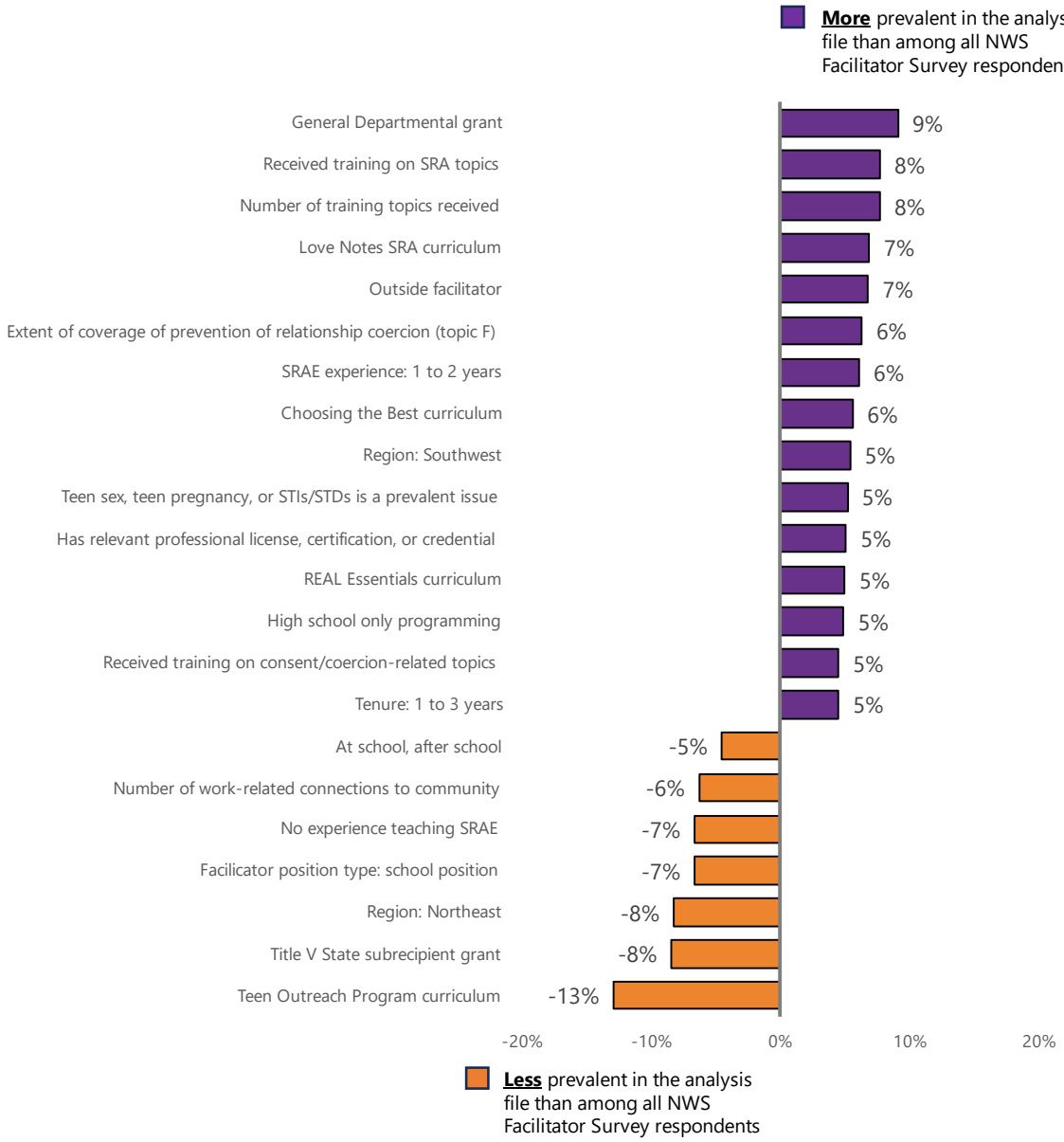


Source: NWS Provider Survey (n = 331 providers), and NWS Provider Survey-PAS data analysis file (n = 145 providers).

Notes: The bars represent the differences that are 5 percentage points or larger in sample characteristics (main and background explanatory variables) between the NWS Provider Survey-PAS data analysis file and all NWS Provider Survey respondents. Positive bars (shown in purple to the right of the line of origin) indicate that the sample characteristic is **more** prevalent in the analysis file than among all NWS Provider Survey respondents, whereas negative bars (shown in orange to the left of the line of origin) indicate that the sample characteristic is **less** prevalent in the former. The colors of the bars have no significance.

NWS = Nationwide Study, PAS = Performance Analysis Study, SRA = sexual risk avoidance, STIs/STDs = sexually transmitted infections/sexually transmitted diseases.

Figure B.2. Notable differences in sample characteristics between the NWS Facilitator Survey-PAS data analysis file and all NWS Facilitator Survey respondents (percentage point difference)



Source: NWS Facilitator Survey (n = 535 facilitators), and NWS Facilitator Survey-PAS data analysis file (n = 235 facilitators).

Notes: The bars represent the differences that are 5 percentage points or larger in sample characteristics (main and background explanatory variables) between the NWS Facilitator Survey-PAS data analysis file and all NWS Facilitator Survey respondents. Positive bars (shown in purple to the right of the line of origin) indicate that the sample characteristic is **more** prevalent in the analysis file than among all NWS Facilitator Survey respondents, whereas negative bars (shown in orange to the left of the line of origin) indicate that the sample characteristic is **less** prevalent in the former. The colors of the bars have no significance.

NWS = Nationwide Study, PAS = Performance Analysis Study, SRA = sexual risk avoidance, SRAE = sexual risk avoidance education, STIs/STDs = sexually transmitted infections/sexually transmitted diseases.

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Appendix C. Findings Tables

This appendix provides additional information on the study findings. It begins with the results from the additional variance explained in outcomes explained by each implementation feature, on top of what is explained with background explanatory variables (Tables C.1 and C.2). Next, the appendix presents results from the regression models used to address Research Question 1 (RQ1), displaying regression coefficients for associations between outcomes and implementation features from the preliminary, primary, and various alternative model specifications (Tables C.3 through C.20). Then, it presents results from the regression models used to address Research Question 2 (RQ2), displaying regression coefficients for associations between outcomes and provider characteristics from different model specifications (Tables C.21 through C.24). Finally, the appendix presents results from Bayesian analysis, displaying the probability of positive associations between outcomes and the measures for implementation features and provider characteristics (Tables C.25 through C.27).

The tables include seven self-reported youth outcomes on skills, intentions, and satisfaction, which are defined as following:

1. Improved life skills and attitudes to support future goals and well-being [**Life skills**]
2. Intentions to delay sexual initiation [**Delay sex**]
3. Intentions to follow the "success sequence" [**Success sequence**]
4. Improved skills for healthy relationships [**Healthy relationships**]
5. Intentions to avoid negative risk behavior [**Risk behaviors**]
6. Skills against sexual coercion and dating violence [**Coercion and violence**]
7. Satisfaction with SRAE program [**SRAE satisfaction**]

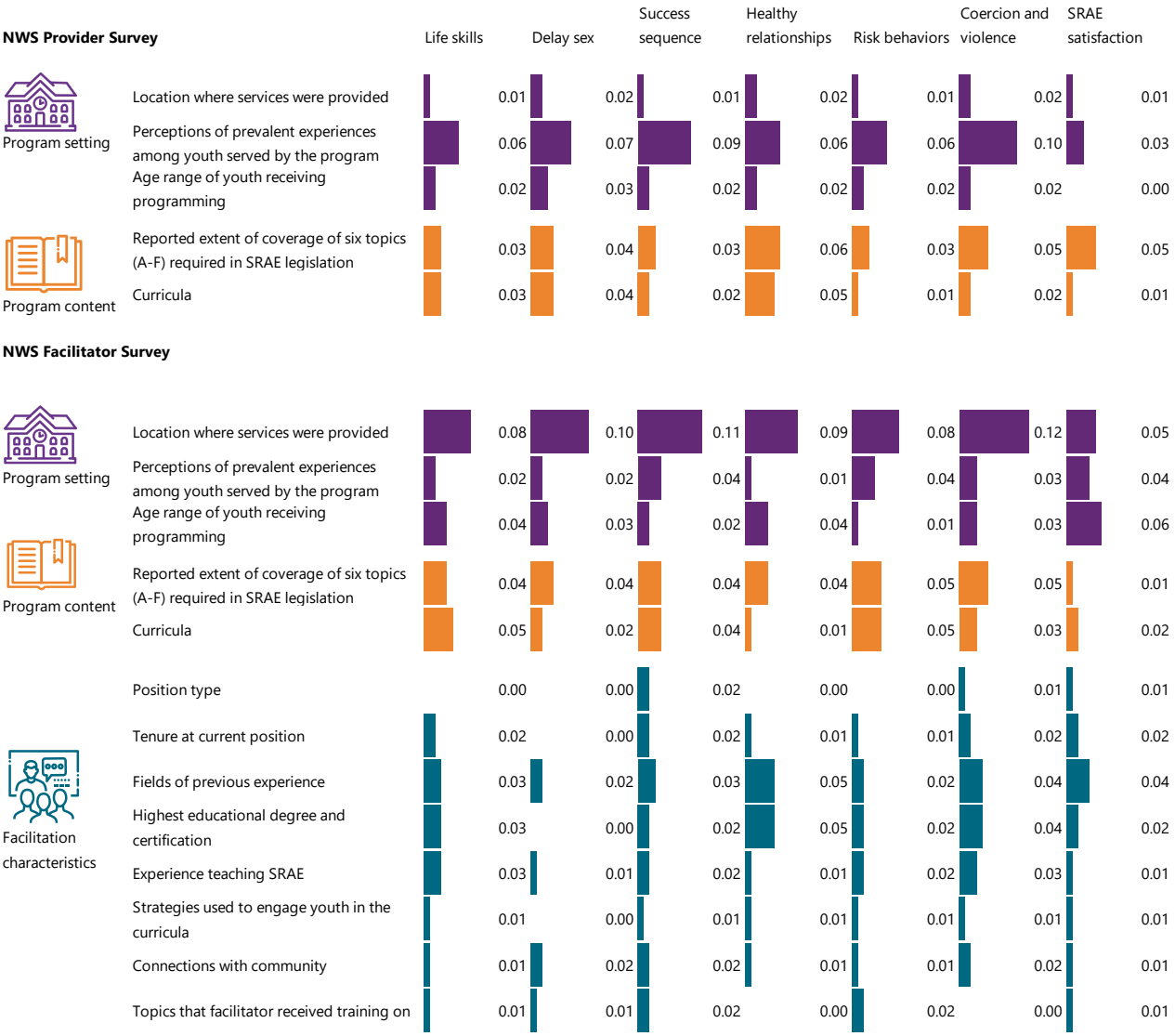
Tables involving results for RQ2 also include an additional outcome:

8. The share of youth who completed at least 75 percent of the scheduled program hours [**Program attendance**]

See Appendix A for details on how each outcome is defined.

A. Additional variance explained by implementation features and provider characteristics

Table C.1. Additional variance explained by each implementation feature (RQ1)



Source: NWS Provider Survey-PAS data analysis file (n = 183 programs) and NWS Facilitator Survey-PAS data analysis file (n = 235 facilitators).

Notes: Each cell represents the additional variance (as a percentage of the total variance, using the R-squared statistic) in a youth outcome that is explained by an implementation feature in addition to what is explained by only background explanatory variables. All regression models control for the RQ1 background explanatory variables, which are demographics of youth, SRAE grant stream funding the program, region of the country, provider's level of experience with SRAE, and provider size. For example, a marginal variance of 0.05 indicates that, compared to a model with only the background explanatory variables, a model with the implementation feature added explains an additional 5 percent of the total variation in the outcome. Models with an implementation feature added are also known as preliminary models elsewhere in the report.
See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.2. Additional variance explained by each provider characteristic (RQ2)

PAS data		Life skills	Delay sex	Success sequence	Healthy relationships	Risk behaviors	Coercion and violence	SRAE satisfaction	Program attendance
Provider characteristics	SRAE grant type		0.02	0.04	0.04	0.01	0.01	0.01	0.04	0.01
	Provider's experience delivering SRAE		0.07	0.10	0.10	0.05	0.02	0.08	0.07	0.01
	Percentage of SRAE facilitators trained in delivering core curriculum		0.03	0.04	0.03	0.00	0.00	0.03	0.03	0.01
	Percentage of SRAE facilitators observed at least twice		0.05	0.06	0.04	0.03	0.00	0.04	0.05	0.01

Source: PAS data analysis file (n = 183 programs).

Notes: Each cell represents the additional variance (as a percentage of the total variance, using the R-squared statistic) in a youth outcome or program attendance that is explained by provider characteristics in addition to what is explained by only background explanatory variables. All regression models control for the RQ2 background explanatory variables, which are demographics of youth and the region of the country. For example, a marginal variance of 0.05 indicates that, compared to a model with only the background explanatory variables, a model with the provider characteristic added explains an additional 5 percent of the total variation in the outcome. Models with a provider characteristic added are also known as preliminary models elsewhere in the report.

