Promoting Healthy Futures for Youth: A Program Model for Sexual Risk Avoidance Education

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The avoidance of sexual activity among youth ensures the prevention of unplanned teen pregnancies and sexually transmitted infections (STIs). It can also promote healthy outcomes and contribute positively to the development of youth. Sexual risk avoidance education (SRAE) is a primary prevention approach that educates youth about the benefits of avoiding non-marital sexual activity and other risky behaviors. Beyond the avoidance of these risks, SRAE also emphasizes the importance of building life skills that promote healthy decision making, personal responsibility, self-regulation, healthy relationships, and goal setting. This brief describes a program model for implementing sexual risk avoidance programming for youth that is research-based and also informed by the legislation authorizing SRAE grants. The program model was developed as part of a portfolio of youth-focused projects on sexual risk avoidance funded by the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services and supported by ACF's Family and Youth Services Bureau and Office of Planning, Research, and Evaluation.

The SRAE program model identifies key content, strategies, and resources to design and implement SRAE programs, and the expected outputs of implementation related to staff facilitation, curriculum delivery, and youth engagement. It also presents expected short- and longer-term outcomes for youth, along with contextual factors that might influence program implementation. The program model clarifies key elements of SRAE for grant recipients, to ensure their programs align with legislative and program requirements. The model can be used by a variety of audiences to refine curricular products, guide ongoing program improvements and research, and inform future grant opportunities.

The SRAE program model described in this brief was informed by a previously developed conceptual model that identified research-based protective and risk factors associated with the avoidance of sexual activity among youth (Inanc et al. 2020; see also Appendix Table A.2 below). Many of these factors can potentially be modified by program interventions. The SRAE program model specifies the content and other components designed to target and influence the modifiable protective and risk factors, which are included as short-term outcomes in the program model. By influencing these factors, programs may in turn influence the avoidance of sexual activity among youth and also promote other outcomes that reflect youth's overall health and well-being.

Introduction

In recent years, federal policymaking related to adolescent pregnancy prevention has focused on outcomes related to overall health, strategies to support successful transition to adulthood, and avoidance of sexual risks. Grant programs have increasingly emphasized the social, psychological, and biological factors that can eliminate sexual risk and encourage healthy behaviors. To support this approach, in 2016, Congress authorized the General Departmental Sexual Risk Avoidance Education (SRAE) discretionary grant program. Then, in 2018, Congress authorized and funded the Title V State and Competitive SRAE programs.

SRAE programs emphasize overall health and well-being and risk avoidance in preparing youth for the future. They focus on goal setting, decision making, and healthy relationships to encourage youth to voluntarily refrain from non-marital sexual activity and other risky behaviors. In 2020, over 700 SRAE programs served more than 650,000 youth in school and community-based settings.[1] These SRAE programs are administered by 110 organizations receiving grants and delivered by 350 organizations. Most grant recipients work with middle or high school youth in schools; about half include youth in foster care, adjudicated youth, and youth with emotional or behavioral health needs as part of the population they serve. SRAE programming is typically delivered via group lessons taught by professional health educators or trained facilitators but may also be delivered through individualized mentoring sessions, or a combination of the two.

[1] These data were collected from a survey of all SRAE grantees operating in summer 2020, conducted as part of the Sexual Risk Avoidance Education National Evaluation.

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FYSB Family & Youth Services Bureau

Mathematica Progress Together

The SRAE program model is the product of an effort to synthesize and apply research findings to improve the design and implementation of SRAE programs and promote their potential effectiveness. Mathematica developed the SRAE program model by applying findings from the previously developed conceptual model that identified research-based factors that influence sexual risk avoidance (Inanc et al. 2020). The program model was also informed by literature on SRAE, research on implementation science, and insights from more than 30 individuals in the SRAE field, including practitioners, curriculum developers, technical assistance providers, and policymakers and other federal staff (See Appendix A, Box A.1 for more detail on these data sources.) The program model in Figure 2 specifies the research- and legislation-based components of SRAE programs intended to influence protective and risk factors for youth and empower youth to avoid sexual activity.

Overall, the program model offers a road map that illustrates SRAE programming goals for grant recipients and other stakeholders. In doing so, it provides guidance to grant recipients on how to operationalize the Title V SRAE legislation requirements while potentially influencing a broader set of outcomes related to overall adolescent health and well-being. The program model can be used by many audiences, but this brief focuses on how SRAE practitioners can use the model.[2] Box 1 lists a range of audiences that might use the program model and summarizes how they can use it.

In the following section, we briefly discuss the motivation and rationale for SRAE and the program model. Then, we introduce the SRAE program model and describe how its components are designed to support the avoidance of sexual activity among youth. Lastly, we highlight next steps and implications for the use of the program model.

Box 1. Audiences for the SRAE program model

Practitioners can use the model to guide program planning, monitor program implementation, design an evaluation to see how well a program influences intended outcomes, and inform ongoing program improvements.

Program or curriculum developers can use the model to ensure the content and programming they create or refine aligns with the program model's road map.

Policymakers can identify program topics and other inputs, as well as key program outputs and outcomes, to integrate into future SRAE funding opportunities.

Researchers can use the program model as a framework to inform research or program evaluation efforts, such as specifying research questions and identifying appropriate outcome measures.

Background and key concepts related to SRAE

The avoidance of sexual activity among youth ensures the prevention of unplanned teen pregnancies and STIs. It can also promote healthy outcomes and contribute positively to youth's development. Research studies have shown, for example, that delaying the initiation of sexual intercourse can lead to higher academic achievement for youth, improved self-esteem and mental health, and higher quality relationships with romantic partners over time (Rotz et al. 2020; Sabia and Rees 2009; Meier 2007).[3] Rates of reported sexual activity among youth have declined in recent decades, yet recent estimates for 2019 show 38 percent of high-school-age youth had engaged in sex, and 60 percent of sexually experienced youth wished they had waited longer before they had sex (CDC 2020; Kann et al. 2018; Albert 2012). Furthermore, it is estimated youth ages 15–24 accounted for almost half of the 26 million new STIs that occurred in 2018 in the United States (CDC 2021).

In promoting healthy and economically stable futures for youth, one guiding principle behind the development of SRAE was the concept of the "success sequence," which highlights the potential benefits of achieving key milestones—such as a high school diploma or GED, full-time employment, and marriage—before having children (Haskins and Sawhill 2009). To this end, SRAE aims to help youth develop relationship and life skills that will prepare them to transition to adulthood and achieve

[2] While SRAE and the SRAE program model are considered relevant and appropriate for all youth, a separate program model for encouraging sexually experienced youth to cease sexual activity was recently developed (Crowley et al. 2020). This latter model specifically focuses on and provides additional detail about meeting the needs of sexually experienced youth. It serves as a companion to the SRAE program model described in this brief.

[3] In the literature on teen sexual activity, studies typically examine the avoidance or delay of sexual initiation across a short-term follow-up period that does not exceed 12 months. Similarly, the studies examined through the sexual risk avoidance conceptual model demonstrate evidence of an association or effect between a given factor (for example, positive peer role models or connectedness to parents) and sexual risk avoidance during a six- or 12-month follow-up period (Inanc et al. 2020).

academic, employment, and personal goals. SRAE assumes that, for many youth, the future will include marriage, parenthood, or both. While not all youth will be interested in marriage or choose to marry, and some who do marry will face difficulties within marriage, research on marriage generally has shown that healthy and strong marriages are associated with higher economic status and overall well-being for individuals (Waite and Gallagher 2000). Research has also shown that, on average, children who grow up with two married parents are less likely than those who do not to grow up in poverty and are more likely to achieve outcomes that reflect a healthier and more financially secure life trajectory (Waite and Gallagher 2000; McLanahan and Sandefur 1994).[4] While additional research is needed to better understand the relationship between diverse types of family structure and children's well-being (Jensen and Sanner 2021), the existing research on two-parent married households has motivated policymakers and program developers to highlight strategies that empower youth to make decisions that lead to avoiding sexual risk, developing healthy relationships, and prioritizing their goals through SRAE.

SRAE is designed to be appropriate for all youth, regardless of socioeconomic status, background, or sexual experience. SRAE legislation promotes messages related to overall, or "optimal," health and emphasizes healthy relationships, goal setting, self-regulation, and healthy decision making to give youth the skills they need to flourish as they transition into adulthood. "Human flourishing" is a broad measure of overall health, happiness, and well-being that is consistent with the SRAE approach (VanderWeele 2017; see Box 2 for key definitions and concepts related to the SRAE program model). Informed by these concepts, Title V SRAE legislation specifies five elements and six topics that grant recipients are required to implement (Appendix A, Box A.2). The program model provides guidance for delivering SRAE in a manner consistent with SRAE legislation and informed by research.

A program model to encourage youth to avoid sex and focus on their future

The SRAE program model addresses the range of components a program needs to meet Title V SRAE legislative requirements. As a guide for understanding the structure of the SRAE program model, Figure 1 depicts a generic program model and defines its key components: inputs, outputs, outcomes, and contextual factors (Blesson and Zaveri forthcoming). The SRAE program model depicted in Figure 2 follows this same general format. It describes the inputs and outputs intended to influence outcomes related to avoiding non-marital sexual activity and preventing pregnancy and STIs, as well as other outcomes that reflect overall health and well-being.[5]

Box 2. Key definitions and concepts

Sexual risk avoidance: Not engaging in consensual sexual activity.

Sexual activity: Voluntary activities that are sexual in nature, including vaginal, oral, and anal sex.

Conceptual model: A representation of the factors that influence key outcomes of interest.

Program model: A representation of program components designed to promote specified outcomes.

Overall or optimal health: Health is defined as a "state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (World Health Organization n.d.). Related to this, optimal health is a dynamic balance of physical, emotional, social, spiritual, and intellectual health (O'Donnell 2009).

Human flourishing: A measure encompassing mental and physical health, happiness and life satisfaction, meaning and purpose, character and virtue, and close social relationships. Financial and material stability might also improve the capacity to sustain flourishing (VanderWeele 2017).

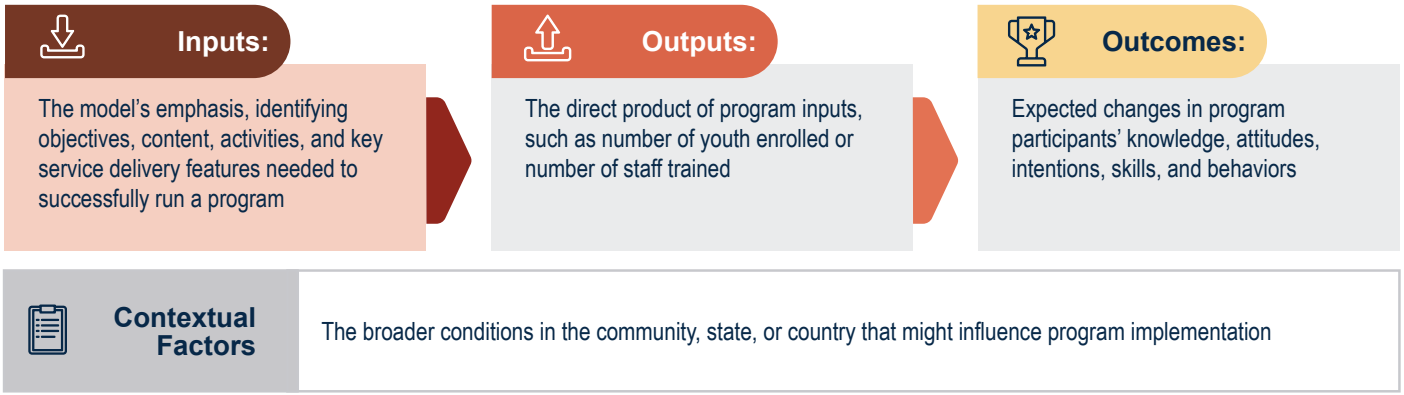
SRAE program inputs

The inputs of a program reflect the way it is designed, structured, and implemented and encompass its objectives, as well as the content and key service delivery features needed to achieve the objectives. We organized the program inputs in terms of categories

[4] The category of children who do not grow up with two married parents encompasses a wide variety of family circumstances and structures, including, for example, single unmarried parents, co-habiting unmarried parents, divorced and widowed parents, and the presence of grandparents or other adults and children in the home.

[5] Overall, the program model's organizational structure reflects the implementation science literature on characteristics important for supporting implementation of an intervention (Metz and Albers 2014; Blase and Fixsen 2013; Meyers et al. 2012; Aarons et al. 2011; Berkel et al. 2011; Durlak and Dupre 2008; Fixsen et al. 2005.).

Figure 1. Key components of a program model



specific to SRAE programs, plus general considerations that are important for implementation. We describe the SRAE program objectives, required SRAE program elements, required SRAE curriculum topics, and program features and delivery systems that reflect a program's design and guide and support its implementation.

Program objectives. A program's objectives are demonstrated through a concise statement that summarizes what the program (in this case, SRAE programs) aims to achieve (Figure 2, left column). All components of the model are intended to meet this program objective. The overarching objectives for the SRAE program model are not only to educate youth to recognize the benefits and value of avoiding sex until it is part of a healthy, married relationship, but also to empower youth to make decisions to avoid non-marital sex and other negative risk behaviors by building skills that promote personal responsibility, self-regulation, healthy relationships, and goal setting.

Required SRAE program elements. Title V SRAE legislation requires programs to deliver SRAE in a manner consistent with its required elements (Figure 2, left column; Appendix A, Box A.1). The legislation and corresponding elements in the program model stress the importance of providing programming that is "unambiguous" in "normaliz(ing) the optimal health behavior of avoiding non-marital sexual activity," the core of the SRAE vision. Programming must also provide youth with medically accurate and complete information and carefully consider the needs of the population it seeks to engage. SRAE programs achieve this goal by ensuring that programs are age-appropriate, based on supported adolescent learning and developmental theories, and culturally relevant and sensitive to the experiences of youth from diverse communities and backgrounds.

Required SRAE program topics. The SRAE program model identifies five core topics that SRAE programs are required to address (Figure 2, left column). These topics align with the required "A through F" topics in Title V SRAE legislation. Although the legislation provides flexibility in the order topics are addressed, all topics are required for SRAE programs. Moreover, the underlying context for each topic must reflect the social norm of avoiding non-marital sexual activity. Below, we discuss the required SRAE topic areas that align with the Title V SRAE legislation's A–F topics.[6]

1. **Life skill building to support future goals and well-being (Topic A).** This topic of the program model focuses on helping youth set goals and develop decision making skills to orient them toward the future and motivate them to achieve those goals. The emphasis on building life skills and the focus on youth's goals sets the foundation for other required topic areas. SRAE programming should help youth understand successful outcomes are attained not only by avoiding risks (for example, sexual activity, alcohol and drug use) in the short term but also by building life skills that pave the way for a healthier future. The SRAE approach frames messaging around the positive steps youth should take to pursue education and career success, avoid poverty, and form healthy families. Many of these outcomes build on youth's protective skills and characteristics, such as self-determination and emotion regulation. This approach also emphasizes a growth mindset.