See Chapter II and Appendix A for more details on methods.

PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

B. Results from regression models used to address Research Question 1

Table C.3. Regression coefficients for associations between outcomes and location where services were provided (providers)

Youth outcomes	Model specification						
	Preliminary n = 183	Primary n = 183	Middle only n = 94	High only n = 61	Weighted n = 183	Broadest n = 214	Narrowest n = 124
Services delivered in a school setting, during school (versus non-school setting)							
Life skills	-2.12	2.00	-9.14#	5.79†	-0.07	1.45	1.31
Delay sex	-4.78§	0.24	-19.15#	12.31*	-3.92§	-1.96	-3.71§
Success sequence	-2.24	2.24	-1.77	0.65	0.16	2.59	-2.63
Healthy relationships	-1.91	4.77†	-20.60#	6.75*	1.11	0.42	5.16†
Risk behaviors	-0.91	6.35*	-16.25#	16.94*	-0.82	2.02	2.19
Coercion and violence	-1.87	2.22	-5.56§	0.58	-1.89	-0.52	0.39
SRAE satisfaction	-1.05	2.98	2.55	-0.26	1.47	7.10*	-1.38
Services delivered in a school setting, after school (versus non-school setting)							
Life skills	-0.09	3.71†	-2.34	4.67†	2.64	3.05†	4.16†
Delay sex	-0.67	3.41†	-3.62§	12.35*	-0.89	1.04	1.04
Success sequence	0.83	5.11†	11.32*	-0.51	0.35	4.73†	2.62
Healthy relationships	4.11†	10.94*	-3.50§	8.16*	7.79*	6.01*	11.32*
Risk behaviors	2.44	9.92*	8.41*	6.18*	-1.84	5.26†	7.01*
Coercion and violence	2.89	6.46*	1.68	6.07*	4.47†	2.60	6.15*
SRAE satisfaction	4.01†	8.88*	12.96*	5.60†	6.22*	12.46*	7.08*

Source: NWS Provider Survey-PAS data analysis file. The number of programs included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with moving from the reference category to the explanatory variable when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables by the location where services were provided. This set of explanatory characteristics is mutually exclusive: each provider only has one location. Comparisons made are to non-school locations, the omitted reference category from the regression model.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **Primary** models, in addition to the above, include other explanatory variables from the NWS Provider Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **narrowest** models use a larger and a smaller sample, respectively, based on the NWS Provider Survey-PAS data matching process.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study; RQ = research question, SRAE = sexual risk avoidance education.

Table C.4. Regression coefficients for associations between outcomes and location where services were provided (facilitators)

Youth outcomes	Model specification						
	Preliminary n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
Services delivered in a school setting, during school (versus non-school setting)							
Life skills	-5.46§	-5.66§	-2.73	-4.73§	-5.90§	-3.37§	-3.61§
Delay sex	-10.99#	-9.89#	4.19†	-5.57§	-8.42#	-5.27§	-9.74#
Success sequence	-7.54#	-7.83#	-2.38	-5.46§	-6.16#	-3.39§	-5.73§
Healthy relationships	-7.52#	-6.79#	-5.87§	-9.48#	-8.69#	-2.09	-4.68§
Risk behaviors	-7.71#	-9.79#	1.02	-8.63#	-10.82#	-1.82	-7.03#
Coercion and violence	-7.87#	-7.63#	-5.70§	-8.34#	-8.57#	-1.44	-5.52§
SRAE satisfaction	-6.63#	-4.66§	6.14	-8.42#	-4.57§	-4.09§	-3.08§
Services delivered in a school setting, after school (versus non-school setting)							
Life skills	-0.85	-0.75	2.58	-1.38	1.98	0.27	1.38
Delay sex	-1.63	0.30	14.42*	-0.61	3.24†	2.49	0.10
Success sequence	0.08	-0.07	5.64†	-1.41	2.48	1.99	1.62
Healthy relationships	-1.39	0.37	2.17	-0.70	2.58	3.01†	2.09
Risk behaviors	1.50	-1.56	11.04*	-4.99§	0.31	4.09†	1.27
Coercion and violence	-1.25	-0.81	-1.09	1.22	-0.42	3.64†	1.03
SRAE satisfaction	-3.53§	-1.07	7.93*	-0.80	2.25	-2.02	-0.99

Source: NWS Facilitator Survey-PAS data analysis file. The number of facilitators included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with moving from the reference category to the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables by the location where services were provided. This set of explanatory characteristics is mutually exclusive: each facilitator only has one location. Comparisons made are to non-school locations, the omitted reference category from the regression model.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **Primary** models, in addition to the above, include other explanatory variables from the NWS Facilitator Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **in-between** models use larger samples based on the NWS Facilitator Survey-PAS data matching process.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.5. Regression coefficients for associations between outcomes and provider perceptions of prevalent experiences or issues among youth

Youth outcomes	Model specification						
	Preliminary n = 183	Primary n = 183	Middle only n = 94	High only n = 61	Weighted n = 183	Broadest n = 214	Narrowest n = 124
Teen sex, teen pregnancy, or STIs/STDs is prevalent experience or issue (versus not an experience or issue)							
Life skills	-0.93	-0.73	-3.78§	-3.35§	-1.69	-2.10	-0.11
Delay sex	-2.97	-2.99	-5.89§	-10.67#	-2.47	-3.76§	-1.79
Success sequence	-1.72	-1.77	-4.06§	-0.10	-1.85	-3.57§	-0.28
Healthy relationships	-0.58	0.41	-2.46	-3.06§	-0.90	-0.42	0.43
Risk behaviors	-4.66§	-3.31§	-5.34§	-1.53	-1.56	-3.85§	-4.51§
Coercion and violence	-0.34	0.21	-2.21	-4.02§	-1.18	-0.52	1.34
SRAE satisfaction	2.18	3.84†	0.05	-11.33#	3.49†	1.98	7.17*
Behavioral and emotional health is prevalent experience or issue (versus not an experience or issue)							
Life skills	3.51†	4.61†	4.01†	-2.22	1.26	3.90†	5.67†
Delay sex	3.37†	5.77†	2.58	1.81	2.74	3.72†	4.26†
Success sequence	3.18†	4.08†	3.51†	7.50*	4.17†	3.31†	4.86†
Healthy relationships	2.26	2.70	-0.26	1.63	-2.26	2.30	4.81†
Risk behaviors	5.06†	4.59†	-2.39	-1.80	1.80	4.42†	5.02†
Coercion and violence	3.04†	4.21†	6.45*	5.54†	1.07	4.14†	2.44
SRAE satisfaction	3.13†	3.79†	6.44*	4.98†	-0.29	1.98	-2.42
Substance use is prevalent experience or issue (versus not an experience or issue)							
Life skills	-2.88	-4.73§	-3.73§	-1.88	-2.46	-2.43	-6.59#
Delay sex	-3.24§	-6.51#	-4.07§	-1.63	-4.31§	-3.39§	-8.72#
Success sequence	-2.75	-4.75§	-4.83§	-7.35#	-5.19§	-2.53	-7.39#
Healthy relationships	-2.78	-5.87§	-2.36	-4.74§	-2.51	-2.96	-7.17#
Risk behaviors	-0.52	-3.57§	-4.62§	-5.04§	-4.80§	-2.98	-8.17#
Coercion and violence	-2.87	-5.66§	-3.37§	-5.55§	-3.51§	-3.27§	-7.90#
SRAE satisfaction	-2.35	-4.99§	-3.90§	1.68	-5.23§	-3.77§	-7.46#
Not finishing high school is prevalent experience or issue (versus not an experience or issue)							
Life skills	-0.18	0.40	0.15	1.52	-0.31	0.65	0.80
Delay sex	-0.13	1.08	1.23	0.85	-0.61	1.85	0.50
Success sequence	1.14	1.89	2.41	3.30†	2.54	2.17	2.95
Healthy relationships	-1.44	-0.51	1.14	-1.46	-1.25	-0.25	-1.17
Risk behaviors	1.58	2.56	6.39*	5.89†	1.37	2.70	3.15†
Coercion and violence	0.74	1.39	0.91	-0.28	-0.27	1.56	1.65
SRAE satisfaction	-0.26	0.10	1.23	-4.53§	-0.13	1.05	1.12

Which Sexual Risk Avoidance Education Implementation Features and Provider Characteristics are Associated with Youth Outcomes?

Youth outcomes	Model specification						
	Preliminary n = 183	Primary n = 183	Middle only n = 94	High only n = 61	Weighted n = 183	Broadest n = 214	Narrowest n = 124
Dating violence, sexual coercion, or unhealthy relationships is prevalent experience or issue (versus not an experience or issue)							
Life skills	-4.33§	-5.56§	-5.02§	-3.53§	-6.11#	-4.62§	-5.04§
Delay sex	-5.98§	-8.31#	-7.59#	-4.91§	-8.26#	-8.77#	-4.66§
Success sequence	-4.20§	-5.72§	-5.78§	-12.91#	-5.98§	-4.41§	-4.33§
Healthy relationships	-3.79§	-5.63§	-5.96§	-4.29§	-6.18#	-6.38#	-6.91#
Risk behaviors	-6.18#	-8.46#	-4.81§	-12.53#	-6.46#	-9.71#	-6.34#
Coercion and violence	-4.94§	-6.94#	-6.73#	-5.23§	-6.65#	-6.60#	-4.83§
SRAE satisfaction	-5.34§	-7.83#	-6.54#	-2.39	-6.86#	-6.01#	-2.08

Source: NWS Provider Survey-PAS data analysis file. The number of programs included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with moving from no to yes for the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables for provider-reported perceptions of prevalent experiences among youth. A provider could have identified zero, one, or more than one experience as prevalent, so these explanatory variables are not mutually exclusive. Comparisons made are between whether the provider reported the experience as prevalent or not prevalent among youth (if the provider did not know, it was counted as not prevalent).

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **Primary** models, in addition to the above, include other explanatory variables from the NWS Provider Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **narrowest** models use a larger and a smaller sample, respectively, based on the NWS Provider Survey-PAS data matching process.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education, STIs/STDs = sexually transmitted infections/sexually transmitted diseases.

Table C.6. Regression coefficients for associations between outcomes and facilitator perceptions of prevalent experiences or issues among youth

Youth outcomes	Model specification						
	Preliminary n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
Teen sex, teen pregnancy, or STIs/STDs is prevalent experience or issue (versus not an experience or issue)							
Life skills	-0.46	-0.12	-0.97	0.17	0.04	-0.62	-0.06
Delay sex	-0.38	0.49	0.36	-0.32	-0.74	-0.61	0.89
Success sequence	0.10	0.61	-0.16	2.91	0.47	-0.52	0.43
Healthy relationships	-0.71	0.26	0.03	-0.18	-0.85	-0.87	0.14
Risk behaviors	-0.76	1.08	0.07	5.01†	-0.37	-0.16	1.05
Coercion and violence	-0.78	-0.31	-0.36	-1.00	-0.26	-0.92	0.26
SRAE satisfaction	0.77	1.26	0.63	-1.26	0.33	1.18	1.08
Behavioral and emotional health is prevalent experience or issue (versus not an experience or issue)							
Life skills	-0.85	-2.43	-5.02§	-1.25	-1.20	-0.96	-1.64
Delay sex	2.62	-0.09	-2.83	-1.17	0.49	1.03	-1.16
Success sequence	1.64	-0.04	-2.72	1.02	-0.09	0.90	-0.88
Healthy relationships	-1.47	-3.79§	-5.12§	-2.92	-0.16	-0.14	-1.45
Risk behaviors	2.40	1.03	-3.57§	-0.08	-1.13	0.20	-0.81
Coercion and violence	-0.60	-2.17	-2.47	-3.83§	-0.18	-0.35	-1.79
SRAE satisfaction	2.83	1.70	1.75	-0.29	-0.06	-0.05	-0.68
Substance use is prevalent experience or issue (versus not an experience or issue)							
Life skills	-0.89	-0.89	0.07	-0.22	-0.48	-0.06	-0.50
Delay sex	-3.28§	-3.49§	-3.22§	-0.50	-1.51	-2.71	-3.28§
Success sequence	-2.53	-2.36	-2.35	-2.19	-0.66	-1.62	-1.91
Healthy relationships	-0.41	-1.01	0.23	-1.00	-1.11	-0.58	-0.78
Risk behaviors	-4.69§	-4.25§	-2.97	-4.10§	-0.25	-3.31§	-2.82
Coercion and violence	-1.05	-0.99	-0.89	-0.05	-1.04	-0.93	-0.90
SRAE satisfaction	-2.99	-2.95	-3.71§	-1.41	-0.38	-1.66	-2.48
Not finishing high school is prevalent experience or issue (versus not an experience or issue)							
Life skills	-0.52	-0.49	1.92	-1.42	-0.67	-0.52	-0.25
Delay sex	-1.97	-2.31	-1.46	-0.73	-0.90	-2.09	-1.75
Success sequence	-1.94	-2.00	-0.88	-1.03	-0.86	-1.21	-0.97
Healthy relationships	-1.08	-1.49	-0.06	-1.33	-1.04	-1.43	-0.47
Risk behaviors	-0.84	-0.89	2.76	-2.37	-0.76	-3.32§	-1.26
Coercion and violence	-1.04	-1.02	-0.49	-0.82	-1.21	-1.13	-0.61
SRAE satisfaction	-1.89	-2.42	-1.04	-0.82	-1.27	0.12	-0.85

Which Sexual Risk Avoidance Education Implementation Features and Provider Characteristics are Associated with Youth Outcomes?