[6] The Title V SRAE legislation also incorporates contraception as an optional topic. SRAE programs can, but are not required to, discuss contraception. Any information presented on contraception must be medically accurate and complete and ensure that youth understand that contraception reduces but does not eliminate the risk of pregnancy and STI transmission. SRAE must also ensure that presentations on contraception do not include demonstrations or simulations of contraceptive use or the distribution of contraceptive devices. Programs may, however, refer sexually active youth to other providers for information on contraception.

Figure 2. Promoting healthy futures for youth: A program model for sexual risk avoidance education (SRAE)

SRAE PROGRAM INPUTS

Program objectives:

Educate youth to recognize the benefits and value of avoiding sex until it is part of a healthy married relationship and empower youth to avoid sex and other risky behaviors by building skills that promote healthy decision making, self-regulation, supportive relationships, goal-setting, and a focus on future well-being.

Required program elements:

- Unambiguous messaging across required topics (below) that emphasizes the avoidance of non-marital sexual activity as an optimal health behavior
- Content that is medically accurate and complete; age-appropriate; based on adolescent learning and developmental theories; and culturally appropriate and sensitive to youths' diverse experiences

Required program topics:[1]

- Life skill building to support future goals and well-being
- Advantages of refraining from non-marital sexual activity in order to improve future outcomes, enhance overall health, and avoid poverty
- The importance of healthy relationships, and their influence on the formation of friendships, romantic relationships, healthy marriages, and safe and stable families.
- Avoidance of risk-taking behaviors like drug and alcohol use
- Prevention of and support related to sexual coercion and dating violence

Key program features and delivery system:

- Curricula and supporting materials that address all SRAE program elements and topics
- Facilitators carefully selected, trained, and supported and who are committed to the SRAE message and working with youth
- Facilitation strategies that are based on sound educational theory and use active and reflective learning techniques and a mix of group and individual activities

OTHER INPUTS AND CONSIDERATIONS

- While adhering to the required SRAE elements and topics, programs may tailor the mode of delivery, dosage, and youth engagement strategies for the target population and setting.
- Programs may refer youth to outside services as needed (such as mental health), as well as opportunities for involvement in school and community activities (although SRAE grant funding cannot be used to pay for these outside services and activities).
- Programs should establish data systems and processes to monitor implementation fidelity and support evaluation efforts.

IMPLEMENTATION OUTPUTS

Staff facilitation

- Staff commitment to SRAE vision and goals
- Positive facilitator: youth interactions
- Skilled delivery of program
- Ongoing supervision and support to staff

Service delivery

- Program delivered at intended dosage
- Program delivered with fidelity to curriculum and SRAE legislation

Youth and family engagement

- Youth attendance and participation
- Youth satisfaction with program
- Individual needs addressed
- Parent engagement in program

EXPECTED SHORT-TERM OUTCOMES

Improved protective factors

- Healthy individual functioning and well-being
  - Self-determination (feels control over what happens to self)
  - Emotion regulation
  - Positive emotional state
- Future aspirations and intentions
  - Intention to avoid sex until marriage
  - Belief in the value of avoiding sex until marriage
  - Academic and career aspirations
- Heathy relationships and communications
  - Healthy secure attachment to parent/caregiver
  - Connectedness to parents
  - Communication with parents about sexuality
  - Parental oversight/monitoring
  - Positive peer role models
  - Sexual refusal skills and techniques

Reduced risk factors

- Risky peer behavior and permissive peer sexual norms
- Romantic partner expectations and intentions to have sex
- Prevalence of age difference in romantic partners
- Opportunities to have sex
- Drug and alcohol use
- Exposure or use of sexually explicit media or internet porn
- Depressive symptoms and anxiety

EXPECTED INTERMEDIATE-TERM OUTCOMES

Improved outcomes related to sexual risk avoidance:

- Avoidance of sexual activity and intercourse
- Reduction in sexually transmitted infections
- Reduction in teen pregnancy

Improved non-sexual outcomes related to:

- Academic achievement
- Mental health
- Alcohol/drug use
- Delinquency
- Relationship quality

POTENTIAL LONG-TERM OUTCOMES

- Overall health, happiness, and well-being
- Economic self-sufficiency
- Healthy relationships
- Avoidance of sex outside marriage
- Healthy and supportive marriages
- Formation of stable, healthy families
- Positive outcomes for children of the next generation

CONTEXT

Contextual factors that may influence how youth experience a program: community norms and values related to adolescent sexual behavior; socioeconomic traits (for example, teen birth and STI rates, safety, and economic conditions); relevant national, state, or local policies; and availability and accessibility of community services.

[1] These topics align with the required "A-F" topics specified in the SRAE legislation, Title V, Section 510. The first bullet aligns with Topic A, the second with Topics B and C, the third with Topic D, the fourth with Topic E, and the fifth with Topic F.

2. **Advantages of refraining from non-marital sexual activity to improve future outcomes, enhance overall health, and avoid poverty (Topics B and C).**[7] This topic focuses on avoiding sexual activity and its link to better physical and emotional health for youth, as well as other potential benefits for youth, such as greater academic achievement and higher quality romantic relationships over time. These benefits, in turn, may translate to the prevention of teen pregnancies and STIs, and ultimately, may help support healthy marriages and stable families, in addition to poverty avoidance and economic stability as youth transition into adulthood. Programs should teach youth that sex is a natural part of life and help youth recognize the potential benefits of postponing sex until it is part of a healthy, stable, and married relationship.

3. **The importance of healthy relationships and their influence on the formation of friendships, romantic relationships, healthy marriages, and safe and stable families (Topic D).** This topic addresses healthy relationships to support youth's overall well-being and support them in refraining from sexual activity until marriage. Programs should help youth understand the value of healthy relationships and how to recognize and build such relationships. The importance of healthy relationships extends not only to romantic relationships but also youth's relationships with themselves, their friends, their family, and other community members. Positive relationship skills may increase the chances that youth will develop strong connections with parents and teachers and form bonds with positive peer role models; such connections and bonds act as protective factors against sexual initiation. These skills will position youth to develop healthy relationships with romantic partners over time, including in preparation for and in the context of marriage and family formation in the future. Furthermore, communication skills are critical for youth to foster and maintain healthy relationships and include the ability to communicate personal boundaries, resolve conflicts, and use refusal tactics to avoid negative risk behavior.

4. **Avoidance of negative risk behaviors, such as drug and alcohol use (Topic E).** Although SRAE programming is intended to motivate youth to make healthy decisions to achieve their goals, it must also emphasize education on factors that can steer them off course. This topic pertains to the challenges youth might experience related to drug and alcohol use and other negative risk behaviors, such as delinquency or hanging out with peers who engage in negative risk behaviors. Understanding how such behaviors can compromise youth's ability to make healthy decisions and influence the onset of sexual behavior are important aspects of SRAE programming. Programming should help youth develop and practice refusal skills and related personal boundary setting, which are crucial protective competencies that SRAE aims to foster.