Youth outcomes	Model specification						
	Preliminary n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
Dating violence, sexual coercion, or unhealthy relationships is prevalent experience or issue (versus not an experience or issue)							
Life skills	-1.19	-0.75	-2.04	-0.17	-2.00	0.19	-0.67
Delay sex	-0.79	-0.18	-2.72	0.77	-1.75	0.81	1.05
Success sequence	-1.04	-0.24	-3.35§	0.42	-1.26	0.78	0.32
Healthy relationships	-0.06	-0.17	-2.30	0.95	-2.88	0.98	0.44
Risk behaviors	-1.95	-2.60	-7.02#	-1.22	-3.72§	2.16	0.60
Coercion and violence	-2.44	-2.04	-5.72§	0.85	-3.07§	-0.73	-1.29
SRAE satisfaction	-1.19	-0.64	-3.75§	3.03†	-1.50	-0.47	0.64

Source: NWS Facilitator Survey-PAS data analysis file. The number of facilitators included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with moving from no to yes for the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables for facilitator-reported perceptions of prevalent experiences among youth. A facilitator could have identified zero, one, or more than one experience as prevalent, so these explanatory variables are not mutually exclusive. Comparisons made are between whether the facilitator reported the experience as prevalent or not prevalent among youth (if the facilitator did not know, it was counted as not prevalent).

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **Primary** models, in addition to the above, include other explanatory variables from the NWS Facilitator Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **in-between** models use larger samples based on the NWS Facilitator Survey-PAS data matching process.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education, STIs/STDs = sexually transmitted infections/sexually transmitted diseases.

Table C.7. Regression coefficients for associations between outcomes and age range of youth receiving programming (providers)

Youth outcomes	Model specification						
	Preliminary n = 183	Primary n = 183	Middle only n = 94	High only n = 61	Weighted n = 183	Broadest n = 214	Narrowest n = 124
Provider served high school–age youth only (versus middle school–age youth only)							
Life skills	0.02	-0.18	n.a.	n.a.	-0.10	-0.69	0.16
Delay sex	1.85	0.35	n.a.	n.a.	-1.54	-2.53	-2.87
Success sequence	-1.70	-2.61	n.a.	n.a.	-2.46	-3.39§	-1.21
Healthy relationships	2.60	2.04	n.a.	n.a.	0.37	-0.32	2.18
Risk behaviors	-3.54§	-3.78§	n.a.	n.a.	-1.63	-6.09#	-0.17
Coercion and violence	1.93	-0.18	n.a.	n.a.	-1.60	-1.40	1.45
SRAE satisfaction	-1.61	-2.14	n.a.	n.a.	-4.91§	-2.09	-3.01§
Provider served both middle and high school–age youth (versus middle school–age youth only)							
Life skills	3.22†	5.21†	n.a.	n.a.	3.55†	5.07†	-0.09
Delay sex	6.88*	6.84*	n.a.	n.a.	1.19	2.72	-0.97
Success sequence	2.98	5.19†	n.a.	n.a.	3.87†	4.87†	0.97
Healthy relationships	3.84†	8.00*	n.a.	n.a.	5.33†	2.79	3.79†
Risk behaviors	2.52	8.75*	n.a.	n.a.	3.23†	2.27	-1.40
Coercion and violence	3.59†	5.78†	n.a.	n.a.	0.13	3.04†	0.78
SRAE satisfaction	0.75	3.64†	n.a.	n.a.	1.36	8.02*	-5.01§

Source: NWS Provider Survey-PAS data analysis file. The number of programs included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with moving from the reference category to the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables by the age range of youth receiving programming. This set of explanatory characteristics is mutually exclusive: each provider only has one age range. Comparisons made are to middle school-age only, the omitted reference category from the regression model.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **Primary** models, in addition to the above, include other explanatory variables from the NWS Provider Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **narrowest** models use a larger and a smaller sample, respectively, based on the NWS Provider Survey-PAS data matching process. **Middle only** and **high only** models would have included only those programs where the age range served is middle school-age only or high school-age only, respectively, but because these are also the explanatory variables, they do not have any coefficients.

See Chapter II and Appendix A for more details on methods.

n.a. = not applicable, NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.8. Regression coefficients for associations between outcomes and age range of youth receiving programming (facilitators)

Youth outcomes	Model specification						
	Preliminary n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
Facilitator served high school–age youth only (versus middle school–age youth only)							
Life skills	-3.48§	-3.86§	n.a.	n.a.	-7.02#	-1.10	-1.09
Delay sex	-3.59§	-4.75§	n.a.	n.a.	-11.33#	-1.24	-0.01
Success sequence	0.54	0.22	n.a.	n.a.	-0.63	2.08	2.61
Healthy relationships	-2.25	-2.72	n.a.	n.a.	-9.56#	-0.81	0.73
Risk behaviors	2.78	1.08	n.a.	n.a.	-3.03§	-2.20	0.31
Coercion and violence	0.42	-0.50	n.a.	n.a.	-8.52#	0.98	2.63
SRAE satisfaction	-5.19§	-5.91§	n.a.	n.a.	-11.20#	-1.17	-0.66
Facilitator served both middle and high school–age youth (versus middle school–age youth only)							
Life skills	3.59†	-1.69	n.a.	n.a.	-0.98	0.53	0.67
Delay sex	8.32*	0.61	n.a.	n.a.	-0.70	1.41	-0.45
Success sequence	5.47†	-0.49	n.a.	n.a.	0.90	0.63	0.16
Healthy relationships	6.60*	2.99	n.a.	n.a.	-0.23	2.03	2.71
Risk behaviors	3.45†	-4.24§	n.a.	n.a.	-1.66	-0.07	-1.12
Coercion and violence	6.46*	0.25	n.a.	n.a.	-2.90	2.75	0.81
SRAE satisfaction	6.48*	2.68	n.a.	n.a.	0.38	-0.16	0.88

Source: NWS Facilitator Survey-PAS data analysis file. The number of facilitators included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with moving from the reference category to the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6). Panels contain coefficients for individual explanatory variables by the age range of youth receiving programming. This set of explanatory characteristics is mutually exclusive: each facilitator only has one age range. Comparisons made are to middle school-age only, the omitted reference category from the regression model.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **Primary** models, in addition to the above, include other explanatory variables from the NWS Facilitator Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **in-between** models use larger samples based on the NWS Facilitator Survey-PAS data matching process. Middle only and high only models would have included only those programs where the age range served is middle school-age only or high school-age only, respectively, but because these are also the explanatory variables, they do not have any coefficients.

See Chapter II and Appendix A for more details on methods.

n.a. = not applicable, NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.9. Regression coefficients for associations between outcomes and reported extent of coverage of six topics (A-F) required in SRAE legislation (providers)

Youth outcomes	Model specification							
	Preliminary n = 183	Primary n = 183	Middle only n = 94	High only n = 61	Weighted n = 183	Broadest n = 214	Narrowest n = 124	No Gen Dept n = 108
Extent of coverage of life-building skills (topic A) (one-point difference)								
Life skills	0.01	0.00	0.03	0.12*	-0.09§	0.02	0.01	-0.01
Delay sex	-0.08§	-0.08§	-0.12#	0.19*	-0.20#	-0.09§	-0.05	-0.05
Success sequence	0.02	0.02	0.01	0.18*	0.00	0.03	0.04	0.00
Healthy relationships	-0.04	-0.04	-0.04	0.06†	-0.12#	-0.04	-0.02	-0.05
Risk behaviors	-0.03	-0.04	-0.19#	0.53*	-0.09§	-0.06§	0.03	-0.01
Coercion and violence	-0.02	-0.04	-0.03	0.03	-0.04	-0.03	-0.05	-0.10§
SRAE satisfaction	0.06†	0.03	0.01	0.30*	0.07†	0.04	0.03	-0.11§
Extent of coverage of the advantages of refraining from sexual activity (topics B and C) (one-point difference)								
Life skills	0.05	0.06†	-0.02	0.06†	0.01	0.04	0.02	0.07†
Delay sex	0.12*	0.14*	0.12*	0.02	0.11†	0.14*	0.07†	0.12*
Success sequence	0.07†	0.08†	0.05	0.01	-0.02	0.07†	0.00	0.07†
Healthy relationships	0.11†	0.12*	0.08†	0.10†	0.03	0.12*	0.09†	0.14*
Risk behaviors	0.12*	0.16*	0.24*	0.11†	0.06†	0.19*	0.02	0.09†
Coercion and violence	0.11†	0.13*	0.05	0.13*	0.00	0.11†	0.11†	0.15*
SRAE satisfaction	0.06†	0.08†	0.04	0.05	-0.01	0.08†	0.04	0.15*
Extent of coverage of forming healthy relationships (topic D) (one-point difference)								
Life skills	-0.01	0.00	0.00	-0.07§	0.05	-0.01	0.02	0.01
Delay sex	-0.01	-0.02	-0.10§	0.10†	0.09†	-0.06§	0.01	-0.04
Success sequence	-0.02	-0.02	-0.06§	-0.16#	0.04	-0.04	0.01	-0.02
Healthy relationships	-0.02	0.02	-0.07§	-0.03	0.10†	-0.02	0.04	-0.01
Risk behaviors	0.04	0.02	-0.14#	-0.04	0.10†	0.00	0.10†	0.05
Coercion and violence	-0.05	-0.04	-0.09§	-0.06§	0.07†	-0.06§	-0.01	-0.04
SRAE satisfaction	-0.01	0.02	-0.01	-0.33#	0.13*	0.05	0.07†	0.05

Youth outcomes	Model specification							
	Preliminary n = 183	Primary n = 183	Middle only n = 94	High only n = 61	Weighted n = 183	Broadest n = 214	Narrowest n = 124	No Gen Dept n = 108
Extent of coverage of avoidance of risk behaviors (topic E) (one-point difference)								
Life skills	-0.04	-0.04	0.05	-0.01	0.01	-0.04	0.00	-0.07§
Delay sex	-0.02	-0.01	0.06†	0.10†	-0.02	-0.01	-0.01	-0.04
Success sequence	-0.03	-0.04	0.04	0.01	0.02	-0.05	-0.01	-0.04
Healthy relationships	-0.06§	-0.07§	0.02	-0.01	-0.02	-0.06§	-0.05	-0.10§
Risk behaviors	-0.05	-0.06§	0.04	-0.07§	-0.07§	-0.05	-0.06§	-0.13#
Coercion and violence	-0.03	-0.03	0.07†	0.02	-0.01	-0.02	-0.03	-0.07§
SRAE satisfaction	-0.10§	-0.11§	0.00	0.06†	-0.12#	-0.13#	-0.08§	-0.12#
Extent of coverage of prevention of relationship coercion (topic F) (one-point difference)								
Life skills	0.03	0.02	0.05	-0.11§	0.07†	0.03	0.00	-0.01
Delay sex	0.05	0.05	0.11†	-0.21#	0.05	0.08†	0.05	0.05
Success sequence	0.02	0.03	0.07†	-0.08§	0.06†	0.03	0.04	0.03
Healthy relationships	0.04	0.01	0.05	-0.12#	0.05	0.02	-0.01	0.00
Risk behaviors	-0.04	-0.02	0.06†	-0.42#	0.04	0.00	-0.03	-0.03
Coercion and violence	0.03	0.04	0.06†	-0.09§	0.05	0.04	0.02	0.01
SRAE satisfaction	0.02	0.00	0.03	-0.07§	0.04	0.01	0.03	-0.05

Source: NWS Provider Survey-PAS data analysis file. The number of programs included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with a one-point increase in the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 0.06 and 0.12); dark green and indicated with an * if they are large/positive (more than 0.12); light orange and indicated with a § if they are moderate/negative (between -0.06 and -0.12); or dark orange and indicated with a # if they are large/negative (less than -0.12).

Panels contain coefficients for individual explanatory variables with provider-reported extent of coverage of six topics (A-F) required in SRAE legislation. Providers answered about each topic or topics separately, so the explanatory variables are independent. Each variable is on a scale from 0 to 100. Comparisons made involve different levels of the reported extent of coverage of that topic.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **Primary** models, in addition to the above, include other explanatory variables from the NWS Provider Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **narrowest** models use a larger and a smaller sample, respectively, based on the NWS Provider Survey-PAS data matching process; and **No Gen Dept** models exclude any providers from General Departmental grant recipients from the sample. See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.10. Regression coefficients for associations between outcomes and reported extent of coverage of six topics (A-F) required in SRAE legislation (facilitators)

Youth outcomes	Model specification							
	Preliminary n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341	No Gen Dept n = 150
Extent of coverage of life-building skills (topic A) (one-point difference)								
Life skills	0.05	0.03	-0.01	0.09†	0.06†	0.04	0.04	0.04
Delay sex	0.09†	0.05	0.03	0.09†	0.08†	0.01	0.04	0.08†
Success sequence	0.03	0.01	-0.02	0.06†	0.02	0.01	0.02	0.05
Healthy relationships	0.04	0.03	0.02	0.14*	0.05	0.02	0.03	0.04
Risk behaviors	0.09†	0.06†	-0.02	0.17*	0.07†	0.05	0.07†	0.11†
Coercion and violence	0.08†	0.05	0.04	0.09†	0.07†	0.05	0.06†	0.07†
SRAE satisfaction	0.00	-0.02	-0.04	0.00	-0.01	-0.02	0.01	-0.04
Extent of coverage of the advantages of refraining from sexual activity (topics B and C) (one-point difference)								
Life skills	0.01	0.04	0.05	-0.05	0.01	0.01	0.02	0.03
Delay sex	0.03	0.06†	0.12*	-0.08§	0.01	0.07†	0.07†	0.04
Success sequence	0.04	0.05	0.09†	-0.02	0.02	0.05	0.05	0.03
Healthy relationships	0.04	0.04	0.08†	-0.07§	0.01	0.02	0.02	0.06†
Risk behaviors	0.02	0.02	0.02	-0.13#	-0.01	0.03	0.02	-0.01
Coercion and violence	0.02	0.03	0.05	-0.03	0.00	0.02	0.02	0.04
SRAE satisfaction	0.01	0.01	0.01	-0.02	0.00	0.03	0.02	0.04
Extent of coverage of forming healthy relationships (topic D) (one-point difference)								
Life skills	0.00	0.03	-0.01	0.01	0.02	0.03	0.03	0.03
Delay sex	0.00	0.04	-0.04	0.04	0.04	0.01	0.03	0.05
Success sequence	-0.03	0.00	-0.02	-0.01	0.03	0.01	0.00	0.00
Healthy relationships	0.01	0.05	-0.02	0.04	0.05	0.05	0.03	0.06†
Risk behaviors	-0.07§	-0.05	-0.10§	-0.03	0.02	-0.03	-0.05	-0.02
Coercion and violence	-0.04	0.00	-0.02	0.02	0.03	0.01	0.00	-0.01
SRAE satisfaction	0.01	0.03	-0.01	0.05	0.07†	0.02	0.02	0.05

Youth outcomes	Model specification							
	Preliminary n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341	No Gen Dept n = 150
Extent of coverage of avoidance of risk behaviors (topic E) (one-point difference)								
Life skills	0.03	0.03	0.07†	0.03	0.00	0.02	0.02	0.01
Delay sex	0.03	0.03	0.07†	0.04	0.00	0.02	0.01	0.02
Success sequence	0.06†	0.07†	0.09†	0.12*	0.01	0.04	0.05	0.02
Healthy relationships	0.02	0.01	0.03	0.02	-0.03	0.02	0.01	-0.04
Risk behaviors	0.06†	0.07†	0.17*	0.04	-0.02	0.06†	0.08†	0.01
Coercion and violence	0.05	0.04	0.06†	0.05	-0.01	0.03	0.03	0.00
SRAE satisfaction	0.01	0.01	0.01	0.08†	-0.07§	0.00	0.01	-0.07§
Extent of coverage of prevention of relationship coercion (topic F) (one-point difference)								
Life skills	-0.03	-0.04	-0.02	0.00	-0.02	-0.04	-0.05	-0.03
Delay sex	-0.05	-0.06§	-0.01	-0.08§	-0.02	-0.04	-0.07§	-0.06§
Success sequence	-0.04	-0.04	-0.02	-0.01	-0.01	-0.05	-0.05	-0.03
Healthy relationships	-0.03	-0.03	0.00	-0.03	-0.02	-0.04	-0.04	-0.02
Risk behaviors	-0.09§	-0.08§	-0.03	-0.01	-0.02	-0.07§	-0.08§	-0.06§
Coercion and violence	-0.05	-0.05	-0.04	-0.06§	-0.03	-0.05	-0.05	-0.04
SRAE satisfaction	-0.02	-0.01	0.05	-0.04	0.02	-0.05	-0.04	0.01

Source: NWS Facilitator Survey-PAS data analysis file. The number of facilitators included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with a one-point increase in the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded and indicated light green with a † if they are moderate/positive (between 0.06 and 0.12); dark green and indicated with an * if they are large/positive (more than 0.12); light orange and indicated with a § if they are moderate/negative (between -0.06 and -0.12); or dark orange and indicated with a # if they are large/negative (less than -0.12).

Panels contain coefficients for individual explanatory variables with facilitator-reported extent of coverage of six topics (A-F) required in SRAE legislation. Facilitators answered about each topic or topics separately, so the explanatory variables are independent. Each variable is on a scale from 0 to 100. Comparisons made involve different levels of the reported extent of coverage of that topic.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **Primary** models, in addition to the above, include other explanatory variables from the NWS Facilitator Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **in-between** models use larger samples based on the NWS Facilitator Survey-PAS data matching process; and **No Gen Dept** models exclude any facilitators from General Departmental grant recipients from the sample. See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study RQ = research question, SRAE = sexual risk avoidance education.

Table C.11. Regression coefficients for associations between outcomes and curricula (providers)

Youth outcomes	Model specification						
	Preliminary n = 183	Primary n = 183	Middle only n = 94	High only n = 61	Weighted n = 183	Broadest n = 214	Narrowest n = 124
Choosing the Best (versus other curricula)							
Life skills	0.67	1.49	4.34†	-4.59§	0.90	0.82	1.74
Delay sex	4.01†	5.50†	8.07*	-4.09§	4.46†	5.79†	6.76*
Success sequence	-0.04	0.92	4.78†	-24.59#	-3.55§	0.87	0.25
Healthy relationships	2.81	4.11†	8.13*	-6.89#	2.30	4.53†	4.61†
Risk behaviors	-0.44	1.09	4.51†	-17.46#	-2.58	2.72	0.58
Coercion and violence	0.54	1.79	5.13†	-4.59§	1.26	1.40	3.10†
SRAE satisfaction	-0.81	0.70	3.62†	-4.60§	1.45	0.22	1.49
Love Notes SRA (versus other curricula)							
Life skills	-0.50	0.66	1.24	-8.17#	-2.30	1.49	3.14†
Delay sex	-2.30	-0.34	0.85	-9.11#	-2.07	0.80	1.65
Success sequence	-0.92	0.73	4.50†	-14.19#	0.88	2.16	3.34†
Healthy relationships	-0.39	0.80	-2.21	-9.04#	-3.07§	2.61	2.59
Risk behaviors	-0.76	2.29	10.61*	-17.37#	1.08	4.16†	0.49
Coercion and violence	-0.71	0.99	2.99	-7.41#	-1.31	1.86	0.77
SRAE satisfaction	0.16	1.43	7.12*	-4.43§	1.77	2.07	3.30†
Making a Difference (versus other curricula)							
Life skills	1.15	0.69	2.17	-13.25#	1.58	0.72	3.06†
Delay sex	2.35	2.99	6.20*	-11.71#	3.31†	3.84†	6.48*
Success sequence	-0.47	-1.11	0.52	-21.21#	-1.37	0.08	0.34
Healthy relationships	0.49	0.82	4.13†	-13.49#	0.66	1.66	2.79
Risk behaviors	0.75	1.06	10.02*	-19.97#	1.96	2.35	-0.20
Coercion and violence	-0.71	-0.32	0.17	-12.82#	-0.39	-0.22	2.82
SRAE satisfaction	0.00	-0.38	1.10	-20.46#	0.15	-0.06	4.10†
REAL Essentials (versus other curricula)							
Life skills	-3.18§	-1.74	2.05	-8.10#	-0.09	-0.84	-0.90
Delay sex	-4.65§	-0.90	4.35†	-10.01#	0.04	1.85	2.23
Success sequence	-3.12§	-0.86	2.83	-17.75#	-0.11	0.32	0.68
Healthy relationships	-3.58§	-1.64	2.79	-11.31#	-1.19	-0.19	-0.40
Risk behaviors	0.55	3.08†	11.22*	-14.51#	4.41†	3.89†	4.34†
Coercion and violence	-3.10§	-0.14	2.73	-8.69#	-0.76	0.33	1.88
SRAE satisfaction	-3.02§	-1.85	-0.14	-6.39#	2.41	-0.34	0.80

Which Sexual Risk Avoidance Education Implementation Features and Provider Characteristics are Associated with Youth Outcomes?

Youth outcomes	Model specification						
	Preliminary n = 183	Primary n = 183	Middle only n = 94	High only n = 61	Weighted n = 183	Broadest n = 214	Narrowest n = 124
Teen Outreach Program (versus other curricula)							
Life skills	-2.53	-0.07	-4.01§	-11.25#	1.10	-0.58	1.71
Delay sex	-4.62§	0.69	-17.51#	-10.33#	3.64†	3.14†	3.48†
Success sequence	-5.76§	-3.21§	-6.52#	-27.06#	2.05	-2.72	-1.72
Healthy relationships	-5.24§	-3.34§	-14.77#	-15.45#	0.44	-0.93	-2.18
Risk behaviors	-5.07§	-3.66§	-6.97#	-42.41#	5.46†	0.74	-5.54§
Coercion and violence	0.74	4.46†	-4.24§	-3.93§	1.30	4.52†	5.63†
SRAE satisfaction	-0.92	1.08	-7.84#	-3.56§	-1.46	-0.46	4.93†

Source: NWS Provider Survey-PAS data analysis file. The number of programs included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with moving from the reference category to the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables of the curricula used by providers. This set of explanatory characteristics is mutually exclusive: each provider only reported one curriculum. Comparisons made are to any curricula besides the five curricula included separately in the model; other curricula is the omitted reference category from the regression model.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **Primary** models, in addition to the above, include other explanatory variables from the NWS Provider Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **narrowest** models use a larger and a smaller sample, respectively, based on the NWS Provider Survey-PAS data matching process.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.12. Regression coefficients for associations between outcomes and curricula (facilitators)

Youth outcomes	Model specification						
	Preliminary n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
Choosing the Best (versus other curricula)							
Life skills	0.24	2.22	3.68†	-4.31§	0.16	1.56	1.23
Delay sex	0.53	4.96†	10.65*	-17.76#	-0.29	4.68†	3.61†
Success sequence	-0.04	2.99	5.93†	-8.30#	-0.18	3.15†	1.53
Healthy relationships	1.08	3.95†	6.59*	-10.19#	1.70	3.78†	3.45†
Risk behaviors	-2.51	0.50	3.12†	-6.05#	-5.58§	1.19	0.33
Coercion and violence	-0.62	1.92	4.92†	-12.21#	-0.13	0.09	-0.35
SRAE satisfaction	-0.80	1.70	3.15†	-4.79§	-0.19	1.36	-0.67
Love Notes SRA (versus other curricula)							
Life skills	0.45	1.60	4.10†	-2.77	-1.65	0.84	1.03
Delay sex	-0.21	1.18	2.55	-8.58#	-3.47§	0.88	-0.79
Success sequence	0.82	2.32	7.98*	0.03	1.21	1.94	1.21
Healthy relationships	0.15	1.24	-0.46	-5.16§	-3.18§	1.66	1.33
Risk behaviors	4.12†	5.82†	17.22*	-2.09	0.22	4.32†	5.06†
Coercion and violence	-0.13	1.45	1.22	-4.27§	-2.64	0.51	0.68
SRAE satisfaction	-0.53	0.47	6.50*	-0.64	-1.97	0.36	-1.44
Making a Difference (versus other curricula)							
Life skills	5.41†	5.46†	7.49*	n.a.	1.18	2.02	2.00
Delay sex	7.71*	6.76*	7.94*	n.a.	3.33†	4.04†	3.15†
Success sequence	6.25*	6.34*	8.35*	n.a.	3.78†	3.02†	2.34
Healthy relationships	1.02	0.14	0.40	n.a.	-3.35§	0.79	0.51
Risk behaviors	6.93*	4.97†	10.07*	n.a.	-0.90	4.86†	3.89†
Coercion and violence	4.66†	3.52†	6.34*	n.a.	-0.01	-0.09	-0.05
SRAE satisfaction	4.67†	3.72†	5.28†	n.a.	3.04†	2.08	0.85
REAL Essentials (versus other curricula)							
Life skills	-1.18	-0.83	3.93†	-10.34#	-4.33§	-1.10	-1.64
Delay sex	-0.38	0.27	11.21*	-25.05#	-6.67#	-0.05	-1.53
Success sequence	0.66	1.05	6.62*	-10.71#	-0.72	-0.05	-1.09
Healthy relationships	0.27	1.14	7.03*	-15.35#	-4.12§	-0.11	0.22
Risk behaviors	5.76†	5.67†	14.45*	-3.76§	0.10	3.32†	3.94†
Coercion and violence	-0.79	-0.42	3.74†	-15.45#	-5.50§	-3.18§	-2.46
SRAE satisfaction	-0.52	1.20	4.23†	-5.53§	0.20	0.45	-2.28

Which Sexual Risk Avoidance Education Implementation Features and Provider Characteristics are Associated with Youth Outcomes?