5. **Prevention of and support related to sexual coercion and dating violence (Topic F).** As mentioned, educating youth on the importance of healthy relationships is a critical component of SRAE programming. To further this understanding, the final topic of the SRAE program model highlights the role programs play in helping youth recognize when relationships stray from being healthy. Programs should teach youth to identify signs indicative of a coercive or violent relationship. In addition, programs can educate youth on the notion of consent, helping them understand it as a necessary and accepted precursor to any sexual activity. Effective programming can help youth develop the skills and competencies to understand and communicate personal boundaries with a partner, negotiate situations in which they confront sexual boundaries, and use refusal tactics to avoid engaging in sexual activity.

An important general consideration for programs in delivering the required SRAE topics is to remain sensitive to the different perspectives and experiences that youth might have related to sexual activity, relationships, and marriage. Programs should approach these topics with sensitivity to avoid provoking feelings of shame or inadequacy (for example, for youth who may have already had sex, who have not seen a healthy marriage modeled in their lives, or who do not aspire to be married) or trigger past traumas (for example, for youth who might have been victims of sexual abuse, sex trafficking, and/or rape). Discussions with youth in the context of SRAE may focus more on the immediate benefits of avoiding sexual activity (or ceasing sexual activity if youth are already sexually active), along with the characteristics of and skills needed to form healthy relationships, romantic and otherwise. Coverage of this content provides a transition to discussing the benefits of a healthy marriage during adulthood and should be framed in a way that is inclusive of youth of different identities and backgrounds (for example, LGBTQ youth). Table 1 describes a set of recommended subtopics, or specific content, that help address the five required topics.

[7] The program model treats topics B and C as a combined topic area, given their substantive similarities.

Table 1. Summary of suggested content to meet each of the required SRAE topics[a]

Topic/Subtopics	Subtopic description
Life skill building to support future goals and well-being (Topic A)	
Personal responsibility	Help youth recognize that their choices have short- and long-term consequences for themselves and others.
Self-worth	Assure youth of their intrinsic worth, regardless of external traits or achievements. Build their feelings of self-respect by helping them reflect on what makes them unique, valuable, and worthy of setting high expectations for themselves.
Goal setting and future planning	Introduce how to set short-term and long-term goals and identify steps to achieving goals and planning for likely challenges. Goals encompass various facets of youth's lives, including academic, career and relationships.
Decision making	Teach about healthy decision making, by having youth reflect on social norms, consequences, their intentions and beliefs, and how their actions related to sexual activity and other risk behaviors (such as alcohol and drug use) might influence their plans.
Self-regulation	Build youth's self-regulation skills, or their ability to monitor and manage their thoughts, emotions, and behaviors, to help them meet their goals and enhance their well-being.
Advantages of refraining from non-marital sexual activity to improve future outcomes, enhance overall health, and avoid poverty (Topics B and C)	
Overall or optimal health[b]	Explain the value of striving toward overall health and well-being, underscoring the connection between avoiding sexual activity and improving various dimensions of health. Help youth to see sexual avoidance as integral to reaching both their short-term and longer-term goals.
Physical/sexual health	Provide medically accurate information about adolescent development and sexual health, including risks such as STIs and unplanned pregnancy. Information on contraception must make it clear to youth that contraception reduces but does not eliminate physical risk.
Emotional health	Address emotional and mental health issues that might unduly influence youth's decisions to engage in sex and might also be triggered by engaging in sex.
Intellectual health and poverty avoidance	Explain the potential value of completing life milestones—such as earning a high school diploma, working full time, and/or getting married—before having children. If possible, help connect youth with opportunities for service learning, internships, job shadowing, and support on financial literacy and career planning.
Social and spiritual health	Help youth recognize sources of individual and community support that are invested in their health and well-being. This subtopic might include, for example, tips for having difficult conversations with parents and referrals to community activities and organizations.
Benefits of a healthy marriage	Discuss the characteristics of a healthy marriage. Explain the emotional, economic, and other potential benefits of a healthy marriage, and discuss the value of avoiding sex until marriage.
The importance of healthy relationships and their influence on the formation of friendships, romantic relationships, healthy marriages, and safe and stable families (Topic D)	
Trusted relationships with parents/adults	Address the importance of having a trusted adult to talk to and offer tips on how to approach conversations with trusted adults. Look for opportunities to engage parents and other adults (for example, teachers, coaches, community members) in some aspects of programming.
Healthy peer friendships	Teach interpersonal communication skills, boundary setting, conflict resolution, and other competencies to develop strong, healthy friendships and peer relationships.
Healthy romantic relationships	Identify characteristics of healthy relationships (romantic and otherwise), and characteristics of unhealthy/abusive relationships.
Community connections	Encourage youth (and provide opportunities or referrals) to engage positively with schools and communities through extracurricular activities, service opportunities, and internships, among others.
Avoidance of negative risk behaviors, such as drug and alcohol use (Topic E)	
Peer norms and behaviors	Address stereotypes about teen sex that are projected from peer and social environments. Share actual percentages of sexually active teens that normalize the avoidance of teen sex. Promote norms that increase the perceived value of marriage and the avoidance of sexual activity until marriage.

Topic/Subtopics	Subtopic description
Drug and alcohol use	Highlight negative consequences of drug and alcohol use, delinquency, and other negative risk behaviors. Share information to dispel myths about the incidence and social acceptability of teenage drug and alcohol use, discuss the links between drug and alcohol use and sexual activity, and connect youth with positive alternatives and opportunities.
Media use and influence	Examine and discuss media portrayals of sex in the media. Discuss how to safely navigate social media and avoid provocative texts, photos, and video postings of self and/or acquaintances.
Prevention of and support related to sexual coercion and dating violence (Topic F)	
Sexual consent	Define consent and develop skills related to asking for and providing consent to partners. Help youth understand that sexual activity requires consent, but that even with consent, teen sex remains a risk behavior.
Sexual coercion and dating violence	Build self-protective behaviors, such as effective communication, personal boundary setting, and negotiation and refusal skills when confronted with sexual decisions. Help youth recognize signs of sexual coercion and address the threat of human sex trafficking.

[a] Appendix A, Table A.2 demonstrates how each SRAE subtopic connects to one or more of the protective and risk factors identified in the sexual risk avoidance conceptual model, and highlights evidence of the association or effect between the factor and sexual risk avoidance or related outcomes (Inanc et al. 2020). By targeting these factors through SRAE program content, programs may be able to help youth avoid sexual activity and in turn improve the related outcomes highlighted in the program model.

[b] The subtopics of health included in this section of the table were informed by the definitions of health and optimal health noted in Box 2 above (WHO n.d. and O'Donnell 2009, respectively).

Key program features and delivery system. The program model also identifies other key features of SRAE programs that are important for program implementation, namely the program's chosen curricula and its facilitators and related facilitation strategies (Figure 2, left column).

- **Curricula.** A program's curriculum is the heart of a program. SRAE curricula, or the structured guidance, lesson plans, and materials that are used to address an SRAE program's required elements and topics should inspire and engage youth. Practitioners should identify curricula that align with SRAE legislation's required elements and A–F topics. If a curriculum does not cover all required content, appropriate modifications (consistent with the evidenced-based or evidenced-informed status of the curriculum) should be identified and incorporated. If possible, modifications should be made in consultation with the developer.
- **Facilitators and facilitation strategies.** The success of SRAE programming depends on the people entrusted to deliver it and how they deliver it. Effective programming requires passionate, dynamic facilitators with strong interpersonal skills. Programs should hire facilitators with appropriate skills and/or experience, such as experience working and connecting with the population served, facilitating groups, and comfort discussing sexual health. It is also essential for program facilitators to demonstrate a thorough understanding of the SRAE approach and a firm belief in the SRAE message. In addition, facilitators should receive initial and ongoing training on their program's selected curriculum and supplemental topics, ideally from the curriculum developer (if relevant), to promote fidelity to the curriculum's vision and practices. Facilitation strategies used to deliver curricula should be based on sound educational methodology and theory that reflect how youth learn best. Box 3 identifies other best practices related to program facilitation.

Box 3. Program facilitation: Keys to engaging youth

Invest in high quality facilitation

- Hire dynamic and personable staff committed to the SRAE message, who can act as motivators, role models, and mentors to youth.
- Provide in-depth, hands-on training and ongoing support on sexual risk avoidance, the curriculum, and related topics like classroom management, trauma-informed teaching, self-regulation, co-regulation, and life coaching.

Use facilitation best practices

- Embed key concepts throughout programming.
- Develop and promote supportive norms within the classroom so each youth feels like part of the group.
- Use active and reflective learning techniques and a mix of group and individual activities.

Other inputs and considerations for building a strong program infrastructure

Other general types of program features are also important to consider for developing an infrastructure for supporting quality program implementation (Figure 2, left column). While adhering to the required SRAE elements and topics, programs may tailor the mode of SRAE delivery, its dosage, and recruitment and engagement strategies for the population and setting, as needed. Providers may also refer youth to outside support, such as mental health services, if needed, and encourage youth to connect with their school or community through extracurricular activities. Finally, to promote intended youth outcomes, programs should establish and use data systems and processes to monitor implementation fidelity and support ongoing program improvement and evaluation efforts.

Context

The context of a program model includes the broader conditions found in the community, state, and country in which the program is implemented (Figure 2, bottom horizontal box). It is important for practitioners to understand the contextual factors surrounding youth's lives that are not modifiable through SRAE programming but that can influence how youth experience a program. Some examples of contextual factors to consider before implementing an SRAE program include the following:

- Community norms and values related to adolescent sexual behavior
- Community context (teen birth and STI rates, safety, economic conditions)
- Relevant national, state, or local policies
- Availability and accessibility of other services and opportunities for youth

Implementation outputs and expected short-term outcomes

The SRAE program model captures both implementation outputs and expected short-term outcomes from SRAE programming, both of which can be measured in the immediate or near-term after programming is delivered.

Implementation outputs. The implementation outputs in the program model are the links between the program inputs described above and the outcomes of interest (Figure 2, center column). The implementation outputs support an assessment of implementation fidelity, that is, whether the SRAE program inputs were delivered as intended. The program model identifies implementation outputs that reflect (1) staff facilitation, (2) service delivery, and (3) youth and family engagement. For each of these dimensions, Table 2 offers examples of measures that could be used to assess whether the program was implemented as intended.

Expected short-term outcomes. Meeting the desired implementation outputs is a key step for programs to influence expected short-term youth outcomes. The short-term outcomes highlighted in the model (Figure 2, center column) reflect the research-based factors identified in the sexual risk avoidance conceptual model that offer protection against risky sexual decision making and behavior. These factors are potentially modifiable through educational programming. Through well-implemented programming and by targeting these factors (short-term outcomes), SRAE programs may help youth avoid sexual activity and in turn also promote positive longer-term outcomes. Table 2 offers a set of potential measures based on these factors that programs might consider using.

Expected intermediate- and potential long-term outcomes. While SRAE programs can most readily target the implementation outputs and short-term outcomes described above, these short-term outcomes may in turn influence youth's intermediate-term outcomes, such as the avoidance of the initiation of sexual intercourse (Inanc et al. 2020; Figure 2, right column). The lack of sexual activity in turn leads to reductions in STIs and teen pregnancy, and also may lead to outcomes related to academic achievement, mental health, and relationships (Rotz et al. 2020; Sabia and Rees 2009; Meier 2007). By influencing the expected intermediate-term outcomes as youth move into adulthood, it is hypothesized that SRAE program participants will improve their chances of achieving longer-term outcomes that reflect overall health, happiness, and well-being. This includes, but is not limited to, financial stability, healthy adult relationships, and the formation of healthy marriages, which can then be the basis of stable families (Figure 2, right column). The longest-term goal of SRAE is to maximize positive outcomes not only for youth in programs but also for future generations of youth.

Conclusions, practical applications, and next steps

By identifying the components needed for a comprehensive SRAE program, the SRAE program model offers a blueprint for delivering programs in a manner consistent with the legislation and informed by research. It can serve as a helpful resource for a variety

of audiences to guide program activities related to planning, monitoring, and evaluation. Moreover, it offers the field common language and an evidence-informed approach to program design and implementation. Widespread use of the program model has the potential to provide a more standard SRAE program experience across providers and for youth. It can ensure that key program components are in place, regardless of context, with the aim of providing a positive program experience and improving outcomes for all participating youth.

Table 2. Potential measures of SRAE program implementation outputs and short-term outcomes

Category	Potential measure
Outputs that reflect whether program was implemented as intended (with fidelity)	
Staff facilitation	• Observed staff comfort with curriculum and commitment to SRAE vision and goals • Staff self-reported satisfaction and commitment to the program • Observed quality of staff-youth interactions • Staff assessment of training and preparedness to deliver curriculum • Interest in receiving technical assistance* • Implementation challenges reported by facilitator* • Staff assessment of supervision and support to deliver program
Service delivery	• Number of intended program delivery hours* • Number of SRAE facilitators observed once* (plus number observed at least twice) * • Observed quality of interactions between youth and staff • Observation scores from SRAE coaches (using fidelity checklist)
Youth and family engagement	• Vulnerable populations represented by 50 percent or more of attending youth* • Number of youth who attended at least one program session* (and by program setting) * • Number of youth who completed at least 75 percent of the scheduled program hours* • Number of parents/trusted adults who attended at least one program session* • Hours of programming delivered to completed cohorts* • Youth satisfaction with program* • Number of referrals made to partner organizations during one program cycle
Short-term outcomes with evidence of an effect on or association with sexual risk avoidance	
Improved protective factors	Increased number of youth who: • Believe they have control over what happens to them • Demonstrate an ability to manage their emotions • Report intentions to avoid sex • Report positive beliefs about avoiding sex until marriage • Report academic and career aspirations • Identify at least one secure attachment to a parent or caregiver • Communicate with parents about sexuality • Have positive peer role models • Demonstrate improved knowledge of sexual refusal skills and techniques • Identify at least one positive connection with teacher or other (non-parent) adult • Report engagement in school or community activities
Reduced risk factors	Decreased number of youth who: • Date or are involved in a romantic relationship • Date or are involved with an older romantic partner • Avoid or have reduced drug and alcohol use • Report exposure to sexually explicit media • Report use of or exposure to internet porn • Report depressive symptoms, anxiety, or negative emotional state

*Indicates a measure currently captured by the Sexual Risk Avoidance Education Performance Analysis Study (SRAE-PAS 2020).