Youth outcomes	Model specification						
	Preliminary n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
Teen Outreach Program (versus other curricula)							
Life skills	-2.17	-1.91	n.a.	-7.36#	-4.00§	-3.10§	-2.35
Delay sex	-1.55	-1.23	n.a.	-13.64#	2.03	0.42	-1.94
Success sequence	-5.79§	-6.51#	n.a.	-12.79#	-1.50	-6.02#	-7.73#
Healthy relationships	-4.62§	-4.47§	n.a.	-15.19#	-2.71	-4.53§	-4.27§
Risk behaviors	0.36	-1.16	n.a.	-9.08#	-2.58	-0.25	-1.38
Coercion and violence	-0.09	-0.68	n.a.	-10.10#	-2.03	-1.66	-1.83
SRAE satisfaction	-2.27	-0.22	n.a.	-5.52§	-4.45§	-0.68	-3.80§

Source: NWS Facilitator Survey-PAS data analysis file. The number of facilitators included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with moving from the reference category to the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables of the curricula used by facilitators. This set of explanatory characteristics is mutually exclusive: each facilitator only reported one curriculum. Comparisons made are to any curricula besides the five curricula included separately in the model; other curricula is the omitted reference category from the regression model.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **Primary** models, in addition to the above, include other explanatory variables from the NWS Facilitator Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **in-between** models use larger samples based on the NWS Facilitator Survey-PAS data matching process.

See Chapter II and Appendix A for more details on methods.

n.a. = not applicable, NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.13. Regression coefficients for associations between outcomes and facilitators' position type

Youth outcomes	Model specification							
	Preliminary n = 235	All facilitation n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
School position (versus outside facilitator)								
Life skills	0.45	0.99	0.12	-7.94#	-2.62	0.90	-0.65	-0.76
Delay sex	1.11	1.23	-0.60	-25.74#	4.77†	-0.92	-1.02	-0.19
Success sequence	-4.17§	-5.31§	-6.29#	-20.42#	-6.69#	-0.90	-1.62	-1.93
Healthy relationships	-1.42	-0.44	-2.08	-15.34#	-2.52	0.76	-1.62	-2.17
Risk behaviors	-0.77	-1.94	-2.45	-16.06#	-5.94§	2.69	-0.88	-1.53
Coercion and violence	0.48	0.78	-1.09	-13.33#	-1.77	1.28	-0.04	-0.04
SRAE satisfaction	-0.80	0.07	-0.77	7.04*	-6.13#	3.34†	-1.25	-1.23

Source: NWS Facilitator Survey-PAS data analysis file. The number of facilitators included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with moving from the reference category to the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables on position type. This set of explanatory characteristics is mutually exclusive: each facilitator only has one position type. Comparisons made are between school positions and outside facilitators; the latter is the omitted reference category from the regression model.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **All facilitation** models, in addition to the above, include the other facilitation characteristics. **Primary** models then add the explanatory variables from the NWS Facilitator Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **in-between** models use larger samples based on the NWS Facilitator Survey-PAS data matching process.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study RQ = research question, SRAE = sexual risk avoidance education.

Table C.14. Regression coefficients for associations between outcomes and facilitators' tenure at current position

Youth outcomes	Model specification							
	Preliminary n = 235	All facilitation n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
1 to 3 years (versus less than 1 year)								
Life skills	-0.54	0.13	-0.50	-3.85§	-1.60	-1.88	-0.64	-0.25
Delay sex	-1.09	0.81	-1.08	19.28*	-0.04	-2.74	-1.95	-1.09
Success sequence	-0.52	1.74	0.05	21.57*	-0.36	-0.66	-0.77	-0.15
Healthy relationships	-0.49	-0.01	-0.80	-3.87§	-2.09	-2.00	-1.86	-1.02
Risk behaviors	2.05	1.78	-0.76	-12.79#	-2.44	-2.74	-3.63§	-2.63
Coercion and violence	-0.81	0.15	-2.14	10.70*	-0.69	-2.73	-1.55	-1.13
SRAE satisfaction	-0.71	-1.86	-2.64	10.74*	-0.14	-3.18§	-1.82	-1.60
4 to 7 years (versus less than 1 year)								
Life skills	-0.64	-0.47	-1.35	-0.56	-3.51§	-1.98	-1.87	-1.04
Delay sex	-0.06	1.46	0.19	-1.34	-0.88	-0.18	-1.14	-0.07
Success sequence	-1.24	0.47	-1.57	-2.05	-5.13§	-1.36	-1.85	-0.71
Healthy relationships	-0.65	-0.16	-0.41	-0.54	-2.66	-0.45	-2.32	-1.36
Risk behaviors	1.83	2.53	-0.70	0.22	-8.11#	-3.08§	-2.46	-1.92
Coercion and violence	-0.40	0.27	-1.72	-2.24	-1.19	-2.51	-1.75	-1.25
SRAE satisfaction	-1.55	-2.53	-3.70§	-5.14§	-2.60	-5.73§	-3.86§	-2.16
8 years or more (versus less than 1 year)								
Life skills	1.35	1.15	-0.83	-2.57	-1.67	-0.91	-1.80	-0.75
Delay sex	0.64	1.30	-2.13	-3.43§	2.97	-1.00	-1.91	-1.14
Success sequence	0.90	1.86	-0.95	-3.37§	-3.21§	0.13	-0.77	0.33
Healthy relationships	1.85	1.62	-0.17	-2.61	1.78	0.96	-2.19	-1.24
Risk behaviors	1.73	1.50	-1.43	-2.33	-5.38§	-1.72	-3.19§	-2.64
Coercion and violence	1.65	1.21	-2.44	-2.82	0.86	-2.32	-1.69	-0.87
SRAE satisfaction	0.88	-0.66	-1.34	-6.01#	3.83†	-1.96	-1.97	-0.04

Source: NWS Facilitator Survey-PAS data analysis file. The number of facilitators included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with moving from the reference category to the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables on tenure at current position. This set of explanatory characteristics is mutually exclusive: each facilitator only has one length of tenure. Comparisons made are to a tenure of less than 1 year, the omitted reference category from the regression model.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **All facilitation** models, in addition to the above, include the other facilitation characteristics. **Primary** models then add the explanatory variables from the NWS Facilitator Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **in-between** models use larger samples based on the NWS Facilitator Survey-PAS data matching process.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.15. Regression coefficients for associations between outcomes and facilitators' fields of previous experience

Youth outcomes	Model specification							
	Preliminary n = 235	All facilitation n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
Previous experience in health-related field (versus no previous health-related experience)								
Life skills	-2.11	-1.54	-1.46	0.24	-2.20	-1.02	-0.24	-1.15
Delay sex	-3.20§	-3.04§	-2.83	0.24	-5.83§	-1.46	0.34	-1.68
Success sequence	-2.62	-2.40	-2.72	0.30	-5.51§	-1.68	-0.59	-1.65
Healthy relationships	-1.98	-1.44	-1.09	0.38	-0.47	-0.59	0.52	-0.88
Risk behaviors	-2.26	-2.32	-2.90	1.30	-8.95#	-1.72	-1.29	-1.70
Coercion and violence	-2.35	-1.77	-1.30	-1.67	0.17	-0.89	-0.01	-0.99
SRAE satisfaction	-0.51	0.22	0.56	1.53	-0.37	0.55	1.74	1.06
Previous experience in education-related field (versus no previous education-related experience)								
Life skills	-1.65	-1.46	-0.86	-0.10	-1.81	-0.58	-0.46	-0.67
Delay sex	-2.46	-2.97	-1.30	0.31	-1.95	0.28	0.11	-0.95
Success sequence	-1.53	-1.61	-0.36	0.94	-1.06	0.35	-0.31	-0.25
Healthy relationships	-3.88§	-3.70§	-2.63	-1.93	-2.33	-1.23	-1.00	-2.17
Risk behaviors	-0.67	-1.02	0.05	0.64	-2.34	-0.15	0.99	0.32
Coercion and violence	-2.59	-2.32	-1.20	-0.97	-0.36	-0.89	-0.30	-0.91
SRAE satisfaction	-3.57§	-3.45§	-2.18	-4.01§	-0.43	-1.38	-0.70	-1.69
Previous experience in field related to serving vulnerable youth (versus no previous relevant experience)								
Life skills	-0.30	-0.14	0.19	3.04†	1.35	-0.19	0.26	-0.20
Delay sex	-0.34	-0.23	0.24	3.62†	1.17	-1.32	-0.54	-0.82
Success sequence	-0.40	-0.24	0.31	2.14	0.61	-0.79	-0.39	-0.58
Healthy relationships	0.07	0.31	0.20	3.19†	2.49	-0.74	0.00	-0.10
Risk behaviors	1.09	1.57	2.00	7.62*	1.21	1.11	0.93	1.15
Coercion and violence	0.57	0.94	1.72	2.68	2.51	0.07	0.60	0.74
SRAE satisfaction	0.65	1.21	1.64	5.16†	0.97	0.73	1.23	0.40

Youth outcomes	Model specification							
	Preliminary n = 235	All facilitation n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
More than one field of previous experience (versus zero fields or one field of previous experience)								
Life skills	1.42	1.43	1.85	-0.44	1.29	0.48	1.03	1.71
Delay sex	1.22	1.66	1.75	-1.43	0.32	0.67	-0.15	1.35
Success sequence	1.44	1.85	1.95	-0.98	2.33	0.36	1.17	1.72
Healthy relationships	2.09	1.84	2.08	0.29	0.92	0.46	0.78	1.54
Risk behaviors	2.14	2.97	2.27	-3.02§	2.31	0.04	1.58	0.85
Coercion and violence	1.84	1.75	1.43	-0.51	0.26	0.70	1.02	1.40
SRAE satisfaction	0.70	0.38	-0.08	-2.63	0.13	-0.70	0.49	0.89

Source: NWS Facilitator Survey-PAS data analysis file. The number of facilitators included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with moving from no to yes for the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables on fields of previous experience. A facilitator could have reported zero, one, or more than one fields, so these explanatory variables are not mutually exclusive. Comparisons made are between whether the facilitator meets the definition of the relevant variable or does not.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **All facilitation** models, in addition to the above, include the other facilitation characteristics. **Primary** models then add the explanatory variables from the NWS Facilitator Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **in-between** models use larger samples based on the NWS Facilitator Survey-PAS data matching process.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.16. Regression coefficients for associations between outcomes and facilitators' highest educational degree and certification

Youth outcomes	Model specification							
	Preliminary n = 235	All facilitation n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
Bachelor's degree (versus associate's degree or less)								
Life skills	-1.34	-0.91	-0.30	-0.68	-0.44	-0.62	-1.27	-0.80
Delay sex	-0.60	0.94	2.29	0.46	0.12	0.38	-0.55	0.69
Success sequence	-1.45	-0.18	0.58	-0.10	1.12	-0.56	-0.81	-0.31
Healthy relationships	-2.27	-1.47	-0.36	-0.99	-0.84	-0.30	-2.06	-1.23
Risk behaviors	-0.22	0.08	1.53	1.27	4.19†	-0.24	-1.26	-0.15
Coercion and violence	-2.46	-1.65	-0.97	-0.11	-2.79	-1.21	-1.86	-1.30
SRAE satisfaction	-1.53	-0.55	-0.43	-0.56	-0.53	-1.88	-0.63	-1.05
Master's degree or higher (versus associate's degree or less)								
Life skills	-2.74	-1.79	-1.55	0.79	-2.25	-1.30	-2.25	-1.45
Delay sex	-1.64	1.14	0.76	1.13	0.81	0.18	-2.37	-0.39
Success sequence	-1.00	1.43	0.98	2.01	2.34	-0.61	-0.89	0.24
Healthy relationships	-4.27§	-2.91	-2.60	1.61	-5.63§	-1.26	-3.81§	-2.43
Risk behaviors	0.10	1.60	1.33	4.98†	3.89†	-1.45	-2.92	-0.21
Coercion and violence	-3.57§	-2.11	-2.54	0.74	-7.24#	-2.14	-3.53§	-2.23
SRAE satisfaction	-2.44	-1.16	-2.12	-1.32	-2.32	-3.28§	-2.04	-2.46
Has relevant professional license, certification, or credential (versus not having one of these)								
Life skills	0.68	1.03	1.67	1.88	1.24	0.87	1.19	1.59
Delay sex	0.72	1.58	1.94	4.65†	-2.08	0.82	1.09	1.59
Success sequence	1.36	2.00	2.40	3.69†	-0.15	1.54	1.57	1.77
Healthy relationships	2.14	2.48	2.63	2.97	3.18†	1.50	1.89	2.34
Risk behaviors	0.96	2.44	3.34†	3.47†	0.50	1.81	3.33†	3.32†
Coercion and violence	1.51	2.12	2.72	4.20†	1.91	1.36	2.03	2.26
SRAE satisfaction	0.76	1.51	1.89	3.23†	0.09	2.09	1.27	1.41