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Appendix A

Box A.1. Data sources that informed the SRAE program model

We examined and synthesized data from three types of sources to identify components for the program model:

- **Conceptual model for sexual risk avoidance.** For an earlier project sponsored by the U.S. Department of Health and Human Services, Mathematica developed a conceptual model for sexual risk avoidance that identified 46 distinct protective or risk factors for which research shows an association or effect between the factor and sexual risk avoidance and related behavioral outcomes among youth (Inanc et al. 2020; Appendix A, Figure A.1). Development of the conceptual model was based on an in-depth literature review of 105 articles, plus a secondary analysis of the National Longitudinal Study of Adolescent to Adult Health. We included 22 of the 46 factors identified in the conceptual model as expected short-term outcomes in the SRAE program model. These are factors that can potentially be modified by a program intervention.
- **Stakeholder interviews and input.** From April to July 2020, we conducted discussions with more than 30 stakeholders from the SRAE field, including federal staff, curriculum developers, practitioners, and technical assistance providers. Discussions covered (1) the context for the SRAE legislation and changes to curricula and programming after enactment of the legislation; (2) implementation challenges and considerations to guide development of a program model; and (3) key program features, strategies, and content most relevant for educating and supporting youth in a manner consistent with the SRAE legislation. Appendix A, Table A.1 lists the stakeholders consulted. We also asked six of the stakeholders to review and provide feedback on a draft version of the program model, and we considered their feedback and suggestions as we finalized the model.
- **Synthesis of background documents and resources:** We reviewed more than 20 documents and other resources (applicable to SRAE programming or youth-focused programming more generally) to determine content applicable to SRAE; the research basis underlying SRAE; and relevant program features, strategies, and delivery systems. See Appendix A, Box A.3 for a list of the documents and resources reviewed.

Box A.2. Sexual risk avoidance education as described in the Title V SRAE legislation

Required elements. Programs must:

A. Ensure that the unambiguous and primary emphasis and context for each topic (A–F below) is a message to youth that normalizes the optimal health behavior of avoiding non-marital sexual activity

B. Be medically accurate and complete

C. Be age-appropriate

D. Be based on adolescent learning and developmental theories for the age group receiving the services; and

E. Be culturally appropriate, recognizing the experiences of youth from diverse communities and backgrounds

Required topics. Programs must address each of the following:

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 non-marital sexual activity in order to improve the future prospects and 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

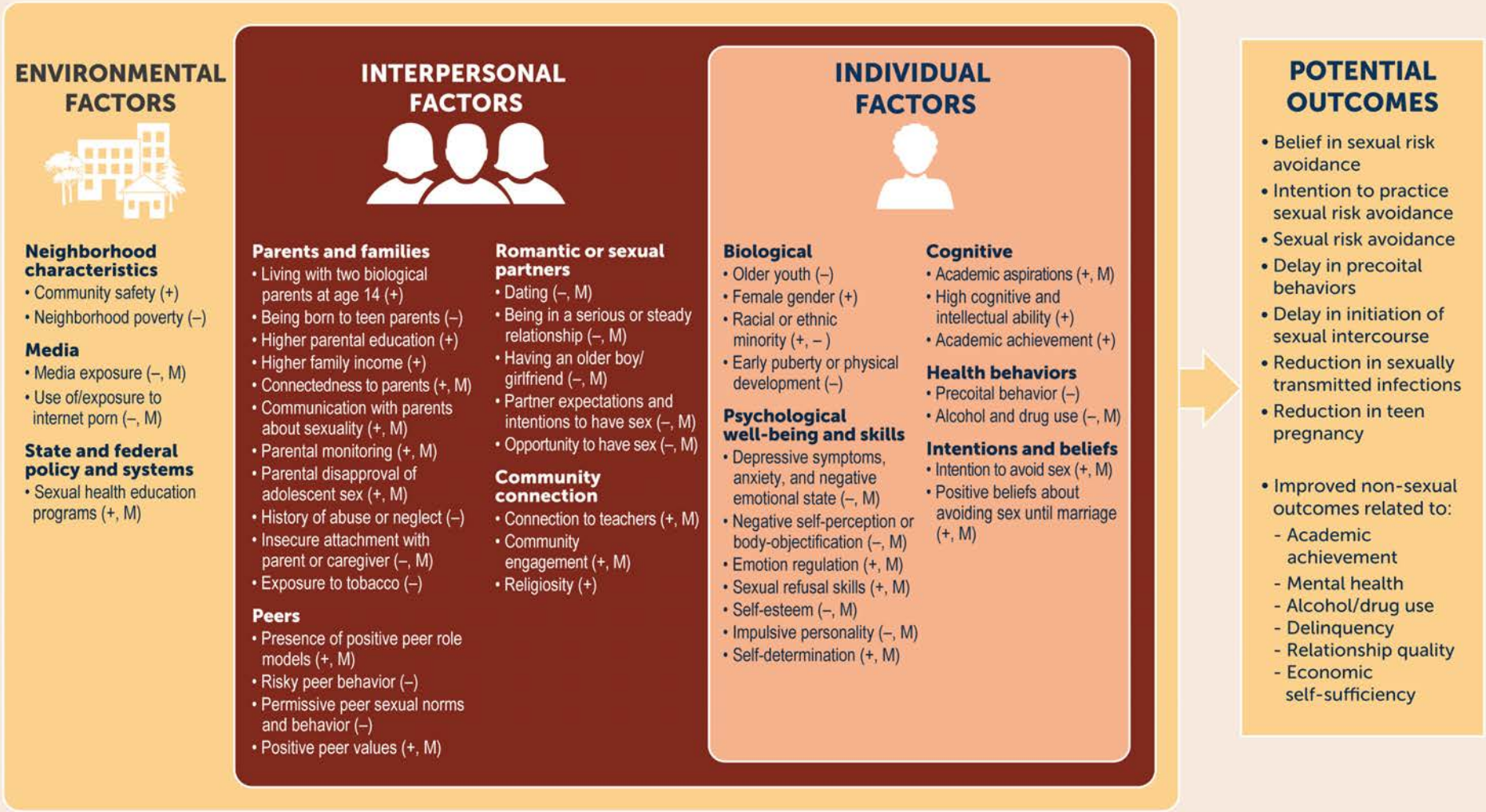
E. The effect of youth risk behaviors, such as drug and alcohol usage, on increasing the risk for teen sex

F. Strategies on 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 behavior

Box A.3. Documents reviewed to guide development of the SRAE program model

- SRAE program legislation and SRAE grant funding opportunity announcements
- SRC program model developed through the MYReASOHN project (Crowley et al. 2020)
- The benefits of delayed sexual activity, success sequence literature review, and the success sequence economic analysis conducted through the SSAvER project (Rotz et al. 2020; Goesling et al. 2020; Inanc et al. 2021)
- Healthy relationship and healthy life skills conceptual models developed through the APS task (Clary et al. 2021)
- Training and technical assistance materials related to SRAE, including documents from Ascend's Sexual Risk Avoidance Specialist Training
- Systematic Method for Assessing Risk-Avoidance Tool (SMARTool 2.0): Assessing Potential Effectiveness for Sexual Risk Avoidance Curricula and Programs (Center for Relationship Education 2019)
- Health Education Curricula Assessment Tool (from the Centers for Disease Control and Prevention) (CDC 2012)
- Medical Institute for Sexual Health's Guidelines for Sexual Health Education (K–12) (Santa Maria and Thickstun 2006)
- Community Saturation Sourcebook (RTI International 2019)
- We Think Twice online social media campaign for teens
- Articles related to the design of sexual health programs (Poobalan et al. 2009; Moore and Sugland 1997)
- Articles and reports related to program implementation and implementation science (Metz and Albers 2014; Blase and Fixsen 2013; Meyers et al. 2012; Aarons et al. 2011; Berkel et al. 2011; Durlak and Dupre 2008; Fixsen et al. 2005).

Figure A.1. Conceptual model for sexual risk avoidance



Sexual risk avoidance is defined as not engaging in consensual sexual activity. The figure displays factors identified through a literature review and secondary analysis of Add Health data as influential on sexually inactive youth on at least one of the potential outcomes. Only those factors identified as having sufficient evidence are included. Factors fall into three interrelated categories: environmental, interpersonal, and individual. They are grouped in order from distal to proximal in relation to the outcomes. Factors are marked as a protective factor or a risk factor based on whether the evidence showed that the factor was a positive (protective) influence (+) or a negative (risky) influence (–) on potential outcomes related to sexual risk avoidance. In one case (racial or ethnic minority), evidence was mixed on the directionality of the influence. Given this, we labeled this factor with both a (+) and a (–). Factors may interact with each other to influence outcomes. Factors that are considered potentially modifiable by program intervention are marked with an "M".

Table A.1. Stakeholders who provided input, by discussion group

Stakeholders	Title at time of discussion
Federal staff and others with in-depth knowledge of SRAE legislation	
Valerie Huber Mary Anne Mosack[b]	Senior policy advisor, Office of Global Affairs, HHS President, Ascend; former executive director, Operation Keepsake
Elizabeth Darling Diane Foley Nanci Coppola	Commissioner, Administration on Children, Youth, and Families and Family and Youth Services Bureau (FYSB) Deputy assistant secretary, Office of Population Affairs, HHS Senior legislative and policy advisor, Office of Population Affairs, HHS
Jerry Regier[b]	Director of adolescent pregnancy prevention services, Public Strategies
LeBretia White Resa Matthew Debbie Powell	Program manager, Adolescent Pregnancy Prevention Program, FYSB Director, Division of Adolescent Development and Support, FYSB Deputy associate commissioner, FYSB
Christine Zakhour Mona-Lee Belizaire Jewellynne Tinsley Letitia Winston Jessica Johnson[a] Tanya Matthews[a]	Management analyst, Adolescent Pregnancy Prevention Program, FYSB Program officer, Adolescent Pregnancy Prevention Program, FYSB Program officer, Adolescent Pregnancy Prevention Program, FYSB Program officer, Adolescent Pregnancy Prevention Program, FYSB Management analyst, Adolescent Pregnancy Prevention Program, FYSB Management analyst, Adolescent Pregnancy Prevention Program, FYSB
Programming experts (practitioners, curricula developers, TA providers)	
Angela Turner Torri Childs Brandon Osborn	Principal, AMTC & Associates Field research associate, AMTC & Associates Evaluation associate, AMTC & Associates
Scott Phelps Catherine Wood	Director and curricula developer, Abstinence and Marriage Education Partnership Developer, Relationships Under Construction
Ruth Eccles Joneen Mackenzie[b]	Developer, Powerful Choices; director, Equipping Youth President, Founder, and Curricula developer, Center for Relationship Education
Anita Barbee Amy Posterick	Professor, University of Louisville School of Social Work Program director, Lifeline Pregnancy Help Clinic, Pure Freedom Program
Diana Clemmons[b] Peggy Cowan Amanda Hagman	Executive director, Future Leaders Outreach Network Director, New Jersey Physicians Advisory Group Evaluator, Evans Evaluation
Anne Badgley Tammy Bryant[b] Sally Raymond	CEO and founder, Heritage Keepers Chief program officer, Heritage Keepers Chief strategic officer, Heritage Keepers
Donna Golob Peggy Pecchio	Developer, Positive Potential; director, PATH Executive director, Operation Keepsake
Marline Pearson Aaron Larsen	Professor, Madison Area Technical College; curricula developer, Dibble Institute Director of programs, Dibble Institute
Researchers	
Lisa Rue[a,b]	Senior Advisor of Strategic Partnerships, Cliexa

[a] Provided feedback in writing rather than by participating in a discussion.
[b] Provided feedback and comments on a draft version of the program model.

Table A.2. Findings from the sexual risk avoidance conceptual model, as aligned with SRAE program model topics and content[a]

Subtopics/ content	Key findings on protective and risk factors identified through the conceptual model for sexual risk avoidance (Inanc et al. 2020) and specific citations for each
Life-skill building to support future goals and well-being (Topic A)	
Personal responsibility	**Self-determination**, or a belief that you have control over what happens to you, is a protective factor associated with avoiding sex (Gloppen et al. 2010).
Self-worth	**Negative self-perception or body objectification** is a risk factor associated with earlier initiation of sexual intercourse (Jaccard 2016; Pearson et al. 2012).
Goal setting and future planning	**Self-determination**, or a belief that you have control over what happens to you, is a protective factor associated with avoiding sex (Gloppen et al. 2010). **Academic aspirations** is a protective factor for avoiding sex (L'Engle et al. 2006; L'Engle & Jackson 2008; Pearson et al. 2012). **Academic achievement** is protective factors for avoiding sex (Arcidiacono et al. 2012; Voisin & Neilands 2010; Ward & Linke 2011; Wheeler 2010).
Decision making	**Intentions to avoid sex** are associated with delayed sexual initiation (Birch 2011; Buhi et al. 2011; Dancy et al. 2010; Kirby & Lepore 2007; L'Engle & Jackson 2008; Rasberry et al. 2009; Weed et al. 2008; Zimmer-Gembeck & Helfand 2008). **Positive beliefs about avoiding sex until marriage** are associated with delayed sexual initiation (Buhi et al. 2011; Kaiser Family Foundation 2003; Kirby and Lepore 2007 Weed et al. 2008).
Self-regulation	**Emotion regulation**, or the ability to manage one's emotions, is a protective factor for adolescents to avoid sex (Houck et al. 2016a; Houck et al. 2016b; Jardin, C. 2015). In contrast, an **impulsive personality** is a risk factor for sexual initiation (Bleakley et al. 2018; Bradley 2011; Keating et al. 2019; Kugler et al. 2017; Zimmerman et al. 2014). Among sexually experienced youth, **avoidance self-efficacy** (the ability to stay disengaged from sexual activity) increases youth's avoidance of intercourse (Bradley, E. L. P. 2011).
Advantages of refraining from non-marital sexual activity to improve future outcomes, enhance overall health, and avoid poverty (Topics B and C)	
Overall or optimal health[b]	**Belief in avoiding sex until marriage** is associated with delayed sexual initiation. Youth who understand the various health benefits of avoiding nonmartial sexual activity may be more likely to believe in the value of delaying sex until marriage (Buhi et al. 2011; Kaiser Family Foundation 2003; Kirby and Lepore 2007 Weed et al. 2008).
Physical/sexual health	**Early puberty or physical development** is associated with early sexual initiation (Halpern et al. 2006; Kirby & Lepore 2007; L'Engle et al. 2006; Marin et al. 2006; Sabia & Rees 2009; Suleiman 2013; Zimmer-Gembeck & Helfand 2008) **Pre-coital behaviors** (such as touching another person under his or her clothes) are associated with early sexual initiation (Kirby and Lepore 2007; Pearson et al. 2012).
Emotional health	**Depressive symptoms, anxiety, and a negative emotional state** are risk factors associated with early sexual intercourse (Collins et al. 2004; Pearson et al. 2012; Sabia 2006). **Emotion regulation**, or the ability to manage one's emotions, is a protective factor for adolescents to avoid sex (Houck et al. 2016a; Houck et al. 2016b; Jardin, C. 2015).
Intellectual health (and self-sufficiency and poverty avoidance)	**Academic aspirations** is a protective factor for avoiding sex (L'Engle et al. 2006; L'Engle & Jackson 2008; Pearson et al. 2012). **Academic achievement** is protective factors for avoiding sex (Arcidiacono et al. 2012; Voisin & Neilands 2010; Ward & Linke 2011; Wheeler 2010). **Community engagement** is a protective factor associated with delayed sexual activity. Kirby & Lepore 2007; Oman et al. 2003; Tolma et al. 2008)