Source: NWS Facilitator Survey-PAS data analysis file. The number of facilitators included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with moving from the reference category to the explanatory variable (highest education) or moving from no to yes for the explanatory variable (certification), when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables with highest educational degree and certification. The highest education set of explanatory characteristics is mutually exclusive: each facilitator only has one highest degree. Comparisons made for highest education are to having an associate degree or less, the omitted reference category from the regression model. The certification characteristic was reported separately from highest education, so it is independent. Comparisons for certification are between whether the facilitator has the certification or does not.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **All facilitation** models, in addition to the above, include the other facilitation characteristics. **Primary** models then add the explanatory variables from the NWS Facilitator Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **in-between** models use larger samples based on the NWS Facilitator Survey-PAS data matching process.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.17. Regression coefficients for associations between outcomes and facilitators' experience teaching SRAE

Youth outcomes	Model specification							
	Preliminary n = 235	All facilitation n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
Less than 1 year (versus none)								
Life skills	-3.79§	-4.36§	-3.34§	-2.50	-4.45§	-3.96§	-2.18	-3.42§
Delay sex	-1.97	-4.13§	-2.33	-0.57	-5.96§	-5.27§	-1.20	-2.52
Success sequence	-3.44§	-5.98§	-5.14§	-7.56#	-3.14§	-4.44§	-1.91	-4.24§
Healthy relationships	-1.97	-2.03	-0.58	1.06	-2.79	-4.04§	0.11	-0.36
Risk behaviors	-7.27#	-9.69#	-8.81#	-7.43#	-11.17#	-5.53§	-6.79#	-7.64#
Coercion and violence	-4.53§	-5.47§	-5.20§	-5.96§	-3.88§	-5.05§	-2.30	-4.81§
SRAE satisfaction	-2.84	-3.85§	-3.78§	0.61	-0.69	-2.53	-1.32	-2.87
1 to 2 years (versus none)								
Life skills	-4.31§	-5.02§	-3.30§	-0.96	-3.58§	-3.12§	-2.78	-3.60§
Delay sex	-3.42§	-5.30§	-1.13	2.69	-4.01§	-3.57§	-0.45	-1.58
Success sequence	-4.04§	-6.74#	-4.22§	-3.16§	-4.02§	-3.67§	-2.85	-4.14§
Healthy relationships	-2.39	-2.73	-0.43	2.21	-2.07	-3.13§	-0.47	-0.72
Risk behaviors	-5.17§	-7.90#	-4.78§	1.49	-8.72#	-3.49§	-3.80§	-4.19§
Coercion and violence	-5.24§	-6.01#	-3.39§	-3.01§	-4.56§	-3.66§	-2.49	-4.18§
SRAE satisfaction	-2.08	-1.37	-0.46	4.12†	-1.04	0.28	-0.26	-0.84
3 years or more (versus none)								
Life skills	-3.21§	-4.22§	-2.37	-0.79	-0.66	-2.56	-1.02	-2.82
Delay sex	-2.43	-4.86§	-0.81	2.83	-3.29§	-3.47§	0.15	-1.26
Success sequence	-3.93§	-6.04#	-2.87	-4.17§	2.42	-2.51	-0.70	-2.96
Healthy relationships	-1.67	-3.17§	-0.90	2.75	-1.64	-3.90§	0.14	-0.71
Risk behaviors	-5.54§	-8.03#	-3.64§	1.65	-2.48	-2.30	-2.17	-3.17§
Coercion and violence	-3.93§	-5.60§	-3.04§	-3.30§	-3.43§	-2.95	-1.62	-3.91§
SRAE satisfaction	-1.94	-1.45	-0.16	3.87†	1.30	2.34	1.40	-0.84

Source: NWS Facilitator Survey-PAS data analysis file. The number of facilitators included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with moving from the reference category to the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables on experience teaching SRAE. This set of explanatory characteristics is mutually exclusive: each facilitator only has one amount of experience. Comparisons made are to a having no experience, the omitted reference category from the regression model.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **All facilitation** models, in addition to the above, include the other facilitation characteristics. **Primary** models then add the explanatory variables from the NWS Facilitator Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **in-between** models use larger samples based on the NWS Facilitator Survey-PAS data matching process.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.18. Regression coefficients for associations between outcomes and strategies used by facilitators to engage youth in curricula

Youth outcomes	Model specification							
	Preliminary n = 235	All facilitation n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
Number of strategies used to engage youth (increase of one)								
Life skills	0.02	0.09	0.08	-0.05	0.15	0.42†	0.06	0.16
Delay sex	0.28	0.35†	0.41†	0.29	0.51†	0.67*	0.27	0.41†
Success sequence	-0.07	-0.05	0.11	0.25	-0.12	0.31†	0.07	0.12
Healthy relationships	0.27	0.38†	0.44†	0.23	0.60*	0.75*	0.13	0.30†
Risk behaviors	-0.27	-0.05	0.18	-0.09	0.57†	0.47†	0.01	0.32†
Coercion and violence	0.11	0.17	0.32†	0.43†	0.32†	0.57†	0.18	0.32†
SRAE satisfaction	0.20	0.30†	0.44†	0.62*	0.26	0.72*	0.31†	0.42†

Source: NWS Facilitator Survey-PAS data analysis file. The number of facilitators included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with a one-unit increase in the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 0.3 and 0.6); dark green and indicated with an * if they are large/positive (more than 0.6); light orange and indicated with a § if they are moderate/negative (between -0.3 and -0.6); or dark orange and indicated with a # if they are large/negative (less than -0.6).

Panels contain coefficients for individual explanatory variables on strategies used to engage youth in curricula. The variable is a count of strategies reported; facilitators were asked about 15 strategies, so the variable has a theoretical range of 0 to 15. Comparisons made involve different numbers of strategies used.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **All facilitation** models, in addition to the above, include the other facilitation characteristics. **Primary** models then add the explanatory variables from the NWS Facilitator Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **in-between** models use larger samples based on the NWS Facilitator Survey-PAS data matching process.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.19. Regression coefficients for associations between outcomes and connections with community

Youth outcomes	Model specification							
	Preliminary n = 235	All facilitation n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
Number of up to three types of work-related connections (increase of one)								
Life skills	0.41	0.49	0.34	-0.20	-0.54	0.14	-0.15	-0.21
Delay sex	1.10†	1.78†	1.72†	0.48	0.08	1.01†	1.27†	1.21†
Success sequence	0.56	1.23†	1.27†	1.16†	-0.29	0.94	0.65	0.73
Healthy relationships	0.60	0.49	0.20	-0.53	-0.88	-0.25	0.06	-0.13
Risk behaviors	0.15	0.56	0.54	-0.91	2.23*	0.04	0.04	-0.35
Coercion and violence	0.55	0.64	0.64	0.81	-0.73	0.21	0.33	0.27
SRAE satisfaction	-0.01	0.35	0.40	0.16	-1.26§	-0.15	-0.27	-0.02
Number of up to three types of personal connections (increase of one)								
Life skills	-0.01	-0.08	0.22	0.71	0.55	-0.20	0.23	0.10
Delay sex	0.05	-0.29	0.12	0.84	0.41	-0.23	-0.05	-0.23
Success sequence	0.26	0.25	0.51	1.01†	1.23†	0.00	0.30	0.19
Healthy relationships	0.05	-0.22	0.20	0.28	1.06†	-0.27	0.30	0.00
Risk behaviors	0.43	0.38	0.65	0.73	0.71	0.25	0.96	0.58
Coercion and violence	-0.20	-0.30	-0.07	0.36	0.20	-0.36	0.19	-0.09
SRAE satisfaction	-0.12	-0.37	-0.27	0.36	0.09	-0.28	-0.34	-0.58
Same race or ethnicity as most members of community (versus not the same race or ethnicity)								
Life skills	0.72	0.48	-0.14	0.18	-0.64	-0.52	-0.06	0.13
Delay sex	1.60	1.52	0.31	1.47	-1.37	-1.58	0.24	0.45
Success sequence	0.71	0.76	-0.22	1.16	-2.83	-0.37	-0.09	0.08
Healthy relationships	0.08	0.14	-0.42	-0.43	-1.41	-0.49	-0.02	-0.52
Risk behaviors	1.46	1.24	-0.03	4.47†	-3.66§	-0.77	0.67	0.38
Coercion and violence	1.20	1.13	0.33	1.28	-1.87	-0.33	0.34	0.52
SRAE satisfaction	0.34	0.69	0.31	-1.76	-0.83	-0.18	-0.09	0.79

Source: NWS Facilitator Survey-PAS data analysis file. The number of facilitators included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with a one-unit increase in the explanatory variable (counts of work-related or personal connections) or moving from no to yes for the explanatory variable (same race/ethnicity), when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 1 and 2 for number of types of work-related and personal connections; and between 3 and 6 for same race or ethnicity); dark green and indicated with an * if they are large/positive (more than 2 for number of types of work-related and personal connections; and more than 6 for same race or ethnicity); light orange and indicated with a § if they are moderate/negative (between -1 and -2 for number of types of work-related and personal connections; and between -3 and -6 for same race or ethnicity); or dark orange and indicated with a # if they are large/negative (less than -2 for number of types of work-related and personal connections; and less than -6 for same race or ethnicity).

Panels contain coefficients for individual explanatory variables on up to three types of work-related and up to three types of personal connections between facilitators and the community where their program delivers services. The first two variables are counts of connections reported; facilitators were asked about 3 of each type of connection and could report no, one, or more than connection, so each variable has a theoretical range of 0 to 3 and is independent. Comparisons made involve different numbers of connections. The third variable is a yes/no indicator based on another connection, whether the facilitator is the same race or ethnicity as most members of the community, and which is independent from the other items. Comparisons made involve whether the facilitator is the same race or ethnicity or not.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **All facilitation** models, in addition to the above, include the other facilitation characteristics. **Primary** models then add the explanatory variables from the NWS Facilitator Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **in-between** models use larger samples based on the NWS Facilitator Survey-PAS data matching process.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.20. Regression coefficients for associations between outcomes and topics that facilitator received training on

Youth outcomes	Model specification							
	Preliminary n = 235	All facilitation n = 235	Primary n = 235	Middle only n = 123	High only n = 98	Weighted n = 235	Broadest n = 402	In between n = 341
SRA topics (versus no training on these topics)								
Life skills	-0.09	0.32	0.44	3.44†	-1.67	-0.05	0.41	0.33
Delay sex	0.01	0.04	0.75	4.46†	0.96	-0.05	-0.22	-0.02
Success sequence	0.59	0.76	1.46	3.10†	0.46	0.61	0.95	0.70
Healthy relationships	0.26	0.24	-0.02	4.80†	-3.72§	-0.87	-0.98	-0.56
Risk behaviors	-0.71	0.95	1.36	4.29†	-2.47	0.10	-0.75	-0.21
Coercion and violence	-0.51	-0.15	0.30	1.62	-2.92	-0.06	-0.94	-0.08
SRAE satisfaction	-0.30	-0.22	0.57	1.83	0.46	-1.80	0.81	0.51
Consent/coercion-related topics (versus no training on these topics)								
Life skills	-0.30	-0.15	-0.38	0.46	-2.46	0.53	0.57	0.35
Delay sex	-1.14	-0.94	-0.07	1.84	-7.68#	0.83	1.53	0.46
Success sequence	-0.98	-1.29	-0.85	-0.17	-4.06§	0.73	0.04	-0.14
Healthy relationships	-1.00	-0.48	-0.62	1.33	-2.80	0.23	-0.18	-0.71
Risk behaviors	-1.80	-2.68	-1.37	0.98	-4.90§	2.30	-0.72	-0.65
Coercion and violence	-1.27	-0.96	-0.50	-0.35	-3.80§	0.50	-0.10	-0.69
SRAE satisfaction	2.23	3.35†	4.17†	5.48†	-0.92	3.63†	1.65	2.47
Number of training topics received (increase of one)								
Life skills	-0.07	-0.15	-0.06	-0.36§	0.29	-0.09	-0.13	-0.07
Delay sex	-0.19	-0.45§	-0.54§	-1.07#	0.24	-0.33§	-0.44§	-0.38§
Success sequence	-0.19	-0.36§	-0.36§	-0.72#	-0.13	-0.26	-0.37§	-0.34§
Healthy relationships	0.07	-0.05	0.03	-0.65#	0.53†	0.08	0.13	0.20
Risk behaviors	-0.17	-0.38§	-0.40§	-0.70#	-0.36§	-0.27	-0.09	-0.08
Coercion and violence	0.13	-0.03	-0.01	-0.50§	0.61*	-0.06	-0.02	0.04
SRAE satisfaction	-0.33§	-0.53§	-0.64#	-0.81#	-0.14	-0.24	-0.36§	-0.43§

Source: NWS Facilitator Survey-PAS data analysis file. The number of facilitators included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between implementation features and youth outcomes. Coefficients show the change in outcome associated with moving from no to yes for the explanatory variable (SRA topics and consent/coercion-related topics) or a one-unit increase in the explanatory variable (counts of training topics), when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6 for SRA topics and consent/coercion-related topics; and between 0.3 and 0.6 for number of training topics); dark green and indicated with an * if they are large/positive (more than 6 for SRA topics and consent/coercion-related topics; and more than 0.6 for number of training topics); light orange and indicated with a § if they are moderate/negative (between -3 and -6 for SRA topics and consent/coercion-related topics; and between -0.3 and -0.6 for number of training topics); or dark orange and indicated with a # if they are large/negative (less than -6 for SRA topics and consent/coercion-related topics; and less than -0.6 for number of training topics).