Subtopics/ content	Key findings on protective and risk factors identified through the conceptual model for sexual risk avoidance (Inanc et al. 2020) and specific citations for each
Social and spiritual health	**Connectedness to parents** is a protective factor for avoiding sex (Caputo 2009; Kirby and Lepore 2007; L'Engle and Jackson 2008; L'Engle et al. 2006) **Community engagement** is a protective factor for avoiding sex (Kirby & Lepore 2007; Oman et al. 2003; Tolma et al. 2008) **Positive connections with a teacher** is a protective factor for avoiding sex (Keating et al. 2019). **Religiosity** is a protective factor for avoiding sex (Caputo 2009; Collins et al. 2004; Halpern et al. 2006; L'Engle and Jackson 2008; Tolma et al. 2008; Wu & Martin 2015). The **presence of positive peer role models** is a protective factor for avoiding sex (Oman et al. 2003; Tolma et al. 2008)
Benefits of a healthy marriage	**Positive beliefs about avoiding sex until marriage** are associated with delayed sexual initiation (Buhi et al. 2011; Kaiser Family Foundation 2003; Kirby and Lepore 2007 Weed et al. 2008). **Being born to teen parents** is associated with earlier initiation of sex (Keating et al. 2019). **Living with two biological parents at age 14** is associated with later initiation (Abma & Martinez 2017; Arcidiacono et al. 2012; Caputo 2009; Collins et al. 2004; Halpern et al. 2006; Martinez et al. 2011; Oman et al. 2003; Rector & Johnson 2005; Sabia & Rees 2009; Scott et al. 2011; Sieving et al. 2006; Tolma et al. 2008; Wu & Martin 2015; Zimmer-Gembeck & Helfand 2008).
The importance of healthy relationships and their influence on the formation of friendships, romantic relationships, healthy marriages and safe and stable families (Topic D)	
Trusted relationships with parents and other adults	**Connectedness to parents** is a protective factor associated with the delay of sex (Caputo 2009; Kirby & Lepore 2007; L'Engle & Jackson 2008; L'Engle et al. 2006) **Parental monitoring** is a protective factor associated with the delay of sex (Abbott & Rochelle 2008; Bleakley et al. 2018; Buhi et al. 2011; Collins et al. 2004; Dancy et al. 2010; Kirby & Lepore 2007; L'Engle & Jackson 2008; L'Engle et al. 2006; Zimmer-Gembeck & Helfand 2008). **Parental disapproval of adolescent sex** is a protective factor associated with the delay of sex (Collins et al. 2004; Collins et al. 2010; Halpern et al. 2006; Kirby & Lepore 2007; Vasilenko 2017). **Communication with parents about sexuality** is a protective factor associated with delay of sex (Kirby & Lepore 2007; O'Donnell et al. 2010). **An insecure attachment with a parent or caregiver** is a risk factor for the initiation of sex (Dewitte 2012; Jardin 2015; Pearson et al. 2012; Thibodeau et al. 2017). **Positive connections to teachers** can act as a protective factor that delays sexual initiation (Keating et al. 2019). **History of abuse or neglect,** such as experiencing sexual abuse, physical abuse, emotional abuse, or neglect in childhood, was a risk factor for sexual initiation (Fasula et al. 2018; Thibodeau et al. 2017; Tsuyuki et al. 2019).
Healthy peer friendships	**Positive peer role models** are protective factors associated with delayed sexual initiation (Keating et al. 2019; Oman et al. 2003). **Positive peer values** are protective factors associated with delayed sexual initiation (Mueller et al. 2010; Uecker 2015)
Healthy romantic relationships	**Being in a steady relationship** is a risk factor associated with the initiation of sex (Abbott & Rochelle 2008; Abma & Martinez 2017; Bradley et al. 2012; Kaiser Family Foundation 2003; Kirby & Lepore 2007; Marin et al. 2006). **Dating** is a risk factor associated with the initiation of sex (Kirby & Lepore 2007; Sieving et al. 2006; Zimmer-Gembeck & Helfand 2008). **Involvement with an older partner** is a risk factor associated with the initiation of sex (Kirby & Lepore 2007; Marin et al. 2006). **Partner expectations to have sex** is a risk factors associated with the initiation of sex (Bradley, E. L. P. 2011; Jaccard 2004; Suleiman 2013). **Perceived opportunity to have sex** is a risk factor associated with the initiation of sex (Weed et al. 2008).
Community connections	**Community engagement** is a protective factor associated with delayed sexual activity (Kirby & Lepore 2007; Oman et al. 2003; Tolma et al. 2008)

Subtopics/ content	Key findings on protective and risk factors identified through the conceptual model for sexual risk avoidance (Inanc et al. 2020) and specific citations for each
Avoidance of negative risk behaviors such as drug and alcohol use (Topic E)	
Peer norms and behaviors	**Negative, risky peer behavior** is a risk factor associated with initiation of sexual activity (Bazargan et al. 2006; Kirby & Lepore 2007; L'Engle & Jackson 2008; Sieving et al. 2006; Uecker 2015; Voisin & Neilands 2010) **Permissive peer sexual norms** are risk factors associated with initiation of sexual activity Bazargan et al. 2006; Caputo 2009; Collins et al. 2010; Kirby & Lepore 2007; L'Engle & Jackson 2008; Marin et al. 2006; Sieving et al. 2006; Suleiman 2013).
Drug and alcohol use	**Alcohol and drug use** is a risk factor associated with initiation of sexual activity (Kaiser Family Foundation 2003' Lowry et al. 2017; Scott et al. 2011; Smith et al. 2014; Zimmer-Gembeck & Helfand 2008)
Media use and influence	**Exposure to sexually explicit media** is a risk factor for sexual initiation (Collins et al. 2004; Coyne et al. 2019; Martino et al. 2006) **Exposure to internet pornography** is associated with permissive sexual attitudes (Collins et al. 2010).
Prevention of and support related to sexual coercion and dating violence (Topic F)	
Sexual consent	**Partner expectations and intentions to have sex** can act as a risk factor for initiating sexual activity, particularly for females (Bradley, E. L. P. 2011; Jaccard 2004; Suleiman 2013). **Sexual refusal skills**—the ability to say no to unwanted sexual advances—are a protective factor associated with saying no to sexual advances. (Buhi et al. 2011; Gloppen et al. 2010; Kirby & Lepore 2007; Rasberry et al. 2009; Weed et al. 2008; Zimmer-Gembeck & Helfand 2008).
Sexual coercion and dating violence	**Sexual refusal skills** are a protective factor associated with saying no to sexual advances (Buhi et al. 2011; Gloppen et al. 2010; Kirby & Lepore 2007; Rasberry et al. 2009; Weed et al. 2008; Zimmer-Gembeck & Helfand 2008).

[a] For the full references of the citations in this table, please see Inanc et al. 2020 (*Factors Influencing Youth Sexual Activity: Conceptual Models for Sexual Risk Avoidance and Cessation (hhs.gov)*).

[b] The subtopics of health included in this section of the table were informed by the definitions of health and optimal health noted in Box 2 above (WHO n.d. and O'Donnell 2009, respectively).

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