Panels contain coefficients for individual explanatory variables on topics that facilitators received training on. The first two variables are yes/no indicators based on whether the facilitator received training on a topic in SRA topics or consent/coercion-related topics; facilitators could report no, one, or more than topic, so these variables are independent. Comparisons made involve whether the facilitator received training on the topic or not. The third variable is a count of training topics received; facilitators were asked about 14 topics, so the variable has a theoretical range of 0 to 14. Comparisons made involve different numbers of training topics received.

Rows contain coefficients for the seven outcomes for RQ1. Each is on a scale from 0 to 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ1. **All facilitation** models, in addition to the above, include the other facilitation characteristics. **Primary** models then add the explanatory variables from the NWS Facilitator Survey on program setting and program content; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; and **broadest** and **in-between** models use larger samples based on the NWS Facilitator Survey-PAS data matching process.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

C. Results from regression models used to address Research Question 2

Table C.21. Regression coefficients for associations between outcomes and SRAE grant type

Youth outcomes	Model specification							
	Preliminary n = 183	Primary n = 183	Middle only n = 94	High only n = 61	Weighted n = 183	Broadest n = 214	Narrowest n = 124	All PAS n = 288
General Departmental grant (versus Title V State SRAE subrecipient grant)								
Life skills	-1.71	-1.59	-2.44	-2.15	-3.05§	-1.62	-3.04§	-0.82
Delay sex	-3.98§	-3.62§	-3.33§	-3.61§	-2.56	-2.52	-3.24§	-2.34
Success sequence	-3.01§	-3.97§	-0.93	-4.59§	-5.72§	-3.30§	-4.58§	-0.01
Healthy relationships	-2.26	-2.03	-2.04	-0.66	-3.38§	-2.22	-2.08	-1.61
Risk behaviors	-3.22§	-4.26§	-3.71§	-0.30	-1.93	-4.77§	-3.95§	-0.32
Coercion and violence	-2.22	-3.00§	0.38	-5.96§	-2.85	-2.61	-3.05§	-2.14
SRAE satisfaction	-2.66	-2.82	0.36	-8.07#	-1.57	-1.91	-3.90§	-2.40
Program attendance	-4.42	-2.24	-6.69#	-5.29§	-4.79§	-3.38§	0.91	-1.06
Title V Competitive grant (versus Title V State subrecipient grant)								
Life skills	2.83	0.56	-10.11#	-0.06	0.50	-1.92	2.87	-3.00§
Delay sex	5.86†	2.18	-4.24§	3.30†	1.48	3.70†	3.44†	2.01
Success sequence	4.77†	1.09	-4.47§	-1.10	1.00	-0.69	3.48†	1.22
Healthy relationships	0.19	-2.15	-17.75#	0.19	-1.77	-2.07	-1.57	-4.65§
Risk behaviors	-0.45	-3.42§	-5.77§	-5.78§	0.47	-4.67§	2.34	-4.95§
Coercion and violence	0.56	-2.73	-10.15#	-9.80#	-4.63§	-1.30	-0.11	-5.36§
SRAE satisfaction	6.15*	3.29†	-13.27#	-1.36	6.34*	-1.91	5.09†	-2.98
Program attendance	-7.50#	-5.60§	-14.19#	1.84	-4.79§	-1.08	0.53	3.64†

Source: PAS data analysis file. The number of programs included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between provider characteristics and youth outcomes. Coefficients show the change in outcome associated with moving from the reference category to the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables by SRAE grant type. This set of explanatory characteristics is mutually exclusive: each provider only has one grant type. Comparisons made are to Title V State subrecipient grants, the omitted reference category from the regression model.

Rows contain coefficients for the eight outcomes for RQ2. Each is on a scale from 0 to 100; the first seven are indices based on youth exit survey responses, and the program attendance outcome is a percentage out of 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ2. **Primary** models, in addition to the above, include other explanatory variables from the PAS data on provider characteristics; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; **broadest** and **narrowest** models use a larger and a smaller sample, respectively, based on the NWS Provider Survey-PAS data matching process; and **all PAS** models include all valid PAS data instead of restricting the sample to programs that matched to the NWS Provider Survey.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.22. Regression coefficients for associations between outcomes and providers' experience delivering SRAE

Youth outcomes	Model specification							
	Preliminary n = 183	Primary n = 183	Middle only n = 94	High only n = 61	Weighted n = 183	Broadest n = 214	Narrowest n = 124	All PAS n = 288
New to delivering SRAE programming during most recent reporting period (versus not new)								
Life skills	3.07†	3.59†	5.79†	-0.04	3.29†	2.05	4.16†	1.04
Delay sex	3.36†	3.88†	4.60†	4.82†	1.46	2.57	5.36†	2.76
Success sequence	5.72†	6.42*	7.24*	4.54†	4.62†	4.57†	6.96*	1.66
Healthy relationships	3.82†	4.89†	7.76*	0.92	3.38†	2.68	6.27*	2.55
Risk behaviors	4.68†	6.27*	6.19*	1.22	3.18†	3.82†	6.17*	1.52
Coercion and violence	4.85†	5.94†	6.67*	3.07†	4.47†	3.98†	5.82†	3.38†
SRAE satisfaction	5.23†	5.88†	10.36*	1.12	4.77†	4.71†	6.46*	1.41
Program attendance	-5.47§	-5.09§	-1.55	-18.28#	-6.28#	-8.82#	-3.00§	-8.85#

Source: PAS data analysis file. The number of programs included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between provider characteristics and youth outcomes. Coefficients show the change in outcome associated with moving from the reference category to the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables on the provider's experience delivering SRAE. This set of explanatory characteristics is mutually exclusive: each provider only has one level of experience. Comparisons made are between providers new to delivering to SRAE programming during the most recent report period and providers that are not new; the latter is the omitted reference category from the regression model.

Rows contain coefficients for the eight outcomes for RQ2. Each is on a scale from 0 to 100; the first seven are indices based on youth exit survey responses, and the program attendance outcome is a percentage out of 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ2. **Primary** models, in addition to the above, include other explanatory variables from the PAS data on provider characteristics; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; **broadest** and **narrowest** models use a larger and a smaller sample, respectively, based on the NWS Provider Survey-PAS data matching process; and **all PAS** models include all valid PAS data instead of restricting the sample to programs that matched to the NWS Provider Survey.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.23. Regression coefficients for associations between outcomes and percentage of SRAE facilitators trained in delivering core curriculum

Youth outcomes	Model specification							
	Preliminary n = 183	Primary n = 183	Middle only n = 94	High only n = 61	Weighted n = 183	Broadest n = 214	Narrowest n = 124	All PAS n = 288
Trained all facilitators in delivering the provider's core curriculum (versus training only some or no facilitators)								
Life skills	1.72	2.79	4.56†	-1.28	2.54	0.57	2.83	0.04
Delay sex	-0.52	0.95	2.28	5.06†	1.54	0.13	1.07	-0.14
Success sequence	0.59	2.34	3.05†	-2.69	1.10	0.24	2.12	0.44
Healthy relationships	2.40	3.86†	3.77†	5.35†	3.83†	2.21	3.77†	-0.17
Risk behaviors	3.78†	5.53†	3.60†	9.31*	-1.22	3.23†	5.76†	2.89
Coercion and violence	1.96	3.52†	3.85†	1.82	2.33	1.60	3.54†	1.26
SRAE satisfaction	2.97	4.97†	2.21	-10.04#	-3.61§	3.56†	4.68†	2.65
Program attendance	-6.49#	-6.76#	5.63†	-37.81#	5.32†	-3.58§	-7.97#	2.39

Source: PAS data analysis file. The number of programs included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between provider characteristics and youth outcomes. Coefficients show the change in outcome associated with moving from the reference category to the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 3 and 6); dark green and indicated with an * if they are large/positive (more than 6); light orange and indicated with a § if they are moderate/negative (between -3 and -6); or dark orange and indicated with a # if they are large/negative (less than -6).

Panels contain coefficients for individual explanatory variables with the percentage of SRAE facilitators trained in delivering the core curriculum. This set of explanatory characteristics is mutually exclusive: each provider only has one status involving training. Comparisons made are between providers that trained all facilitators and providers that did not; the latter is the omitted reference category from the regression model.

Rows contain coefficients for the eight outcomes for RQ2. Each is on a scale from 0 to 100; the first seven are indices based on youth exit survey responses, and the program attendance outcome is a percentage out of 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ2. **Primary** models, in addition to the above, include other explanatory variables from the PAS data on provider characteristics; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; **broadest** and **narrowest** models use a larger and a smaller sample, respectively, based on the NWS Provider Survey-PAS data matching process; and **all PAS** models include all valid PAS data instead of restricting the sample to programs that matched to the NWS Provider Survey.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

Table C.24. Regression coefficients for associations between outcomes and percentage of SRAE facilitators observed

Youth outcomes	Model specification							
	Preliminary n = 183	Primary n = 183	Middle only n = 94	High only n = 61	Weighted n = 183	Broadest n = 214	Narrowest n = 124	All PAS n = 288
Percentage of facilitators who were observed exactly once (one-point increase)								
Life skills	-0.01	0.00	-0.01	0.01	0.04†	-0.01	-0.02	-0.01
Delay sex	-0.01	0.00	-0.04§	0.05†	0.04†	0.01	-0.02	0.02
Success sequence	-0.01	0.00	-0.01	0.00	-0.01	-0.01	-0.02	0.01
Healthy relationships	0.00	0.01	-0.01	0.02	0.07*	0.01	0.00	0.01
Risk behaviors	0.01	0.02	0.03†	0.02	0.02	0.01	-0.01	0.01
Coercion and violence	0.01	0.01	-0.01	0.04†	0.05†	0.01	0.00	0.00
SRAE satisfaction	0.00	0.01	0.01	0.02	0.01	0.00	0.01	-0.01
Program attendance	0.00	-0.01	-0.04	-0.10#	0.09*	0.00	0.02	0.02
Percentage of facilitators who were observed at least twice (one-point increase)								
Life skills	-0.03§	-0.02	-0.01	0.01	0.01	-0.03§	-0.02	-0.03§
Delay sex	-0.05§	-0.03§	-0.03§	0.03†	-0.01	-0.02	-0.02	0.01
Success sequence	-0.03§	0.00	-0.01	0.03†	0.00	-0.01	-0.01	0.00
Healthy relationships	-0.04§	-0.02	-0.03§	0.01	0.02	-0.02	-0.01	0.00
Risk behaviors	-0.02	0.01	0.02	0.01	0.01	0.01	-0.01	-0.02
Coercion and violence	-0.02	0.00	0.00	0.03†	0.01	-0.01	0.00	-0.01
SRAE satisfaction	-0.03§	-0.02	-0.04§	0.04†	-0.01	-0.03§	0.00	-0.02
Program attendance	-0.04§	-0.03§	-0.08#	0.07*	-0.03§	-0.04§	-0.02	-0.02

Source: PAS data analysis file. The number of programs included in each model is denoted with "n =" at the top of each column.

Notes: The numbers in the cells show the regression coefficients from different specifications that predict associations between provider characteristics and youth outcomes. Coefficients show the change in outcome associated with a one-point increase in the explanatory variable, when controlling for the other variables in the model. Coefficients are color coded light green and indicated with a † if they are moderate/positive (between 0.03 and 0.06); dark green and indicated with an * if they are large/positive (more than 0.06); light orange and indicated with an § if they are moderate/negative (between -0.03 and -0.06); or dark orange and indicated with a # if they are large/negative (less than -0.06).

Panels contain coefficients for individual explanatory variables with the percentage of SRAE facilitators observed. Each variable is on a scale from 0 to 100, reflecting the percentage of facilitators observed. Some programs did not observe all of their facilitators, so these two variables could add to less than 100. Comparisons made involve different percentages of facilitators observed.

Rows contain coefficients for the eight outcomes for RQ2. Each is on a scale from 0 to 100; the first seven are indices based on youth exit survey responses, and the program attendance outcome is a percentage out of 100.

Columns contain coefficients for different regression models. **Preliminary** models only include the set of explanatory characteristics in this table and the background explanatory variables for RQ2. **Primary** models, in addition to the above, include other explanatory variables from the PAS data on provider characteristics; these are the focus of Chapter III. Remaining models, which the study team used for sensitivity testing, contain the same set of variables, but **middle only** and **high only** models include only those programs where the age range served is middle school-age only or high school-age only, respectively; **weighted** models weight results by number of youth exit surveys for the program; **broadest** and **narrowest** models use a larger and a smaller sample, respectively, based on the NWS Provider Survey-PAS data matching process; and **all PAS** models include all valid PAS data instead of restricting the sample to programs that matched to the NWS Provider Survey.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.

D. Results from hierarchical Bayesian regression models

Table C.25. Probability of positive associations between outcomes and implementation features (NWS Provider Survey, RQ1)

Explanatory variables	Youth outcomes						
	Life skills	Delay sex	Success sequence	Healthy relationships	Risk behaviors	Coercion and violence	SRAE satisfaction
Program setting							
Services delivered in a school setting, during school (versus non-school setting)	18#	28§	28§	19#	44§	23§	25§
Services delivered in a school setting, after school (versus non-school setting)	62†	55†	62†	78†	58†	74†	74†
Teen sex, teen pregnancy, or STIs/STDs is prevalent experience or issue (versus not an experience or issue)	37§	17#	22§	50	19#	43§	68†
Behavioral and emotional health is prevalent experience or issue (versus not an experience or issue)	56†	48§	57†	47§	62†	55†	59†
Substance use is prevalent experience or issue (versus not an experience or issue)	20#	26§	30§	20#	41§	22§	31§
Not finishing high school is prevalent experience or issue (versus not an experience or issue)	56†	40§	65†	37§	72†	68†	43§
Dating violence, sexual coercion, or unhealthy relationships is prevalent experience or issue (versus not an experience or issue)	22§	17#	19#	21§	21§	16#	19#
Provider served high school–age youth only (versus middle school–age youth only)	44§	18#	14#	63†	15#	41§	57†
Provider served both middle and high school–age youth (versus middle school–age youth only)	80†	72†	70†	76†	66†	73†	63†

Explanatory variables	Youth outcomes						
	Life skills	Delay sex	Success sequence	Healthy relationships	Risk behaviors	Coercion and violence	SRAE satisfaction
Program content							
Extent of coverage of life-building skills (topic A) (one-point difference)	63†	41§	57†	50	55†	49§	64†
Extent of coverage of the advantages of refraining from sexual activity (topics B and C) (one-point difference)	68†	82*	78†	81*	76†	87*	73†
Extent of coverage of forming healthy relationships (topic D) (one-point difference)	47§	62†	50	46§	56†	41§	46§
Extent of coverage of avoidance of risk behaviors (topic E) (one-point difference)	42§	70#	57†	28§	63†	49§	18#
Extent of coverage of prevention of relationship coercion (topic F) (one-point difference)	77†	87*	74†	85*	55†	87*	63†
Choosing the Best (versus other curricula)	57†	87*	45§	83*	40§	65†	39§
Love Notes SRA (versus other curricula)	56†	21§	56†	50	45§	46§	76†
Making a Difference (versus other curricula)	67†	65†	41§	58†	48§	44§	43§
REAL Essentials (versus other curricula)	24§	23§	52†	17#	73†	29§	36§
Teen Outreach Program (versus other curricula)	49§	44§	40§	45§	41§	56†	51†

Source: NWS Provider Survey-PAS data analysis file (n = 181 programs).

Notes: The numbers in the cells show the probability (in percentage points out of 100) that the implementation feature and the outcome have a positive association, after controlling for the other variables in the model. The probability of negative associations is 100 minus the probability of positive associations. Coefficients are colored dark green and indicated with an * if they are positive and greater than 80; light green and indicated with a † if they are positive and between 51 and 80; white if they are 50 (indicating equal probabilities of a positive or negative association, which is the equivalent of an estimated coefficient of zero); light orange and indicated with a § if they are negative and between 21 and 49; or dark orange and indicated with a # if they are negative and 20 or smaller.

Rows contain probabilities for each explanatory characteristic. Columns contain probabilities for the seven outcomes for RQ1. The model included all explanatory variables from the NWS Provider Survey (program setting and program content) and all background explanatory variables for RQ1, similar to the model used for the primary analysis.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education, STIs/STDs = sexually transmitted infections/sexually transmitted diseases.

Table C.26. Probability of positive associations between outcomes and implementation features (NWS Facilitator Survey, RQ1)

Explanatory variables	Youth outcomes						
	Life skills	Delay sex	Success sequence	Healthy relationships	Risk behaviors	Coercion and violence	SRAE satisfaction
Program setting							
Services delivered in a school setting, during school (versus non-school setting)	<1#	<1#	<1#	<1#	<1#	<1#	<1#
Services delivered in a school setting, after school (versus non-school setting)	82*	89*	90*	83*	**92***	87*	64†
Teen sex, teen pregnancy, or STIs/STDs is prevalent experience or issue (versus not an experience or issue)	34§	25§	29§	36§	29§	23§	47§
Behavioral and emotional health is prevalent experience or issue (versus not an experience or issue)	37§	61†	63†	40§	60†	41§	51†
Substance use is prevalent experience or issue (versus not an experience or issue)	32§	11#	12#	35§	16#	24§	**8#**
Not finishing high school is prevalent experience or issue (versus not an experience or issue)	28§	**9#**	**7#**	18#	20#	13#	15#
Dating violence, sexual coercion, or unhealthy relationships is prevalent experience or issue (versus not an experience or issue)	33§	60†	49§	44§	45§	26§	38§
Provider served high school–age youth only (versus middle school–age youth only)	23§	**7#**	26§	41§	49§	41§	38§
Provider served both middle and high school–age youth (versus middle school–age youth only)	70†	57†	52†	80†	38§	77†	89*
Program content							
Extent of coverage of life-building skills (topic A) (one-point difference)	83*	82*	52†	66†	69†	83*	59†
Extent of coverage of the advantages of refraining from sexual activity (topics B and C) (one-point difference)	68†	74†	75†	79†	48§	65†	58†
Extent of coverage of forming healthy relationships (topic D) (one-point difference)	80†	78†	68†	74†	33§	40§	55†

Explanatory variables	Youth outcomes						
	Life skills	Delay sex	Success sequence	Healthy relationships	Risk behaviors	Coercion and violence	SRAE satisfaction
Extent of coverage of avoidance of risk behaviors (topic E) (one-point difference)	70†	55†	79†	47§	54†	61†	57†
Extent of coverage of prevention of relationship coercion (topic F) (one-point difference)	38§	36§	47§	61†	18#	33§	53†
Choosing the Best (versus other curricula)	81*	80†	68†	64†	7#	39§	30§
Love Notes SRA (versus other curricula)	65†	37§	76†	65†	69†	49§	64†
Making a Difference (versus other curricula)	**98***	65†	77†	21§	50	34§	70†
REAL Essentials (versus other curricula)	**6#**	14#	36§	55†	**94***	36§	70†
Teen Outreach Program (versus other curricula)	31§	54†	15#	37§	61†	72†	50
Facilitation characteristics							
School position (versus outside facilitator)	56†	51†	30§	45§	47§	52†	48§
Tenure at current position 1 to 3 years (versus less than 1 year)	49§	40§	53†	40§	53†	34§	49§
Tenure at current position 4 to 7 years (versus less than 1 year)	42§	56†	31§	41§	57†	46§	38§
Tenure at current position 8 years or more (versus less than 1 year)	55†	47§	50	59†	53†	54†	53†
Previous experience in health-related field (versus no previous health-related experience)	23§	37§	22§	53†	34§	35§	47§
Previous experience in education-related field (versus no previous education-related experience)	33§	46§	58†	**2#**	77†	16#	**2#**
Previous experience in field related to serving vulnerable youth (versus no previous relevant experience)	47§	48§	48§	53†	70†	70†	65†
More than one field of previous experience (versus zero fields or one field of previous experience)	61†	51†	56†	59†	71†	63†	48§
Highest educational degree: Bachelor's degree (versus associate's degree or less)	53†	70†	45§	42§	55†	37§	49§
Highest educational degree: Master's degree or higher (versus associate's degree or less)	16#	44§	54†	12#	39§	13#	33§
Has relevant professional license, certification, or credential (versus having none of these)	55†	49§	65†	82*	63†	68†	54†

Explanatory variables	Youth outcomes						
	Life skills	Delay sex	Success sequence	Healthy relationships	Risk behaviors	Coercion and violence	SRAE satisfaction
Experience teaching SRAE: Less than 1 year (versus none)	32§	66†	54†	56†	23§	49§	24§
Experience teaching SRAE: 1 to 2 years (versus none)	35§	38§	41§	43§	51†	28§	57†
Experience teaching SRAE: 3 years or more (versus none)	52†	44§	31§	44§	52†	43§	50
Number of strategies used to engage youth (increase of one)	56†	71†	42§	84*	33§	71†	85*
Number of work-related connections (increase of one)	65†	84*	78†	67†	58†	68†	51†
Number of personal connections (increase of one)	54†	64†	75†	52†	80†	40§	30§
Same race or ethnicity as most members of community (versus not the same race or ethnicity)	47§	61†	52†	43§	60†	63†	48§
Topics that facilitator received training on: SRA topics (versus no training on these topics)	61†	49§	57†	60†	45§	52†	43§
Topics that facilitator received training on: Consent/coercion-related topics (versus no training on these topics)	47§	35§	22§	57†	23§	55†	68†
Number of training topics received (increase of one)	29§	22§	20#	43§	18#	42§	22§

Source: NWS Facilitator Survey-PAS data analysis file (n = 231 facilitators).

Notes: The numbers in the cells show the probability (in percentage points out of 100) that the implementation feature and the outcome have a positive association, after controlling for the other variables in the model. The probability of negative associations is 100 minus the probability of positive associations. Coefficients are colored dark green and indicated with an * if they are positive and greater than 80; light green and indicated with a † if they are positive and between 51 and 80; white if they are 50 (indicating equal probabilities of a positive or negative association, which is the equivalent of an estimated coefficient of zero); light orange and indicated with a § if they are negative and between 21 and 49; or dark orange and indicated with a # if they are negative and 20 or smaller. Probabilities above 90 or below 10 are **bolded**.

Rows contain probabilities for each explanatory characteristic. Columns contain probabilities for the seven outcomes for RQ1. The model included all explanatory variables from the NWS Facilitator Survey (program setting, program content, and facilitation characteristics) and all background explanatory variables for RQ1, similar to the model used for the primary analysis.

See Chapter II and Appendix A for more details on methods.

NWS = Nationwide Study, PAS = Performance Analysis Study, RQ = research question, SRA = sexual risk avoidance, SRAE = sexual risk avoidance education, STIs/STDs = sexually transmitted infections/sexually transmitted diseases.

Table C.27. Probability of positive associations between outcomes and provider characteristics (RQ2)

Explanatory variables	Youth outcomes and program attendance							
	Life skills	Delay sex	Success sequence	Healthy relationships	Risk behaviors	Coercion and violence	SRAE satisfaction	Program attendance
SRAE grant type: General Departmental (versus Title V State subrecipient)	65†	62†	73†	58†	45§	46§	80†	30§
SRAE grant type: Title V Competitive (versus Title V State subrecipient)	49§	10#	15#	45§	40§	36§	23§	18#
Provider new to delivering SRAE programming during most recent reporting period (versus not new)	86*	80†	**94***	**91***	89*	**94***	**93***	33§
Provider trained all facilitators in delivering the provider's core curriculum (versus training only some or no facilitators)	47§	33§	38§	62†	72†	48§	46§	31§
Percentage of facilitators who were observed exactly once (one-point increase)	67†	61†	50	79†	69†	70†	73†	53†
Percentage of facilitators who were observed at least twice (one-point increase)	32§	17#	40§	22§	45§	43§	27§	20#

Source: PAS data analysis file (n = 183 programs).

Notes: The numbers in the cells show the probability (in percentage points out of 100) that the provider characteristic and the outcome have a positive association, after controlling for the other variables in the model. The probability of negative associations is 100 minus the probability of positive associations. Coefficients are colored dark green and indicated with an * if they are positive and greater than 80; light green and indicated with a † if they are positive and between 51 and 80; white if they are 50 (indicating equal probabilities of a positive or negative association, which is the equivalent of an estimated coefficient of zero); light orange and indicated with a § if they are negative and between 21 and 49; or dark orange and indicated with a # if they are negative and 20 or smaller. Probabilities above 90 or below 10 are **bolded**.

Rows contain probabilities for each explanatory characteristic. Columns contain probabilities for the eight outcomes for RQ2. The model included all explanatory variables from the PAS data and all background explanatory variables for RQ2, similar to the model used for the primary analysis.

See Chapter II and Appendix A for more details on methods.

PAS = Performance Analysis Study, RQ = research question, SRAE = sexual risk avoidance education.